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HUMAN RESOURCE MANAGEMENT, INNOVATION AND PERFORMANCE



Human Resource Management, Innovation and Performance

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Human Resource Management, Innovation and Performance

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*I dedicate this book to my father, Colin David Ryder,
1929–2013, whose mind was high and spirit generous,
compassionate and wise.*

Helen Shipton

*I dedicate this book to my mother, Daya Kaur, 1923–2015.
She improved the lives of most who came in contact with her.*

Pawan Budhwar

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Foreword

Cary L. Cooper
University of Manchester

The challenge of innovating in human resource management

Machiavelli reminds us that innovators tread a delicate balance: on the one hand, placating those who are hostile to new ideas and, on the other, persuading and influencing those who have yet to be convinced of the benefits of doing things differently.

Yet, only by innovating is 'real' change achieved, and it is about time that HRM went beyond the metrics of engagement and challenged the status quo by advocating the importance of innovation and creativity in performance. This book is the start of that exploration in highlighting the role that HRM has in fostering creativity through leadership, organisational learning and the innovative area of ambidexterity. The editors of this volume should be congratulated for having stepped out of their HRM comfort zone by bringing together scholars to explore constructs not usually found in the human-resource literature but in other social science disciplines: concepts such as tolerance of risk, job autonomy, employee proactivity, employee learning, psychological commitment, self-determination, knowledge-sharing, authentic leadership, tolerance of errors and many more. These editors and authors are testing and extending the boundaries of HRM by working together to explore the relevance of constructs outside their discipline, adapting them and creating new and more resilient ones to hasten the move towards a more performance-led HR.

This book is the start of a vision, a new beginning for the field in extending its reach and going beyond engagement, talent management and so on, into creating a more innovative and liveable workplace culture. As Mark Twain once wrote: 'If you always do what you always did, you'll always get what you always got'. This book enters and explores new territory, which will open up the field beyond recognition.

Preface

The genesis for this book was an ESRC-funded seminar series organised by the members of three academic institutions, namely, Aston Business School, Lancaster School of Management and the Warwick Institute for Employment Research, during 2011–2013. Titled ‘Organisational Innovation, People Management and Sustained Performance: Towards a Multi-level Framework for Medium-Sized Businesses’, a key remit of the series was to generate new insights into this important and dynamic area.

The series was driven by our strong belief that the question of how to achieve sustained organisational performance is of national and international economic significance. Organisations that embrace innovation rather than remaining entrenched in long-standing ways of working have a higher likelihood of achieving high performance over time, sustaining jobs and creating the conditions for economic growth. It struck us that, although a lot of research focuses on the technical aspects of innovation, less attention has been devoted to understanding the people management implications that this way of working presents (OECD, 2010; Sparrow, 2010).

Reflecting the significance of this challenge, our seminar series proposed a multi-level framework for exploring the role of people management in shaping organisational innovation. Our focus was medium-sized businesses, although we envisaged from the outset that our work would have wide applicability across the business sectors. Our proposal was original in adopting a multi-level perspective, suggesting that factoring in change at one level without taking into account any wider impact might lead to outcomes that would be unexpected or even harmful (OECD, 2010). We were fortunate to bring into the series leading scholars as well as vibrant and motivated early- and mid-career researchers whose work is suggestive of a multi-level perspective. We were equally fortunate to have representatives of the Confederation of British Industries and policymakers and practitioners from a variety of industries and government bodies involved in the seminars.

Our objectives for the seminar series were as follows:

1. To build a preliminary multi-level framework to guide scholars as well as practitioners who are interested in understanding more about the

role of people management in fostering organisational innovation. This will be achieved by drawing on both the knowledge-based theory and the notions of 'knowledge flow'. Our belief is that factoring change in organisational systems at one level, without taking into account any wider impact, might lead to outcomes that are unexpected or even harmful.

2. To promote the cross-fertilisation of ideas across academic literature – such as strategic HRM, knowledge exchange, workplace learning and creativity, which have largely evolved in tandem – in order to foster understanding about our central question, namely, the way in which effective people management might elicit organisational innovation. We attempted to do this by:
 - (a) bringing this literature into a single discussion forum;
 - (b) actively searching for synergies across the five sessions;
 - (c) encouraging leading scholars as well as junior faculty to look across levels at their work.
3. To shed light on a sector recently singled out as having been 'neglected' (CBI, 2011) – medium-sized businesses (MSBs) – by drawing on insights from the above literature with particular focus on the implications for this sector. This involved input from leading scholars and dialogue with practitioners from the MSB sector that would be actively engaged in using the applicants' networks.
4. To compare and contrast literature concerned with people management and innovation that takes an organisational-level perspective in order to foster understanding about how employers might make the best use of people's skills for innovation and about any role that managerial practices, learning cultures and formal or informal education might play.
5. To assess what implications a multi-level perspective on people management and innovation presents for leaders and the development of leaders.
6. To enable academics, early career researchers and students who research and teach – especially in the area of HRM – to understand and appreciate the importance of looking at organisational innovation from a multi-level perspective.
7. To produce and widely disseminate reports of the seminar proceedings in order to make the insights arising from the series available to HRM and other business decision-makers within MSBs, including the Chartered Institute of Personnel Development (CIPD).
8. To produce a series of scholarly outcomes, including a book and a special issue of a leading journal, in order to influence the scholarly

community about the role of HRM in organisational innovation and factors to be taken into account when conceptualising a multi-level framework.

In reflecting on the objectives detailed above we are reminded of the words of Marcel Proust: 'The real voyage of discovery consists not in seeking new landscapes but in having new eyes'. Our journey over the past five years has inspired debate, highlighted synergies and points of contention, fertilised collaborations within and across scholarly and practitioner communities and led to outcomes which continue to unfold. At times, rather than having answers to the issues raised, we are left with questions and ideas. This has inspired us to continue our research endeavours with a new vision, informed in part through the thought and dialogue that the series has evoked.

In more concrete terms, the seminar series has allowed each of the three schools mentioned above to exploit the synergies that exist across their combined expertise. This has (we believe) enriched our own thinking as leaders of the series, and strengthened collaboration not just across these three institutions but also with Nottingham Business School, where the principal investigator took up a chair in July 2013. The keynote speakers – who have influential positions in their respective institutions – we hope and believe, have also been beneficiaries of the series. Their ideas have been discussed and questioned through the seminars and in many cases captured in the pages of this book. We also sense that keynote speakers have taken back to their institutions new ideas likely to enrich both the thinking of PhD or other students for whom they are responsible as well as the academic curricula, more widely. Other presenters, drawn from a wide range of institutions in the UK and overseas, have been exposed to many different perspectives in relation to the seminar theme. We would like to think that this has been an enriching process, feeding into presenters' research agendas as well as their teaching duties and informing their academic profiles 'more widely' was just used.

We feel that the series has presented many opportunities for learning for junior faculty and research students. At their early stage of development, these scholars have, we sense, gained new insights in both theoretical and methodological terms into the role of people management in fostering organisational innovation. They have also, based on our observations during and since, learned from the continuing informal dialogue with other researchers and the many opportunities to observe role models and gain guidance and insight from more experienced faculty members.

There are perhaps two scholarly achievements that deserve particular note. First, we are delighted to have a special issue on-going with *Human Resource Management Journal*, entitled: 'Human Resource Management and Innovation: Looking across Levels'. At the time this book was going to press, we had a set of high-quality papers that have passed through the initial desk screening process and are currently under review. The special issue is expected to go to press towards the end of 2016.

A second output of which we are especially proud is the present book. Taken together, the book represents a collective repository of state-of-the-art knowledge in the area of people management, innovation and performance, drawing on the expertise of those directly involved in the series as well as of those whose research interests overlap. We bring together macro- and micro-perspectives in order to foster deeper understanding of the systemic nature of innovation and the implications that are presented for the management of people. We speak to both scholars and executives who are interested in considering how an organisation might enhance its innovative propensity through people. Our particular focus for the book, though, is students, both those pursuing Master's-level study (in HRM or innovation) as well as those undertaking doctoral-level study. We hope that the book inspires creativity (original new ideas) and innovation (an ability to apply these ideas) as readers take forward the guidance and vision offered in the pages that follow.

Acknowledgements

We received support for this project from many sources, not all of which can be acknowledged on this page. First and foremost, we are grateful to the Economic and Social Research Council (ESRC) for funding the seminar series, which enabled academic and executive communities to come together in a way that has inspired this book. Second, we appreciate the support we have received from the institutions at the heart of the series – the Aston Business School, the Centre for Performance-Led HR, Lancaster University Management School and the Institute of Employment Research, University of Warwick (IER). We experienced generosity from these academic institutions, not just in allowing staff time to present their work and participate in the seminars, but also in making rooms available free of charge and contributing towards subsistence costs. Our thanks extend to Nottingham Business School, which made it possible for the principal investigator to continue to contribute to the series after taking up a new position in July 2013, providing resources for attending the seminars and freeing up time. We thank the Confederation of British Industry for supporting the series, attending and presenting at several events, and supporting ideas and suggestions for publicity and impact. Professor Jenny Bimrose from IER was one of the original applicants and was involved in the delivery of the seminar series. We appreciate her vision and support.

Several others have made contributions that deserve acknowledgement. Three Aston PhD students – Margarita Nyfoudi, Jude Preston and Jenny Surtees – provided valuable help in setting up the seminar series website and setting in motion the organisation of the seminars. This was no small feat, especially considering the demands of doctoral study. Administrators at the above-mentioned three schools provided different types of logistical support. They include Zabin Shamsi at Aston, Teresa Aldren from Lancaster and Amanda Kerry from Warwick. Alison Wade at NBS also played an important role especially during the final busy stage.

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1

Human Resource Management, Innovation and Performance: Looking across Levels

Helen Shipton, Pawan Budhwar, Paul Sparrow and Alan Brown

There are no old roads to new directions.

The Boston Consulting Group

The importance of innovation can hardly be exaggerated, given that landmark change has defined human progress in our technological age. The business pages of popular journals are replete with a dazzling array of inventions that have overturned existing ways of working and fundamentally changed human experience – from agricultural drones that offer farmers new ways to increase crop yield to genome editing that provides powerful insights into genetically baffling brain disorders. Innovation has become a topical theme within organisations, too, with no shortage of advice and suggestions often targeted at business leaders about how to craft an innovation strategy or increase the number and quality of ideas with a view to enriching organisational life. The quote at the start of this chapter bears testament to the sheer effort of moving away from familiar, habitual practices in the direction of less-certain, risky future terrain. Setting aside what has gone before to move in new directions requires determination, resilience and courage at a personal level. Often overlooked, though, are the multi-level dynamics that this entails.

Rather than occurring in a vacuum, innovation is prompted, shaped and enacted through an individual or a collective group engaging with the context, whether that of the wider team, the organisation, the institutional framework or even society itself (Gupta et al., 2007). In its simplest form, innovation might arise through an actor's reaction to

stimuli presented within a work setting. More complex, but conceptually similar, determinants might govern whether or not influences from the external environment, derived through inter-organisational networks, cause an organisation to embrace a new technology or a novel technique (e.g., cross-functional work systems). Added to this, influences may occur from the bottom up (initiated by individuals) or top down (triggered by contextual factors). Some impacts might be set in motion by management (a reward structure that recognises risk and experimentation) whilst others are likely to occur by accident (an informal discussion at a conference about a new product or idea).

Reflecting these considerations, our central goal in this book is simple. It is to bring people, or rather the complexities of managing of human resources in organisations, centre stage. While scholars have been inspired by the idea that HRM has the potential to build a committed and engaged workforce, thereby maximising firm performance (Jiang, Lepak, Hu & Baer, 2012), until recently rather less attention has been devoted to HRM's role in fostering creativity and innovation (Shipton, Budhwar, Sparrow & Bimrose, 2012). Innovation scholars, by contrast, have devoted attention to the external context and the institutional framework (Chesbrough, 2004). HRM has been tangential, rather than central, in this literature. In bringing together the two strands, HRM and innovation, we believe that our text makes a novel contribution. Added to this, we draw into one conversation disciplinary perspectives such as leadership (Carmeli & Azeroual, 2009), workplace learning (Brown & Bimrose, 2014) and ambidexterity (Kang, Snell & Swart, 2012) that have evolved largely separately from one another. We do so in order to shed new light on the antecedents and enablers of innovation, with specific reference to people and the way in which they are managed.

Inherent in most conceptualisations of innovation, and our starting point for the book, is the notion of value (Gupta et al., 2007). The innovation or change must add something that is beneficial for the organisation, either complementing existing practice or adding something that supersedes and perhaps overrides what has happened before. Novelty is centre stage, in that innovation brings out previously unconsidered alternatives for change. Rather than absolute novelty, however, innovation is original within a context; its newness is relative and bounded. Level-of-analysis issues permeate reflections on definitions. Innovation is often conceptualised, at the individual level, in terms of an employee's creativity (Amabile et al., 1996) or of the ability to devise new and potentially valuable ideas in a work context. Others examine an individual's innovative behaviour (Scott & Bruce, 1994). The latter is suggestive

of a propensity not only to devise original ideas, but also to work simultaneously with others so as to facilitate the implementation of those ideas. The micro-perspective of innovation also entails consideration of the attributes and antecedents of effective leadership for innovation.

Taking an organisational-level perspective, innovation is often conceptualised depending upon its incremental or radical nature. The former entails fairly minor adjustment to strategic functioning while, through the latter, significant and major amendments are proposed or have occurred (Zhou & Li, 2012). Linked with this is the notion of exploration and exploitation. March's (1991) seminal work proposed that organisations face inherent tensions, on the one hand seeking to extend the boundaries of knowledge to pursue new and risky alternatives and, on the other, to refine and improve existing ways of working in order to deepen and enhance strategic functioning. The balance achieved varies across organisations, depending on many factors, including the volatility of the external environment, managerial orientation and employee skills and attitudes, including motivation and the nature of trust (Kang et al., 2007).

Chapter scheme

The first two parts of the book take an organizational-level perspective, presenting inspiring and research-informed insights into the outstanding HRM considerations relating to key themes of this book. We then, in Part III examine leadership considerations with innovation in mind, concluding in Part IV with a series of contributions that adopt a micro-level perspective, while simultaneously taking account of the context within which individuals are embedded.

Part I: People, innovation and performance: an overview

Chapter 1, written by Paul Sparrow, proposes that, for innovation, the notion of 'best practice' HRM may be less helpful as a conceptual lens than what is described as 'conditioning contingencies' – in other words, designing organisational structures to allow opportunities for knowledge flow across and within organisational boundaries. Sparrow alludes to the challenge of radical innovation, whereby psychological foundations inhibit members' willingness to contemplate proposed change that may be seen to threaten the established order. Acknowledging the emotional fallout from innovation and from building appropriate support structures may be an important part of the HR remit in dealing with innovation of this kind. Sanders and Lin, in Chapter 2, focus upon

'high commitment' HRM practices, in particular those that foster tolerance for risk, job autonomy and employee proactivity. At the heart of their chapter lies the notion of interactive, informal learning, which allows employees to make connections across time, networks and institutional frameworks. Their chapter emphasises that HRM practices influence employee perceptions and actions to the extent that they are accurately detected by employees. Drawing on Bowen and Ostroff (2004), they argue that in order for HRM to influence performance outcomes – including innovation – effective communication and interpretation are key. To this end, they reference various stakeholders, including senior and line managers and HR specialists.

The next three chapters of Part I consider human resource development (HRD), that sub-section of HRM concerned with employee learning insofar as it flows from strategic goals. In Chapter 3, Pauline Loewenberger highlights HRD considerations where creativity and innovation are to be fostered. The chapter focuses upon creativity training and makes reference to a number of reliable models to guide the process. There is discussion of diagnosis at the organisational level, with recommendations for using a valid and reliable instrument to assess climate properties that can provide a valuable starting point for crafting a climate apposite for the purpose of innovation. They reference studies showing that the payback in terms of innovation is much greater where internal systems allow for learning, under the auspices of a strong innovation climate, rather than promote an implicit view that external training is sufficient for this purpose.

The HRD theme continues in Chapter 4 with a discussion of work-based apprenticeship schemes and the role that structured training can play in fostering an organisation's propensity to innovate. The apprenticeship model of learning proposes a graduated approach to the formation of expertise. Fuller and Unwin argue that, through building an expansive rather than a restrictive work environment, apprentices and other learners have the potential to achieve functional expertise and to give back to the organisation in terms of guiding and supporting the learning of others. They argue that all employees can benefit from the supportive structuring of their development, as proposed in the apprenticeship model. They illustrate their framework through reference to case-study examples that demonstrate contrasting perspectives on the development of occupational identity and functional expertise. In Chapter 5, the final chapter of Part I, Gambin and Hogarth show that renewed interest from government and organisations means that apprenticeships are once again featuring as a tool in Human Resource

Management policy, after a period of decline. Like Fuller and Unwin, Gambin and Hogarth point out that to add value to organisations as well as to individual learners, apprenticeships should be provided within a wider package of HR processes and approaches. In order for employers to retain apprentices and thereby recoup their investment, other HR policies are required which improve retention and provide development and progression opportunities as well as other incentives for former apprentices.

Part II: People, innovation and performance: in context

The second part of the book uncovers some of the contextual contingencies that influence whether and how innovation plays out. Chapter 7, by Nair, Pillai, Hirekhan and Budhwar, gives a novel and exciting insight into innovation within a developing economy – that of India. They outline HRM's role in fostering what they label 'frugal innovations', referred to as *jugaad*. These innovations, while affordable, are based on simple ideas that entail leveraging scarce resources adapted for the local environment as appropriate. The chapter describes a cross-sectional survey of 174 Indian firms in order to shed light on the main factors promoting or hindering innovation. The authors note that, as proposed in the opening chapters of the book, HR practices need to be designed, developed and implemented to cater to an organisational environment that motivates employees, encourages collaboration and learning, improves employee commitment and promotes teamwork.

Frances Jorgenssen, in Chapter 8, provides an insightful discussion of HRM within small, high-growth firms. Jorgenssen shows that formal HRM systems may not necessarily be conducive to innovation and growth for this sector, especially where they are adopted uncritically, without taking account of underlying attitudes such as staff engagement and commitment. The chapter reports that high-growth firms tend to encounter numerous and sporadic 'tipping points' (Phelps, et al., 2007), defined as significant strategic challenges, decisions that appear on target at one point in time but which may rather rapidly become outdated as circumstances change. These tipping points influence the extent to which formal, rather than informal, HRM practices are apposite in a given context, and also influence the role of ambidexterity, jointly balancing exploration and exploitation. The chapter illustrates these points through reference to a high-growth technology firm based in Denmark which, being sensitive to changing employee perceptions, made rapid adjustments to HRM systems in order to facilitate ongoing growth.

In Chapter 9, Tansley and Kirk, in a study of a local authority in the UK which has a sophisticated e-HRM system, argue that in order to support organisational innovation, HR practitioners must first understand the challenges of innovating within their own functional areas. They further develop the theme of ambidexterity, which entails HR specialists exploiting existing HR knowledge while enabling the integration of new knowledge from inside and outside the organization. An effective e-HRM system relies on the skills and expertise of exploratory learners – labelled ‘communication stars’ – who reach outside the organisation to bring in new ideas and share them with others, benchmarking e-HRM practice elsewhere, especially (given the local authority setting) within related organisations such as Social Services and Highways. Balancing exploration and exploitation is, in the eyes of these scholars, an overriding challenge for HR specialists seeking to foster innovation within their own functional areas.

In Chapter 10, Swart and Kinnie highlight the impact of human and client capital on innovation within professional service firms (exemplified through reference to accountancy and legal service companies). They further develop the notion of external liaison expounded above, proposing that professional service firms work within a complex set of external stakeholder relationships to develop products and services. Their empirical work in this area suggests that HRM systems vary according to the degree of power exhibited by the client, as well as to the extent of work integration between the focal organisation and the client. Four configurations are proposed reflecting these factors: regeneration, refreshment, re-use and re-invention. Each configuration requires a specific set of HRM practices. For example, for the re-invention orientation, HR has a role to play in protecting employees from burnout that may ensue from dealing with the most demanding clients. Added to this, HR has the task of developing client relationship skills in order to address the strains of this type of client base. Rewarding high performers by showcasing exceptional achievement may be a key consideration for employees performing a re-invention role.

Part III: Leadership and innovation

The third part of the book deals with the challenges faced by leaders who have responsibility for implementing innovation within their organisations. The part starts with Chapter 11, a study by Černe, Hernaus, Dysvik and Škerlavaj, who have an interest in the antecedents of innovation implementation. Drawing on the Self-Determination Theory (Deci & Ryan, 1985), they present a conceptual case for supervisor support in conjunction with employee autonomy in decisions

fostering innovation-related outcomes. Contextual factors, in particular team leadership and management support, have been shown to be more important for implementation than for the suggestion of ideas. This is attributed to the leadership role in resource allocation, as well in dealing with resistance to ideas. As they point out, creative employee ideas very often cannot be realised without having a strong following wind and a supervisor's 'I am with you' orientation.

In Chapter 12, Maura Sheehan further develops insights into the leader's role in fostering innovation highlighting the importance of knowledge-sharing, defined, as proposed in Chapter 2, as collective beliefs or behavioural routines relating to the spread of learning among different individuals or units within an organisation (Moorman & Miner, 1998). With reference to data drawn from central and eastern Europe (the Czech Republic, Hungary and Poland), Sheehan finds that neither a transformational leadership style nor 'pro-knowledge sharing' leadership behaviour directly influences innovation. Rather, the effect of leadership on innovation is an indirect one through higher levels of employee knowledge-sharing activities. The study is insightful, not least because it covers 143 foreign subsidiaries, encompasses a longitudinal design that allows for the control of past performance and draws on multi-source data (managerial responses being matched with those of employees).

Two further chapters investigate very different and mostly unexplored themes concerning how leaders might elicit innovation and present a persuasive case for employing novel research methodologies. Chapter 13, by Yvonne van Rossenberg, compares and contrasts two data-collection approaches that are 'variable' focused as opposed to being 'person' focused. Variable-centred types of analysis look for overall trends and generalise organisations and their members in terms of the way in which they manage innovation. Person-centred perspectives, by contrast, are more explorative and have the potential to give insight into the complex processes and interactions that are central to innovation in which contextual conditions interact and are nested within multi-level groupings. These methodological perspectives are exemplified through reference to a study sponsored by Chartered Institute of Personnel and Development, a study which provides compelling insight into the leadership of innovation across a wide range of UK-based firms using person-centred methodologies.

In Chapter 14, Theodorakopoulos and colleagues turn their attention to leadership interventions that promote the diffusion of intellectual capital *across* rather than *within* organisations. Reflecting the emphasis placed in Chapter 2 on organisational design considerations and

structural contingencies, he refers to leadership within science parks. It is argued that this setting deserves specific attention when dealing with the challenges implicit in fostering innovation within small and medium-sized businesses. The proposal is that to prevent science parks from becoming just real estate brokerage entities, managers and policy-makers need to undertake a range of boundary-spanning activities to optimise the mobility of intangible and tangible knowledge and resources. Science parks provide opportunities for local knowledge dissemination, and the networking opportunities they offer become critical sources for the development of shared 'know-how' and effective practice-sharing between on-site SMEs. Four intellectual-capital management orientations are proposed, each of which has specific implications for leadership within science parks.

The final chapter in this part, by Coetsee, Flood and Kilroy, brings out the notion of authentic leadership, which accommodates the emotions, values and creativity of followers and develops a climate for innovation. With reference to a study of chief executive officers in Ireland, Chapter 15 highlights six key personal building blocks for leading innovation and change, providing a useful overview of what authentic leadership entails and why this particular style is valuable against a backdrop of innovation and change.

Part IV: The bedrock for innovation: building capability at the individual level

The last part of the book takes a micro-level perspective and deals with the challenge of managing individual learning in order to facilitate employee creativity and innovation. The part contains four predominant themes. The first, captured in Chapter 16 by Alan Brown, examines innovation strategies based on learning by doing, using and interacting. A second theme, covered in two separate chapters – Chapter 18 by Gomes and colleagues, and Chapter 20, by Zhou and Shipton – teases out the contextual factors that prompt employee creativity and touches upon the potential implications for leaders as well as for those charged with managing HRM in the workplace. A third theme, outlined by Kamal Birdi in Chapter 19, explores the antecedents and outcomes of creativity training in the workplace. The fourth theme focuses upon how practising innovating is a process that can support individual and organisational growth.

Brown's chapter looks in detail at how technically-based and experience-based learning develop and interact across the life-course. The chapter also examines whether individuals who have exhibited adaptability

across their careers also display the ability to innovate. Raising parallels with the expansive/restrictive model of workplace learning proposed in Chapter 5, the chapter compares the options for discretionary learning within the UK as opposed to the options in Norway, reporting evidence that according to European Working Conditions Surveys (EWCS 2005) figures this form of workplace learning is much less common in the UK. Only 30% of employees in the UK report experiencing discretionary learning, whereas in Norway the figure amounts to just under 56% of the workforce (Holms et al., 2009). With reference to both country contexts, the chapter gives an indication that challenging work in particular acts as a spur for innovation, leading directly to the development of individuals' innovative capabilities. Such development also provides individuals with a platform from which they are in a position to engage in innovative actions in future.

Chapter 17, by Elena Antonacopoulou, examines the processes involved in practising innovation through Learning-in-Crisis and makes the case for examining innovation in HRM, whereby HRM is reconceptualised as a practice of personal and collective growth. This dynamic view draws on and extends the notion of practice and practising to explain how practising innovation is a process embedded in practices such as HRM. Learning-in-Crisis is conceptualised as the form of learning that acts as a foundation for practising in general and practising innovation more specifically.

The main contribution of Chapter 18, by Gomes, Rodrigues and Veloso, is to analyse the relative contribution of context, defined in terms of *promoting* aspects (communication, tolerance of errors) as opposed to *enabling* factors (performance appraisal, reward, teamwork). The task of HRM is to bundle contextual elements into a powerful tool that allows creativity to become embedded in an organization's capabilities and culture. As in Chapter 7, these scholars define innovation according to the country context within which it occurs. In Portugal, for example, spontaneous improvisation is labelled *desenrascar* (Cunha, Clegg & Kamoche, 2006).

Chapter 19, by Kamal Birdi, highlights the possibilities open to organisations in training employees to behave creatively in the workplace. Building on the endorsements in Chapter 4 for managers to include creativity training as part of their HRD strategy, the chapter considers how widespread creativity training is, the main types of interventions deployed and the characteristics of a creativity training initiative that the author has experienced delivering in the workplace. The chapter provides valuable guidelines for HRD practitioners or other parties who would like to introduce creativity training into their organisations,

stressing a number of key determinants, including working with senior management to assess whether training is appropriate, and teasing out ways of helping employees to apply their learning in day-to-day work.

This part concludes with a chapter written by Zhou and Shipton that examines *why* the context is important, especially within work environments in which creativity is not expressly required. Drawing on reasoned action theory (Fishbein & Ajzen, 2010), the authors argue that the link between the intention to be creative and creative behaviour is contingent on the levels of perceived behavioural control for creativity. Where creativity is not a requirement for the job, employees are likely to see creativity as largely outside their control; creativity is a low volition activity. Just as in Chapter 16 it is suggested that innovation is impeded where workplace discretion opportunities are low, the authors argue that in these types of work environments risks and obstacles may be seen by employees as outweighing the benefits of being creative. They present, for those responsible, a framework to devise and implement HRM policy in order to bolster employees' beliefs that creativity is important and valued.

Conclusion

The quote at the start of this chapter suggests that there is no road map for venturing into new territory. Accordingly, we have introduced a structure that focuses attention on the multi-level aspects of HRM and innovation, rather than on the contribution of each specialist area (recruitment and selection, performance management, training and development, and so on). As discussed, the first part of the book takes a macro-level perspective, introducing the factors to be taken into consideration when designing HRM systems to promote individual, team and organizational-level innovation. The third part of the book clarifies leadership considerations while, in the final part, we introduce debates centred on maximising the opportunities for creativity and innovation at an individual level, taking account of contextual factors.

In this chapter we have provided an overview of key considerations guiding the book and signposting what is to come. Taken as a whole, we believe that our book casts new light on a fascinating and complex area. We hope that you enjoy reading the book as much as we have enjoyed working with this team of scholars to produce it. We especially hope that the book is valuable in fostering high-quality research that will help us better understand how organisations and the people in them can foster the innovation required to meet the demands and challenges of our age.

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Part I

People, Innovation and Performance: An Overview

2

Strategic HRM, Innovation and HR Delivery for Human Resource Management, Innovation and Performance

Paul Sparrow

Introduction: the HRM-innovation relationship

The range of HRM issues linked to the management of innovation are multi-level, and cross from macro- to micro-levels of analysis (Sparrow, Hird & Cooper, 2014). At the macro-level, there is the challenge of business model innovation, the need to examine the organisational and structural alternatives needed for developing innovation, the need to co-ordinate HRM – often across broad networks of organisations – and the challenges of institutionalising an innovation model and culture. At the micro-level, attention traditionally focuses on issues of leadership for innovation, creating a culture or climate for innovation at team level, shaping employees through the management and selection of individual talent, and the development of creativity at the individual level. This chapter has the following aims.

- To examine the overall context and lay out the broad range of HRM issues that need to be addressed in order to foster innovation
- To identify the need for much more contingent thinking in the HRM research agendas, arguing that one of the most important conditioning contingencies is the overall organisational form through which innovation is managed.
- To identify what these main contingent organisational forms are, along with the main issues that must be managed through them.

- To look across these organisational forms to identify how they appear to facilitate innovation and what is important in order for them to successfully appropriate value.
- To identify the co-ordination challenges placed on HRM functions in order to help create network-wide capabilities for effective innovation, aligning the HR architecture (and delivery system) to the support of the broader innovation system.

The problem faced by both academics and practitioners alike is that the management of innovation presents organisations with a multi-layered problem. The solution requires strategies, including HR strategies that touch upon, and tie together, an inter-related set of component factors.

In a structured review of the literature, Smith, Bush, Ball and Van der Meer (2008) identified six interrelated components identified by research to that date, each establishing the frame for the following component. The first and most important frame-setting issue, they argued, relates to the organisational form and structure to be adopted. This requires that attention be given to how parts of the organisation may best be configured to generate innovation, the necessary interactions and appropriate flows of information that must be generated, and the interpretive frames that must be attached to that information. Following on from this structure, attention then has to then be paid to operational processes. Here the challenges are to understand how these processes impact upon the selection of ideas and the evaluation capability of the organisation i.e. the generation, development and implementation of ideas. The third is the issue of organisational alignment. Here the challenge is to address the dissemination of strategy, the impact this has on the decision-making quality with regard to innovation, and the appropriate design of control systems and levels of organisational slack afforded to human, physical and financial assets. The fourth component concerns knowledge management. Both knowledge in general and previous project insights have to be converted into organisational learning, which requires paying attention to willingness to learn, the design and behavioural conduct of networks, the shape of interactions with customers and other value-chain members, the maintenance and development of professional logic, and the reflection of important capabilities such as market-sensing (customer product and service preferences) and competitive awareness (industry trends and competitors' positioning) at key parts of the structure. The fifth component is the management style and leadership needed to make the structures work, the key observation being that the design of the

organisation is only as effective as those that manage it allow it to be – there is an important axis between design and leadership. There must therefore be alignment between organisation design and the responsibilities afforded to leadership as this impacts employee motivation for innovation, how leadership qualities are used to enable people to negotiate more autonomous roles (a pre-requisite for creativity and innovation) and the attitudes that leaders must have towards innovative behaviour, as well as how these will then be used to generate appropriate employee behaviour. Finally, the sixth component relates to the management of individual employees, specifically the personal characteristics (individual differences) associated with innovative behaviour to be handled in the resourcing systems and the motivation of appropriate innovative employee behaviour.

Moving such summaries forward to today for that which is important in the HRM-innovation relationship, in a recent special issue on HRM and innovation summarising the current research themes, Florén, Rundquist, Schuler and Bondarouk (2014) identified the following forward challenges for research and practice:

- Distributed and open innovation settings are now much more common, and have led to the need to design partnerships for the gain of mutual new knowledge i.e. for HR professionals to consider human resources, not only inside their own organisation but also those embedded in the broader cooperative network.
- Organisations must now understand the roles, structures and dynamics of self-organising ideation communities but also then be able to expropriate value from them i.e. to understand the specific appropriability mechanisms for capturing value (including the structures and systems needed to do this).
- HRM policies and practices are needed to increase employees' organisational commitment i.e. to improve the organisational climate for knowledge-sharing.
- New types of rewards systems become important in the early phases of innovation i.e. dual rewards systems that are able to foster innovation through employee behaviour that creates both competitive and collaborative outcomes.

However, in identifying this agenda, they also note that there is now a need for much more contingent thinking in HRM research, as '...different types of contingencies will affect the HRM-innovation relationship' (Florén, Rundquist, Schuler & Bondarouk, 2014, p.573).

For example, Hodgkinson and Healey (2014), when addressing, in effect, the third component outlined above (Smith, Bush, Ball & Van der Meer, 2008) of organisational alignment and subsequent decision-making quality, have revisited our understanding of the behavioural implications and challenges that arise when facing radical innovations. They examine the psychological foundations necessary for underpinning dynamic capabilities – defined as ‘...the mechanisms (skills, processes, procedures, organisational structures, decision rules and disciplines) that enable learning and innovation at the organisational level’ (p. 1307). Organisations fall into patterns of imitating one another’s competitive positioning strategies over time, and the beliefs of strategists’ become highly convergent. The macro-cultures across industrial partners also homogenise over time, and we often witness the failure of entire industries to adapt to radically new competitors and technological innovations. At both the level of individual talent and of teams, a range of behavioural shackles and ‘cognitive simplification strategies’ must be overcome by the design of any organisation. Individuals and teams have first to sense opportunities and threats, then seize them and transform them. Individual strategists tend to incorporate radical new developments into pre-existing categories, suffer biased judgements through the use of heuristics and rules of thumb and, at group level, teams fall prey to collective belief systems or the pressures of social identification. Successful radical innovation therefore requires organisational decision processes and support systems that enable the development of emotional commitment to new opportunities and foster the development of new collective identities: ‘...the organisational adaptability to the challenges of radical innovation requires architectures and support systems that embrace and augment, rather than ignore or militate against, ‘less deliberative’ and ‘hot’ cognitive processes’ (Hodgkinson & Healey, 2014, p.1311).

The above summaries of challenges facing the HRM relationship make it clear that much of the HR strategy must be both contingent upon, and guided by, the over-arching organisational form adopted to pursue innovation. The idea that there are generic sets of high performance work practices, relevant to all contexts seems naïve. In practice:

- business models are driven by competing strategic drivers (some organisations might be pursuing a business model in which innovation is a key performance driver, but they might also be driven by competing demands such as productivity, lean management and customer centricity);

- the phase of innovation across the life cycle (from early ideation through to more viable commercialisation) brings unique HR needs; and
- the broad organisational form in play requires the support of specific HR practices.

A key tension frequently highlighted in the innovation literature is that management is designed to solve problems, replicate, scale and increase efficiency. By contrast, innovation is not about these factors, and therefore requires a new management model, that in turn demands different assumptions about how we organise, lead, manage resource allocation, plan, recruit and motivate.

This chapter now focuses on what is an under-researched relationship, between the various organisational forms and designs that might be in play as well as the subsequent important HRM processes. Such attention to organisational form is not new, yet it has been absent from much HRM debate for many years (Sparrow, 2003). Discussion about the most appropriate organisational forms (and the conscious efforts at designing structures and processes through which they are realised) at its heart refers to the way in which organisations choose to combine strategy, structure and the internal control and co-ordination systems that provide an organisation with its operating logic, rules of resource allocation and mechanisms of corporate governance (Creed & Miles, 1996; Child & McGrath, 2001). The paradox is that control over knowledge flows becomes more difficult to exert as dissemination of codified insight becomes more open, yet at the same time, control and reliance on conformity to core processes '...inhibit the accidental, fortuitous and creative processes that facilitate exploratory learning' (Child & McGrath, 2001, p.1136). For Sparrow (2003), the choice of form becomes important for HRM in five ways:

1. Establishing an organisational design for strategic flexibility and the appropriate dissemination of organisational aims, regulation of resources and governance of duties, rights, functions and roles.
2. Organisational designs suited to the management and brokering of knowledge, knowledge capabilities and leverage of intellectual capital.
3. The design of high reliability operations and a stable cognitive infrastructure to help inform wise decisions within a turbulent and risky environment.
4. The operation of important knowledge markets within organisations and the implications these have for the role of managers.

5. The role of social capital and the operation and design of social and organisational networks.

Understanding the role of organisational design as an important contingency in the HRM-innovation relationship

Fortunately, insight is increasing into the way in which the organisational design may help create such processes, and therefore the necessary connections between the outcomes of exploration and exploitation and organisational structure (see for example Csaszar, 2013; Biancani, McFarland & Dahlander, 2014; Hendriks & Fruytier, 2014). These links have been considered by three literatures:

- the classic organisation design field;
- research into exploration, exploitation and ambidexterity; and
- behavioural approaches to the reliable organisation.

This challenge is ‘...akin to the challenge of pursuing ambidexterity (defined as achieving efficiency in the short term while remaining innovative in the long term)’ (Csaszar, 2013, p.1084).

It has generally been assumed that ambidexterity can only be achieved by implementing one process pursuing exploration and a separate one pursuing exploitation, and that each process must be separated in either time or space (Raisch & Birkinshaw, 2008). However, Csaszar (2013) argues that the two outcomes can be achieved in a single organisation form.

There are, however, two contrasting sets of assumptions in such literature (Hendriks & Fruytier, 2014):

- a critical stance, that argues that the concept of knowledge in the organisational design literature is treated as a ‘black box’, which leads to a false assumption that premeditated attempts can be made to design patterns of interrelated tasks through predefined organisational structures. Such assumptions bring curtailment and control by others, which is at odds with the need for distributed and freeform knowledge generation.
- calls from organisation design specialists for better designed organisational forms, flexible and adaptive structures that are capable of facilitating the necessary levels of engagement with unpredictable tasks that are heavily dependent upon the expertise and talent of key individuals. This approach argues that a knowledge perspective on innovation simply ‘...describes the micro-underpinnings of “collective knowing in action”, at best only hinting at the possible influence

of structures in place, which is mostly portrayed as potentially disruptive, thus ignoring their enabling potential' (Hendriks & Fruytier, 2014, p.49).

Seven competing organisational forms

A first step for HRM researchers in entering this academic debate is to understand what the main organisational forms are, and then to be able to trace how each form establishes a specific people-management context. By way of conclusion, this chapter establishes seven separate models (see Table 2.1), each of which contributes unique organisational design and development challenges, and each of which 'conditions' the subsequent HR solution, whereby the HRM practices flow from the preceding design choice.

Table 2.1 Alternative organisation design solutions for innovation

Organisational design	Key organisational development issues
1. Building units that are specialised to the creative portion of the innovation problem (e.g. traditional skunk works) (Single & Spurgeon, 1996; Miller & Cardy, 2000; Fosfuri & Ronde, 2008)	Buffering these units from the dysfunction of standard structures, processes and measurement systems and ensuring values congruence and person-organisation fit in the creative units.
2. Using fluid, lateral modes of co-ordination (teams) with joint decision-making rights at the front end (in time) of the innovation process (Hansen, 2002; Akgün, Lynn & Byrne, 2006)	Segmenting the innovation process in time from the rest of the organisation by ensuring high personal and organisational flexibility before the subsequent emphasis on more codified and replicable business processes.
3. External venture capital model: acquiring and subsequently internalising the running of entrepreneurial start-up operations (Robeson & O'Connor, 2013)	Segmenting the innovation process in time from the rest of the organisation by setting up proto-governance structures with 'incomplete' contracts i.e. inbuilt flexibility for accommodating the development path. Melding the incentive arrangements for newly internalised lead employees (agents) that can be overseen by governance arrangements and that also protect the interests of the corporate owners (principals).

Continued

Table 2.1 Continued

Organisational design	Key organisational development issues
<p>4. Internal venture capital/ entrepreneurial model (professional entrepreneur model). Building businesses that are born to be sold. Placing investment bets on the units in return for offering a brokerage service to resources (Tatikonda, Terjesen, Patel & Parida, 2013; Garrett & Neubaum, 2013).</p>	<p>Aligning the incentives between the entrepreneurs/ innovators, the investors and the employees.</p> <p>Managing a rapid growth model and building a market-leading capability that may soon be overtaken by competitors/ alternative innovations.</p> <p>Creation of 'liquid' equity value i.e. contractual arrangements that ensure that the venture capitalists are prepared to invest in the necessary capability building activities, flexibility in organisational roles, and loss of control over the innovation, <i>but</i> all in return for control over the timing of the sale.</p>
<p>5. Internal Professional Services Model (Anand, Gardner & Morris, 2007).</p>	<p>Skill sets associated with the management of innovation (such as project management, business analysis, corporate performance management setting) made available and delivered to line businesses via a central centre of excellence and business consulting unit.</p> <p>Central powers of control over the introduction of innovations exercised from the innovation business support service unit while services are also offered on a buy-in basis.</p>
<p>6. Networks of partner SMEs that share business inputs and outputs to an innovation-driven business project (members brought together by a formal network or reputation) (Powell, Koput & Smith-Doerr, 1996; Thorgren, Wincent & Örtqvist, 2009)</p>	<p>Leveraging one-on-one interpersonal relationships between entrepreneurs and the development of co-operative capabilities.</p> <p>Knowledge transfer from science to commercialisation ends – industrial and business development competencies.</p> <p>Aligning motives independent of individual firm members, which may be information acquisition or involvement in joint innovation.</p> <p>Injecting key brokering competences necessary for facilitating the development and reproduction of opportunism across the network.</p>

Continued

Table 2.1 Continued

Organisational design	Key organisational development issues
<p>7. Open, dynamic, virtual and networked spaces, often enabled by the internet, in which various systems of agents (individuals, groups, organisations and institutions) can voluntarily choose to collaborate. Examples are open innovation web-based platforms (De Toni, Biotto & Battistella, 2012).</p>	<p>Complex adaptive systems in which virtual, co-created and collaboration innovation is based on bottom-up and local interactions without centralised control. Control is distributed and decentralised, not being driven by the need to standardise procedures, but rather to control through a continual adaptation of values, rules, structures and behaviour. Co-ordination shifts from traditional pressures to differentiate competences and the need to integrate them.</p> <p>Relationships are seen as contemporaneously cooperative and competitive. The structure is open in that they are influenced by the environment and its evolution, but closed, in that any constellation of members at a point in time is bounded by an internal model of autonomy.</p> <p>Key success factors are: empowerment of users through role rotation and enlargement and enabling of multiple roles; collaboration models and social capital and networking support), interconnection, cognitive diversity support' community management (decision by consent and roles of the community as manager of the community common interest; a sense of belonging and a shared language; rules of participation; and mechanisms for managing intellectual property rights.</p>

What becomes important when tracing how each of these forms establishes a specific people management context? Looking across the seven options in Table 2.1, the following seem to be important elements. The various forms solve nine issues each in a potentially

different way (although this is an assertion that should now be subject to testing):

- integrating organisationally relevant but socially distributed knowledge and knowledge-intensive activities, through interrelationships;
- co-ordinating information structures;
- enabling people to collaborate with each other at much lower cost;
- reducing both unproductive search and co-ordination costs;
- lowering the risks associated with incorrectness;
- helping to advance incomplete ideas that are difficult to codify;
- developing ideas for production structures;
- making intangible assets flow more rapidly through the organisation; and
- increasing the rewards associated with novelty by aligning incentives so that those engaged in risky innovation have a chance of success.

The organisational development agenda is triggered by the necessary solutions to the above needs, as well as to the political agenda that is often associated with innovation. It is evident from Table 2.1, that these seven organisational forms or designs bring with them political risks (Freeman & Engel, 2007). First, the need for speed in innovation is greater today than was ever the case historically. This makes learning how to reconcile the tension between creativity and control more difficult. Second, the more radical the innovation, the more likely it is that the whole business model may need to be innovated and the more difficult is the route to commercialisation, the higher the risk of failure, and the more complex the challenges of managing appropriate organisational behaviour. Third, the higher the risk of conflict of interests in the current business model or other on-going strategic initiatives – the more likely it is that sales and market positions may be cannibalised by the new operations and historical competence destroyed. Fourth and finally, the riskier the resource allocations the more uncertain are the claimed future revenue-earning escalators. It is the management of these political risks that places such great emphasis on the role of leadership.

The management of innovation across organisational boundaries

Returning to the observation by Florén, Rundquist, Schuler and Bondarouk (2014) that distributed and open innovation settings have created the need to design partnerships for gaining mutual new

knowledge from human resources not only inside a host organisation but also from those embedded in the broader cooperative network. Is there guidance from recent research? They asked us to understand the roles, structures and dynamics across partnerships and the specific appropriability mechanisms to capture value from them. The final challenge facing researchers addressed in this chapter is the need to understand the co-ordination challenges placed on HRM functions if they are to assist in the creation of the network-wide capabilities needed to ensure effective innovation i.e. not just to align their internal management towards innovation, but to create an HR architecture that supports the broader innovation system.

As innovation networks become more open, they also become dependent on connections and allegiances that occur outside, as well as inside, the organisation's boundaries. There is some guidance on the important people management issues involved, but interestingly this is to be found mainly in non-HR literature.

For example, research on supply chains has focused on the importance of knowledge-sharing in multiple directions and learning between organisations (Cheng, Yeh & Tu, 2008; Hernández-Espallardo, Rodríguez-Orejuela & Sánchez-Pérez, 2010). The interplay between competition, collaboration and trust, and the capabilities needed to translate knowledge acquired and innovate across organisations has led to an inter-organisational and value-network perspective on innovation. For example, supply chain researchers have examined the practices necessary for the transfer of client insights back throughout the supply chain and innovative practice in sectors as diverse as textiles, healthcare, aerospace, automotive and engineering (Godbout, 2000; Hustad & Munkvold, 2005; Esposito & Raffa, 2007; Corallo, Lazoi, Margherita & Scalvenzi, 2010; de Vries & Huijsman, 2011). In these more dynamic, innovation-driven and customer-satisfaction-dependent contexts, requisite HR capabilities include the continuous monitoring of resources and competence gaps, development of specialised management and technical competence and their distribution across many of those involved in collaborative networks. This research also points, however, to the severe challenges faced in ensuring the appropriate allocation of human resources and optimisation of individual and organisational competence – the latter seen as a distinctive and enduring organisation-specific ability that leads to above-average economic performance.

In similar vein, researchers on trans-organisational innovation and inter-organisational networks focus on the problems of knowledge management, technology transfer and organisational learning. They

pay attention to how knowledge is spread across organisational boundaries and transformed into new products, processes and services (Jarillo, 1988; Powell, Koput & Smith-Doerr, 1996; Millar, Demaid & Quintas, 1997; Phillips, Lawrence & Hardy, 2000; Swan & Scarbrough, 2005). Two areas of study in particular have helped understand the management tasks involved in learning across networks.

First, research into knowledge-based inter-organisational collaboration, in which organisations combine competence, share resources and distribute risks, ranging from minor incremental improvements right through to radical innovation. These arrangements may exist across customers, competitors, suppliers, sub-contractors and partners. These researchers (Buchel & Raub, 2002; Canzano & Grimaldi, 2004; Mentzas, Apostolou, Kafentzis & Georgolios, 2006) examined: knowledge supply-chain networks (where knowledge integration and the interaction among partners needs to be managed); business networks (in which a constellation of firms is built up by a 'central player' in order to satisfy its business requirements); and research networks (which have the goal of creating new knowledge, every partner performing the research activity without any lead company).

Second, research into the shift from linear and closed models of innovation to the more open and user-centric models that we see in many sectors, pursued as a result of higher levels of uncertainty, has increased the costs of R&D, and shortened innovation cycles (Chesbrough, 2003, 2004; Huston & Sakkab, 2007; Ojasalo, 2008; Matheus, 2009; Igartua, Garrigós & Hervás-Oliver, 2010).

Such research on open innovation models demonstrates the need to accommodate greater complexity and interdependence between organisations, and a need to develop HRM practices that help solve the following challenges:

- connecting people and technology from different organisations;
- individual level learning;
- a capacity for the organisation to transform its underlying structures;
- creating cultures that learn i.e. cultures based on openmindedness, knowledge-friendliness, reputation and trust;
- attention to intellectual property rights based on principles of non-disclosure;
- being part of a wider innovation eco-system; and
- establishing learning communities that have a common purpose and common incentives for successful knowledge production and exploitation.

Two things become important in the way in which these interactions take place, namely, the way in which they are used to create more aligned management; and how they can then be used, and 'scaled up', to create a 'higher-order system' that has the capacity for more effective collective innovative action (Koschmann, Kuhn & Pfarrer, 2012).

What also seems evident from such research is that such networks and their culture are extremely fragile. They are subject to destruction by external events, and by the inevitable movement of important members in and out of the network. Identifying the conditions that must be managed to ensure sustainability is clearly going to become very important.

Conclusions

This chapter has identified a range of HRM issues that must be dealt with if innovation is to be fostered, and has argued that the most important of these relates to the organisation form and structure that will be adopted. This is associated with a series of other linked challenges, including the operational processes in play and how these impact upon the ideas selection and evaluation capability, organisational alignment and subsequent decision-making quality, knowledge management and its conversion into organisational learning, the management style and leadership models needed to make the chosen organisational forms and structures work, and the management of individual employees and their innovative behaviour through resourcing, motivation, rewards and team climate systems. Having identified and managed all these components of the HR strategy in an integrated way, HR academics and professionals now also face the added challenge of having to consider human resources not only inside their own organisations but also resources embedded in what is invariably a broader innovation network, as well as self-organising ideation communities.

Yet not only do we need such multi-level HR understanding and horizontal strategic thinking but in identifying this agenda, it is evident that we need to see much more contingent thinking in HRM research. Falling back on theories and discourses that have served the general HR community, such as debates about generic high performance work practices, will not serve us well in helping to address complex organisational problems. Instead we should be focusing, more on the role played by dynamic capabilities – the mechanisms, skills, processes, procedures, organisational structures, decision rules and disciplines that enable learning and innovation to take place at the organisational level.

HRM researchers should also give more attention to the role played by different organisational forms – the combination of strategy, structure and internal control and co-ordination systems that provide an organisation with its operating logic, rules of resource allocation and mechanisms for corporate governance. In so doing, they will better understand how we might establish organisational designs for strategic flexibility, how we can establish high reliability operations and stable cognitive infrastructures that help inform wise decisions, how we can manage knowledge and capabilities associated with the leverage of intellectual capital and facilitate important knowledge markets within organisations, while operating and designing the requisite social and organisational networks.

The chapter has identified seven options in terms of the organisational form that might be adopted. This involves specialist building units to handle the creative portion of the innovation problem; using fluid, lateral and team modes of co-ordination with joint decision-making rights; external or internal venture capital models; internal professional service models; networks or project-based sets of partner SMEs; or open, dynamic, virtual and networked spaces. Each brings its own organisational development issues, but in terms of how they work, they seem to solve nine core needs that have been identified. The organisational development agenda is triggered by both these needs, as well as the political agenda that is often associated with innovation.

There is an exciting HRM research agenda ahead. This agenda can usefully be guided by work on organisational forms and design, exploration, exploitation and ambidexterity, as well as behavioural approaches to reliable organisations and strategic competence.

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3

Human Resource Management and Innovative Behaviour: Considering Interactive, Informal Learning Activities

Karin Sanders and Cai-Hui (Veronica) Lin

Introduction

In a rapidly changing business environment, organisations need to be entrepreneurial and innovative in order to identify new opportunities for sustained superior performance (Hayton, 2005; Shipton, West, Parkes, Dawson & Patterson, 2006). Innovation can be understood as a strategic orientation involving the regeneration of product, processes, services and/or strategies. It rests upon an organisation's ability to learn through both exploration of new knowledge and exploitation of existing knowledge. One of the most critical resources that organisations can draw upon in order to achieve innovation at the organisational level is their *employees' innovative (work) behaviour* (Cohn, Katzenbach & Vlak, 2008; West & Farr, 1990), also known as *entrepreneurial behaviour* (de Jong, Parker, Wennekers, & Wu, 2013). Employees' innovative behaviour refers to the process of initiation and the intentional introduction of bringing new problem-solving ideas into use, thereby enhancing a product, service or process. It encompasses both idea generation (creativity) and the application of the new ideas within a group or organisation (Amabile, 1988; Nonaka, 1991). Entrepreneurial behaviour can be defined as the extent to which employees proactively engage in the creation, introduction and application of opportunities at work, marked by taking business-related risks (De Jong, et al., 2013). Despite the overlap in definitions, innovative behaviour and entrepreneurial behaviour operate in isolated, unconnected research streams (Hayton, 2005; De Jong et al., 2013). Research into entrepreneurial behaviour is published in

entrepreneurial journals, while research into innovative behaviour is published in management and psychology journals. Due to the substantial overlap between innovative and entrepreneurial behaviour, we have integrated the research findings from these two streams of research in this chapter.

Given the importance of innovative behaviour at the employee level in order to achieve innovation at the organisational level, there is a growing interest among scholars in attempting to answer the question of why and under what circumstances employees express innovative behaviour within their organisation. To gain such critical employee contributions, scholars argue that the development and implementation of human resource management (HRM) is vital (Boselie, Dietz, & Boon, 2005; Hayton, 2005). HRM is defined as the management of people and work to achieve competitive advantages (Boselie et al., 2005). It involves HR practices such as selection and recruitment, performance appraisal and compensation. HR practices related to job design, such as the decentralisation of decision-making, teamwork, job autonomy and job rotation are also important (Laursen & Foss, 2003; 2013). In addition, scholars have examined the effects of bundles of HR practices such as high-performance work systems (HPWS; Huselid, 1995) and high-commitment HRM (HC-HRM; Walton, 1985). Although the boundary of HR systems is far from clear, there is a consensus that bundles should include employment security, internal labour markets, selective recruiting, extensive training, learning and development, employee involvement and performance-based pay and teamwork. An HRM process approach has emerged in addition to the content-based approach of individual and bundles of HR practices (Bowen & Ostroff, 2004; Sanders, Shipton, & Gomes, 2014). Within this HRM process approach, scholars highlight the importance of the psychological process through which employees attach meaning to HRM in explaining the relationship between HRM and (individual) performance.

As both HRM content and process are considered to be important drivers of employees' innovative behaviour, researchers in the field of innovation have begun to answer the question of how the relationship between HRM and employees' innovative behaviour can be explained. The causal mechanism underlying the HRM–innovative behaviour relationship is, however, still poorly understood (Hayton, 2005; Laursen & Foss, 2013), and scholars are calling for further research. It is vital to examine this relationship from an informal *interactive, informal learning perspective* because employees' innovative behaviour is typically

not limited to one brilliant mind, and is related to searching for new information (exploration) and the exploitation of existing knowledge (Lohman, 2005). We define interactive informal learning as activities in which employees acquire knowledge and skills directly through interaction with others, and involves activities such as knowledge-sharing, asking for feedback, sharing ideas and sharing materials with each other (e.g., Lohman, 2005).

Our contributions in this chapter are twofold. First, we present research that examines the HRM–employees’ innovative behaviour relationship, considering both content and process-based HRM research. For this presentation, we include research by the ‘entrepreneurial’ research stream. The most important conclusion from this section is that there are some indicators for the relationship between HRM and employees’ innovative behaviour, but that research is still lacking. Therefore, in the second part of this chapter, we present a multi-level framework to explain the relationship between HRM at the organisational level, interactive, informal learning at team level, and innovative behaviour at the employee level from a social embeddedness perspective. Our multi-level theoretical framework is presented in Figure 3:1. The chapter ends with conclusions, discussions and implications for future research and for professionals. Although our theoretical model is not exclusive for small and medium-sized enterprises (SMEs), we also discuss the implications of our theoretical model for SMEs.

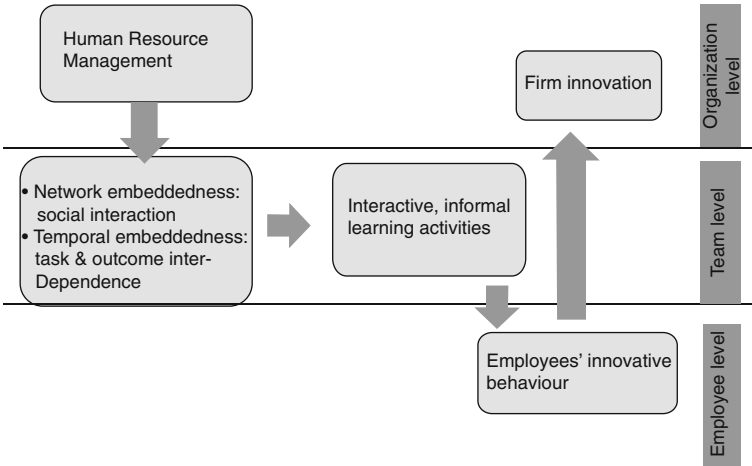


Figure 3.1 A multi-level model of HRM and employees’ innovative behaviour

HRM and innovative behaviour

In what follows, we start by discussing the characteristics of employees' innovative behaviour. We then present work on the effects of content- and process-based HRM on innovative behaviour. It is important to note that we present some of the main findings in the field rather than a comprehensive overview of all research.

Employee innovative behaviour

While employee innovative behaviour is desirable for organisations and provides useful means for fostering adaptability, there are several barriers that may discourage employees from becoming engaged in innovative behaviour (Bednall, Sanders & Runhaar, 2014). Innovative behaviour requires time spent away from an employee's formal duties, which may reduce short-term productivity. As a result, management may be ambivalent in supporting this kind of behaviour.

Moreover, employees may be discouraged from showing innovative behaviour because it contains *risk*. Risk refers to the possibility that something unpleasant may happen, for instance, damage to reputation, resistance from peers, and even job loss. Employees can be discouraged from showing innovative behaviour if they fear that they will be harshly criticized (Bednall et al., 2014). Similarly, employees may expose their methods to criticism and risk losing their unique value or 'expert power' if they share their creative ideas with their colleagues. There is a risk that employees may become discouraged from engaging in innovative behaviour because change is often met with resistance and potentially increases the workload.

In addition, *proactivity* is mentioned as an important characteristic of innovative behaviour (De Jong et al., 2013; Hayton, 2005). Proactivity represents an opportunity-seeking, forward-looking perspective characterised by heightened awareness and action in anticipation of external trends and events. Proactivity is associated with pioneering behaviour, initiative-taking to pursue new opportunities and attempts to lead rather than to follow.

In comparison with risk-taking and proactivity, HRM researchers studied employee outcomes such as organisational commitment, job satisfaction, turnover and performance. To explain the mechanism underlying the relationship between HRM and these kinds of employee outcomes, most researchers have relied on the social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960). According to this view, employees perceive HRM as benevolence on the part of their

employer. Employees respond with an increased sense of obligation to work harder and display a higher level of commitment, which leads to better performance for the organisation. Because of the risk-taking and proactivity elements of innovative behaviour, innovative behaviour is different from many other employee outcomes (Hayton, 2005; Bednall et al., 2014). Therefore, results of HRM research to stimulate employee outcomes such as organisational commitment, job satisfaction, turnover and performance cannot easily be generalised for inclusion in innovative behaviour research (Kanter, 1985) since it needs another theoretical framework.

HRM content and employee innovative behaviour

Hayton (2005) distinguished between individual HR practices and the entire HRM systems, the so-called bundles of HRM, in a review article focussing on the contributions HRM can make to a firm's corporate entrepreneurship, including innovation. Although this review focused on innovation (and entrepreneurship) at the organisational level, we report the main findings of this review hereunder. Regarding the individual HR practices, compensation is mentioned as an important incentive for employees to become more proactive and less risk-averse; however, this effect is moderated by the degree of risk or uncertainty associated with innovation. As with innovation, finding a way to structure compensation practices is a key challenge for researchers explaining the venturing process. Black and Ornati (1987) reported no significant differences between successful and unsuccessful firms with respect to the design of compensation schemes. Hayton (2005) concludes that there is no simple pattern when it comes to rewarding venture managers.

Laursen (2003; Laursen & Foss, 2013) proposed that HR practices such as teamwork, delegation and performance-related pay will have a greater impact on innovation when they are used in combination. In addition, they proposed that this relationship would vary according to the knowledge-intensiveness of the industry. Laursen and Foss (2013) explained theoretically why HR practices improve the innovative activities of employees. They argued that an important characteristic of HRM is increased decentralisation through delegating problem-solving to the shop floor. Introducing more teamwork and more job rotation are other HR practices that can lead to more innovative behaviour by assembling increased and more varied knowledge and by increasing knowledge-sharing among employees.

In addition, participation in decision-making, cooperation, avoidance of bureaucracy and encouragement of risk-taking and creativity

are mentioned in order to encourage innovative behaviour. De Jong et al. (2013) investigated the influence of two job design variables, job autonomy and job variety, on entrepreneurial behaviour. While job autonomy refers to extended jobs vertically, such as increasing responsibilities for decision-making, job variety refers to extended jobs horizontally, such as the breadth of the activities in which people are involved. Drawing on multiple source survey of 179 employees in a Dutch organisation, these scholars found that job autonomy is positively related to entrepreneurial behaviour. They did not find an effect for job variety.

HRM process and employee innovative behaviour

In the HRM process-based approach, attention turns to employees' perceptions, their satisfaction with practices and their understanding of HRM (Bowen & Ostroff, 2004; see also Sanders et al., 2014). The HRM process-based approach emphasises the importance of the way in which employees attach meaning to HRM in explaining the relationship between HRM and performance (Bowen & Ostroff, 2004).

When focussing on employees' satisfaction with HR practices, and taking into account that many HR tasks are transferred to line managers, the role of the direct supervisor cannot be underestimated. Therefore, Sanders, Moorkamp, Torka, Groeneveld and Groeneveld (2010) examined the relationship between leader-member-exchange (LMX), employees' satisfaction with some individual HR practices (employee influence, flow, primary and secondary rewards and work content) and employees' innovative behaviour. Using data from four Dutch and German technical organisations ($n = 272$) the results showed that both LMX and satisfaction with HR practices (flow, primary rewards and, most importantly, work content) were positively related to innovative behaviour. In addition, they found that satisfaction with HR practices mediates the relationship between LMX and innovative behaviour, meaning that the relationship with the direct supervisor is understood as an important antecedent of employee satisfaction with HR practices, which leads to employees' innovative behaviour.

Bednall and colleagues examined the effect of performance appraisal (Bednall et al., 2014) and formal training (Bednall & Sanders, 2014) on innovative behaviour, among other employee outcomes. Drawing on Bowen and Ostroff's (2004) theoretical framework, these studies investigate whether employee perceptions of distinctiveness, consistency and consensus of the HRM (HR system strength) influence their response to these two HR practices. According to the co-variation model of attribution theory (Kelley, 1967), the assumption is that when employees

perceive HRM as distinctive, consistent and consensual, they can understand HRM in the way it was intended by management. Using longitudinal data of Dutch teachers from Vocational Educational Training, Bednall et al. (2014) and Bednall and Sanders (2014) found modest, positive effects of performance appraisal and training on innovative behaviour. These relationships were stronger when employees could understand HRM in the way it was intended by management.

Moving from perceptions of HRM to attribution of HRM, Sanders and Yang (in press) examined whether HC-HRM is more effective on employees' innovative behaviour when employees can make sense of HRM (attributing HRM to management). Results from a cross-level field study ($n = 639$ employees within 42 organisations) confirmed this hypothesis. The results showed that the relationship between HC-HRM and employees' innovative behaviour is stronger when employees perceive HRM as distinctive, consistent and consensual and can understand HRM as intended by management.

A multi-level framework: social embeddedness¹

After reviewing 22 articles, Hayton (2005) concludes that although there is consensus regarding the importance of HRM to corporate entrepreneurship, including innovation, the empirical evidence is mixed and tends to lack a clear theoretical explanation. Hayton (2005) suggests that HR practices and systems can build an environment that is supportive of the corporation; organisational learning is encouraged through the development of human and social capital. Research should therefore focus more on the creation of a social exchange environment conducive to knowledge creation and sharing in addition to the promotion of risk acceptance through economic exchange (Hayton, 2005, 27). Research from Laursen and colleagues (2013) suggests that knowledge, learning and interaction are fundamental when promoting employees' innovative behaviour.

Informal learning refers to learning activities that are initiated in the workplace by employees themselves, rather than institutionally sponsored, to develop their professional knowledge and skills. Examples of informal learning activities reflect their own work, such as reading professional journals to keep up-to-date, giving and asking for feedback from colleagues and supervisors, and sharing knowledge and information with team members. Formal learning activities such as workshops, training and management development programs can improve employees' knowledge and skills, but they have been

criticized for being too expensive, time-consuming and disconnected from day-to-day work (see Bednall et al., 2014). Previous research showed that informal learning benefits both employees, in terms of increased employability, and organisations. Furthermore, informal learning is less expensive.

Individual informal learning activities, such as reflection and keeping up to date, are carried out individually without any assistance from colleagues or supervisors. In these learning activities, employees explore their own values, interests, attitudes, career goals and learning style preferences (Lohman, 2005). Interactive or collaborative informal learning activities on the other hand refer to activities in which employees acquire knowledge and skills directly through interaction with others (e.g., Lohman, 2005). Doing so includes knowledge-sharing, asking for feedback, sharing ideas and sharing materials with others. These interactive informal learning activities are by definition reciprocal and involve a certain amount of risk (Janssen, Van de Vliert & West 2004). Interactive, informal learning activities can be perceived as a process whereby employees together add growing value to a business (Sanders & Shipton, 2012), because innovative behaviour is not related to one brilliant mind, is the result of interaction as well as a willingness to learn (Kanter, 1985). In addition, we expect innovation will increase at the firm level when employees show innovative behaviour at the employee level.

Following this line of reasoning we propose:

Proposition 1: Interactive, informal learning at the team level will positively influence innovative behaviour at the employee level.

Proposition 2: Innovative behaviour at the employee level will positively influence innovation at the organisational level.

Research is unclear how and under what circumstances employees' interactions lead to interactive, informal learning activities and how these learning activities can be enhanced through HRM. In the following, we present a multi-level framework in which we use the social embeddedness perspective to explain the relationship between HRM and interactive, informal learning. In this multi-level framework, HRM is examined from the content-based HRM approach. However, we expect that the elaborated relationships between the HR practices and interactive, informal learning activities are stronger when employees understand them in the way in which management intended.

Social embeddedness

Following Granovetter (1985), Raub and Weesie (1990; 2000) and Sanders (2009; see also Sanders, Cagin & Bainbridge, 2014), we suggest that the social context, the social embeddedness of relationships, is crucial for predicting the interaction between employees. The extent to which a relationship is embedded can be described in terms of three kinds of embeddedness: temporal, network and institutional embeddedness (Raub & Weesie, 1990; 2000). *Temporal embeddedness* captures both the history ('shadow of the past') and the expected future ('shadow of the future') of relationships. If a relationship has a long history, individuals have had more opportunities to gain information about each other's reliability from previous interactions and to learn from their experiences (Raub & Weesie, 1990; 2000). If an employee has more information about the trustworthiness of his/her colleagues, it can be expected that the employee be more willing to place trust and to take a risk. A shared future promotes interactions through conditional cooperation. In this case, employees can try to exercise control over the behaviour of a colleague through rewarding interactive, informal learning and penalties for not engaging in such activities.

Network embeddedness relates to the number and quality of an employee's relationships with other employees. The term relates to aspects of the structure of the networks constituted by these relationships (Granovetter, 1985). Networks provide information and serve as a mechanism for the direct and indirect rewards for engaging in informal, interactive learning activities and direct and indirect sanctioning of not being engaged in these activities. Network embeddedness can be either formal or informal. Formal networks of employees refer to organisational positions designated by organisations. Informal networks consisting of personal relations also shape the behaviour of employees. Using the informal network, activities both within and outside the organisation can be coordinated. For instance, non-work activities (e.g., going for a drink together after work) provide opportunities for employees to get to know each other better and create opportunities for rewarding interactive, informal learning activities. Such activities can also sanction opportunistic collaboration.

Workplace interactions are also *institutionally embedded*; that is, they are influenced by the formal and informal rules that govern relations between employers and employees and interactions among employees. Governance structures constitute the settings in which employees weigh alternatives and make decisions concerning the duration and timing of efforts expended for the organisation. The content of an organisation's

governance structures is evident in their HRM. Governance structures may also provide incentives for engaging in informal, interactive learning activities. While all three kinds of embeddedness are important, management of an organisation can influence the temporal and network embeddedness by means of HRM within an organisation (Sanders, 2009). We argue that HRM can enhance network and temporal embeddedness and as a consequence enhance interactive, informal learning activities. As a consequence of these activities, employees' innovative behaviour will be enhanced. This is discussed further below.

HRM and network embeddedness

Kanter (1985) mentions the importance of having access to an informal network which evolves in cycles of perspective-sharing, trust-building and cooperation that enhance the exchange of knowledge and promote organisational learning. This means that the development of social capital is largely the result of informal processes. When employees engage in discretionary, extra role behaviour that benefit other employees and the organisation, they help to build trust, a shared perspective and, consequently, social capital. There is also the suggestion that informal networks and influence are key factors for the success of organisational entrepreneurs (see Hayton, 2005). In addition to possessing technical and market knowledge, a key to entrepreneurial effectiveness is the extent to which the entrepreneur is 'known by many others throughout the firm' and who is trusted, respected and influential.

Relating to the results of the articles Hayton (2005) reviewed, HRM can be expected to create social interaction (network embeddedness) as a means for gathering important knowledge and this is vital for improving employees' interactive, informal learning and their innovative behaviour. When social interactions among employees are embedded within the organisation, they facilitate trust among employees, something which is favourable for the promotion of idea- and information-sharing. Moreover, social interactions increase the opportunities for informal learning. Informal relationships can create cohesiveness and psychological safety at the team and organisational levels. Cohesion provides opportunities for individuals to discuss and share experimental ideas with other employees; it may help individuals to improve their ideas and make greater sense of the problems and consequences of innovative behaviour before they implement their ideas. Individuals in cohesive teams will experience psychological safety (Edmondson, 1999), which in turn is likely to enable both proposing new ideas as well as their subsequent implementation. Psychological safety refers to a shared

belief that an organisation is a safe environment in which to take interpersonal risks without needing to fear negative consequences for self-image, status or career (Edmondson 1999).

It can be argued that HR practices such as teamwork and participation in decision-making can enhance the network embeddedness and, as a result, enhance the interactive, informal learning activities within a team. In addition, HRM can motivate and encourage employees to interact more via formal and informal relationships. For instance, HRM can organise informal activities in and outside work so employees can learn from each other more, and feel safe to and encouraged to take risks. In addition, organisations can be clear in their policy that it is important for the organisation that there is a psychologically safe climate and that employees feel safe within the organisation.

Based on the above-mentioned theoretical line of reasoning, we propose the following:

Proposition 3: Human Resource Management at the organisational level will enhance interactive, informal learning activities via enhancing social interactions (cohesiveness and psychological safety) at the team level.

HRM and temporal embeddedness

Furthermore, it can be expected that HRM will increase the level of interdependence (*temporal embeddedness*) to increase the shared past and future experiences among employees in order to share more knowledge and, as a result, learn more from each other and become more innovative. By increasing the interdependence between employees, their past and their future expectations will increase their opportunities to learn from each other. Two forms of interdependence are thought to be especially important. Task interdependence is defined as a situation in which one employee's performance on a task depends on the task performance of the other (Van de Vegt & Janssen, 2003). Task interdependence exists when an employee needs information, resources, advice, knowledge, physical assistance and/or equipment from another employee to complete a task successfully. Goal interdependence refers to the extent to which employees believe that their personal benefits and costs depend on the successful goal attainment of other employees (Van der Vegt, & Janssen, 2003). In other words, goal interdependence refers to the extent to which employees believe that their own goals can be achieved only when the goals of other employees are also met.

Two theoretical reasons have been used in arguing the influence of task interdependence for interactive, informal learning activities and innovative behaviour. First, task interdependence increases the knowledge of other employees and the interaction between employees (see also Runhaar, Sanders, Yang & Bednall, under review), which enhance the generalisation and implementation of new ideas. Second, task interdependence leads to employees accepting greater responsibility for other employees' task performance and to advice-seeking and knowledge-sharing when confronted with problems.

Following Van der Vegt and Janssen (2003), task and goal interdependence can be expected to have a moderating effect on interactive, informal learning. If a job requires a high level of collaboration (i.e., the higher the task interdependence), team members will have a greater opportunity to help or hinder each other's performance. Whether team members will do the former or the latter will depend on the degree of goal interdependence within the team. When goal interdependence is high, task interdependence stimulates interpersonal assistance and coordination. This means that the more colleagues are enabled to perform well, the more they will contribute to the attainment of shared goals. With low levels of goal interdependence, task interdependence is negatively related to interpersonal assistance and coordination. More specifically, if individual interests prevail over collective interests, employees are more likely to use their power to behave competitively towards each other. In other words, it can be expected that task and goal interdependence have a joint effect on employees' engagement in interactive, informal learning activities.

In terms of HRM, we can argue that HRM practices as teamwork, job autonomy and decentralised decision-making can strengthen the task and goal interdependence within a team and, as a result, enhance their previous and expected future relationship. As a consequence, this will enhance interactive, informal learning and employees' innovative behaviour. Performance-related pay at team level can be examined as HR practices that can enhance interdependence within a team.

As a result of the above-mentioned line of reasoning and supported by empirical research, we propose the following:

Proposition 4: Human resource management at the organisational level will enhance interactive, informal learning activities via task- and goal-interdependence at the team level.

Conclusions, discussion and implications

In this chapter, we have adopted a multi-level perspective (Shipton et al., 2006). Specifically, we have examined the role of HRM (institutional embeddedness) at the organisational level and social interaction (network and temporal embeddedness) between employees in fostering employees' interactive, informal learning activities on the team level and, as a result, their innovative behaviour on the employee level. We propose a positive relationship between employees' interactive, informal learning activities and their innovative behaviour (*Proposition 1*) and between employees' innovative behaviour and the innovativeness of the organisation (*Proposition 2*).

The perspective of a multi-level model to explain innovative behaviour at employee level and innovation at the organisational level is nothing new. Hayton (2005, p. 23) also recognises "that research linking HRM to firm level outcomes as innovation...should acknowledge the issue of considering multiple level of analysis (e.g. Klein & Kozlowski, 2000). Although the unit of analysis is the organization, the underlying assumptions driving the analyses involve the influence of HR practices upon employee behaviours". However, the social embeddedness perspective and the focus on (explaining the) interactive, informal learning activities is new and can be understood as a more extensive method of explaining the relationship between HRM and innovative behaviour. In Proposition 3 and 4, we emphasised the relationship between network and temporal embeddedness at team level and innovative behaviour at employee level. The relationship is via social interaction (cohesiveness and psychological safety) at team level (*proposition 3*) and in the relationship between temporal embeddedness at team level and innovative behaviour at employee level via task- and goal-interdependence at the team level (*proposition 4*).

HRM, innovative behaviour and innovation in small and medium sized enterprises

Employees' innovative behaviour and a firm's innovation have mostly been studied within large organisations and multinationals. Research has only recently turned attention to innovation in SMEs. In order to survive, SMEs need to be more flexible and more innovative than their larger competitors, mainly by responding more quickly to customer needs (Koch & Van Straten, 1997). This means that employees in SMEs need to be flexible and innovative as well.

In comparison to large organisations, SMEs are generally too small for formal governance structures (in this case, HRM) and are more reliant on

informal governance structures. In addition, SMEs have fewer means to retain employees than their larger competitors, because large organisations can usually offer higher remuneration and more promising career prospects (Cardon & Stevens, 2004; Harney & Dundon, 2006). Kotey and Slade (2005) argue that the process of managing small firms differs from that of managing large organisations because small firms organise human resources in different and often informal ways. However, SMEs can provide greater opportunities for employees to become acquainted with each other, share knowledge, and learn collaboratively, because of their smaller number of employees. Such forms of informal learning are typically inexpensive and can promote innovative behaviour among employees.

In summary, in this chapter we have discussed the relationship between HRM at the organisational level, innovative behaviour at the employee level and innovation at the organisational level and sought to explain these relationship by means of interactive, informal learning activities. Since previous research confirmed the relationship between interactive, informal learning activities and employees' innovative behaviour, we have presented a multi-level framework to explain the relationship between HRM and interactive, informal learning activities and innovation from a social embeddedness perspective.

Notes

The first author at ESCR Seminar Series presented a large content of this Chapter: Organisational Innovation, People Management and Sustained Performance, October 29, 2012 at Aston Business School, UK.

1. This Section of the Chapter is a modified version of an Australian Council of Research (ARC) application, Sanders, K., Jackson, C. & Bednall, T.C. (2012).

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4

Human Resource Development, Creativity and Innovation

Pauline Loewenberger

Introduction

Human resource management (HRM) and development, learning, knowledge management and innovation represent complex and dynamic fields that draw upon multiple disciplines and emphasise the need for multilevel consideration. Such dynamic complexities present opportunities and challenges in an attempt to develop holistic theoretical approaches of how people management implications might contribute to sustainable innovation and performance. The various contributions to this book raise awareness and contribute to a shared understanding of innovation and HRM from multiple perspectives. They highlight the implications for people management through different lenses, including strategic and systems approaches at the level of the organisation, leadership, learning and the contribution of the broader national context to skill development.

An understanding of the people management implications for sustainable innovation and performance would be incomplete, however, without consideration of the contribution of creativity (defined as the generation of original and useful ideas) to innovation. Creativity is seen as the seed of innovation (Amabile et al., 1996) but it remains important throughout the whole innovation process. It requires multiple levels of analysis concerning the interaction of individual, social and organisational characteristics (Woodman et al., 1993).

This chapter focuses on the role of human resource development (HRD) in driving creativity and innovation through the interaction of individual, social and organisational factors. HRD extends far beyond training and development to comprise interventions in organisational and individual learning to support behavioural change. Strategic HRD

is increasingly recognised as being pivotal to alignment in supporting organisational transformation and change (Alagaraja, 2013) and is well placed to promote sustainable creativity and innovation. Extant creativity and innovation research identifies important determinants necessary for the credibility to reliably inform HRD practice, yet disintegration is apparent between HRD and creativity (Gibb and Waight, 2005; Loewenberger, 2013).

This chapter aims to draw on extant creativity literature to reliably inform HRD practice. It has two main objectives:

1. To contextualise the significance of the organisational creativity field, drawing on recent reviews and influential contributions from multiple disciplines in highlighting the complexities entailed in interdisciplinary multilevel approaches.
2. To provide useful insights for practice to be explored in-depth through synthesis between creativity and HRD.

Contemporary perspectives on organisational creativity and innovation

Historically, creativity and innovation each emerged from different disciplines. These converged only relatively recently on multilevel approaches that emphasise the interaction of factors at individual, group and organisational levels (Amabile et al., 1996; Van de Ven, 1986; Woodman et al., 1993). The most frequently cited theories, together with more recent contributions, have proved influential (Unsworth and Clegg, 2010), although none adequately address the development of truly dynamic systems theories. A recent review of creativity research suggests increased diversity and a lack of consensus and fragmentation (Hennessey and Amabile, 2010). There is a particularly notable absence of research across multiple organisational levels and disciplines. Others highlight differences in language that hinder interdisciplinary progress. For example, in focusing on creativity, innovation and agility (Walker et al., 2014) in an issue of *Organisation Studies*, the term 'organisational ingenuity' is used, defined as 'the ability to create innovative solutions within structural constraints using limited resources and imaginative problem-solving', this being defined as complementary to more familiar terminology such as continuous innovation/improvement, and corporate entrepreneurship. Both Amabile and Van-de-Ven are cited in this special issue, which is encouraging for the development of interdisciplinary, multilevel research and frameworks.

There is also evidence of complementary multilevel interdisciplinary perspectives, including systematic literature reviews that draw on relatively independent theoretical underpinnings, adopting an open systems approach while leading to common research questions. (Crossan and Apaydin, 2010; Martins et al., 2010). In an investigation of the dynamic and open corporate system for continuous innovation in Google (Steiber and Alange, 2013) ranked joint first are an innovation-oriented and change-prone culture and competent and committed individuals with a passion to innovate, with empowering and coaching leaders who remove obstacles to innovation in third place. However, diversity and fragmentation lead to an absence of 'big' questions in contemporary research leading to calls for interdisciplinary research based on a systems view of creativity that recognizes a variety of interrelated forces operating at multiple levels (Hennessey and Amabile, 2010). This kind of highly complex and empirical research is rare.

An important and related question is to consider how leaders, managers, HR practitioners and others might promote creativity and innovation? The discussion now moves to determinants of creative behaviour, identified as important in the extant literature, that are needed to address this question and provide the credibility necessary for supporting the implications for HRD in promoting creative behaviour in leaders and others to feed the innovation process. What does the evidence suggest are the implications for people management?

Determinants of creativity identified by extant literature

The literature suggests three problems in promoting sustainable creative and innovative performance.

The first relates to individual learning and creative thinking skills, the other two relate to the work environment. While the prevailing view suggests all individuals have the potential to be creative across all roles, levels and functions, creative idea generation is not commonly found in most individuals (Egan, 2005). Personality represents an important influence on individual creativity and innovation (Mumford and Gustafson, 1988; Weisberg, 2006) and evidence of more innately creative individuals in typically creative roles and functions, such as research and development, design or marketing, is clear.

The promotion of creative and innovate performance in contributing to sustainable competitive advantage and added value, however, requires the participation of all employees, not just those in more traditionally creative roles and functions. The problem lies in developing the

potential of the majority who are less innately creative so as to release the untapped potential of the entire workforce. This presents the need to overcome individual barriers including cognitive blocks (Weisberg, 2006) where patterning systems and false assumptions encourage reproductive thinking as a result of conditioning through socialisation and education that have traditionally favoured rationality and logic. As in the case of gymnasiums that support the development and maintenance of physical fitness through structured training programmes, there is a need for training in creative thinking skills (Puccio et al., 2006).

The second and third problems relate to factors in the work environment that promote or inhibit creative and innovative behaviour. Evidence suggests a lack of understanding among managers as to what it means in practice to be creative and innovative and how this might be achieved (Storey, 2000; Loewenberger, 2009). Ambiguities in management are amplified among other organisational stakeholders. Recent evidence points to the significance of a creative requirement (Unsworth and Clegg, 2010) across multiple levels for organisational stakeholders to engage in creative action, central to which is an awareness of what this means in practice, and the importance and value of creativity and innovation.

The third problem returns to the most frequently cited theories of organisational creativity in highlighting the need for successful exploitation of new ideas to overcome social and organisational barriers in the work environment (Woodman et al., 1993; Amabile et al., 1996). Creativity and innovation challenge established order and stability and might be perceived as undesirable by members of established organisations that operate on the basis of routines and standardisation, reinforced by power and status systems. Barriers include perceived risk, lack of understanding of what this means, how to generate and implement creative ideas, manage the creativity and innovation processes and overcome competing expectations, strategies, rationales, institutionalised routines and inertia (Storey, 2000). Organisational creativity is a function of the outputs of component groups and contextual influences, including structure, culture, climate, resources, reward systems and the external environment. Group creativity mediates individual creativity and is influenced by group composition, diversity, group characteristics, processes and contextual influences (Woodman et al., 1993). Social and organisational environments present potential barriers to the generation and implementation of creative ideas by nurturing established patterns of thinking that reject or inhibit creativity, innovation and change.

Interactional models provide a framework for the integration of individual, group and organisational characteristics and behaviour occurring at each level (Amabile et al., 1996; Mumford and Gustafson, 1988; Woodman et al., 1993). If creativity is to occur, there must be convergence of multiple components. At the heart of interactional models is climate, the aggregate of individual psychological perceptions of organisational policies, practices and procedures that influence behaviour (Amabile et al., 1996; Isaksen, 2007; Woodman et al., 1993; Hennessey and Amabile, 2010). There must be alignment between a specific set of organisational policies, procedures and practices with a specific type of organisational climate (Ostroff and Bowen, 2000). The criterion validity of organisational climate models is dependent on the alignment of the strategic focus of the climate with a strategic goal of the organisation. For an HR system to influence the achievement of that particular organisational objective, the system needs to be constructed around that objective (Lepak et al., 2006).

Climate models highlight dimensions of the work environment that are important for promoting and sustaining creativity and innovation. Diagnostic assessment of climate offers powerful insight into supportive and inhibitive factors at group and organisational levels that provide potential for organisational transformation. Two of the most influential contributions (Amabile et al., 1996; Isaksen, 2007) provide evidence for social and organisational factors identified as promoting or inhibiting creativity and innovation (see Figure 4.1). Barriers that inhibit creativity and innovation include excessive workload pressure, organisational impediments and conflict, shown as 'lack of' so that all of the factors illustrated are positive.

Amabile's (1997) research suggested the significance of five components:

- Challenging Work,
- Organisational Encouragement,
- Work-group Support,
- Supervisory Encouragement and
- Organisational Impediments.

Hennessey and Amabile (2010) argued that existing research is fragmented and focuses on a few factors or variables in isolation rather than adopting a more systemic approach of the main components. Recent empirical investigation provides additional support for the importance of these components (Loewenberger, 2009). Individual characteristics interact differently depending on the contextual factors (Shalley



Figure 4.1 Climate factors promoting organisational creativity and innovation

Source: Adapted from Amabile 1996 (inner radial) and Isaksen 2007 (outer radial).

et al., 2004). There is a differential contribution of climate components (Figure 4.2) for those scoring high or low on the personality dimension of Openness to Experience (McCrae and Costa, 1997). While organisational level support is necessary for most individuals, for more highly creative individuals work-group support and challenging work are the main contributors (Loewenberger, 2009).

Informed by the componential theory of creativity (Amabile et al., 1996) the centrality of intrinsic motivation and learning is also supported by research which provides evidence for individual differences in learning orientation to skill development and creativity (Hirst et al., 2011). Learning orientation – an individual's inclination to engage in learning – is associated with creativity yet with diminishing returns at higher levels. Others provide evidence for increased creative contribution, idea generation and support for group members, by learning orientation in comparison with performance orientation (Choi et al., 2014) as is to be expected, given the emphasis of climate models on intrinsic motivation and learning. These results appear to be complementary to individual differences in the openness dimension of personality, often

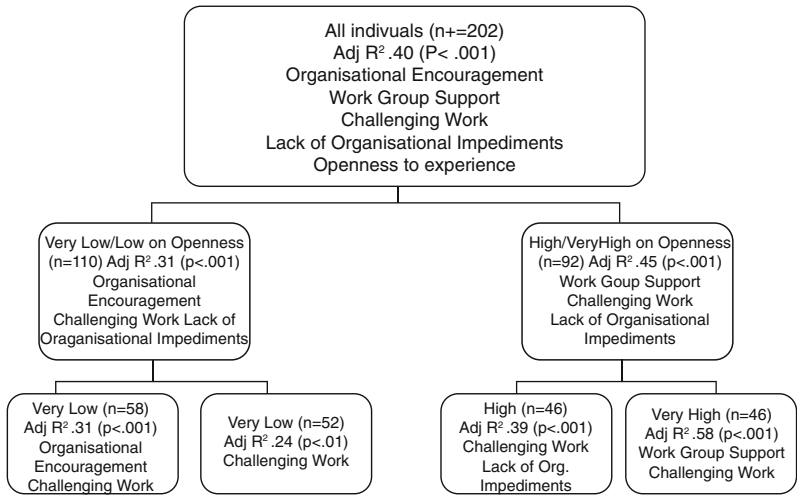


Figure 4.2 Hierarchical Linear Model of climate factors by the openness dimension of personality

used as an indicator of willingness to learn. The significance of individual differences in the ability to make connections among apparently unrelated ideas and possession of a wide attention span is important for creativity in two ways. It:

- raises awareness of problem opportunities and
- increases the potential for the generation of new ideas.

An alternative interpretation considers that CPS training might increase openness (Loewenberger, 2013). Both interpretations have implications for HRD in valuing membership of professional associations, conference attendance and networking in increasing the pools of knowledge and experience.

A professional practice perspective questions the relevance of individual differences in considering how leaders, managers, HR practitioners and others might promote creativity and innovation. Of far greater significance for the professional practice of HRD is the attention to individual, interpersonal and organisational learning across multiple levels. The role of HRD in promoting creativity and innovation is evidenced by associations between corporate training expenditure, interpersonal learning and innovation within organisations that have

strong innovative climates in contrast to financial support for education outside the organisation, the latter being negatively associated with innovation and having no effect on learning practices (Sung and Choi, 2014).

In summary, interactional climate models highlight the dynamic complexity of factors promoting or inhibiting creativity and innovation across multiple levels of the organisation through strategic alignment of social, organisational and individual factors. Support for individual, interpersonal and organisational learning highlights the role of HRD in promoting sustainable creative and innovative performance through consideration of relevant knowledge, skills and abilities, supported by effective intervention.

HRD Implications for sustainable creativity, innovation and performance

Given the significance of learning and culture change to the promotion of creativity and innovation, synthesis with HRD (Loewenberger, 2013) remains limited in comparison to general support for HRM and leadership. A focus on the dynamic interaction between individual development of creative thinking skills *and* a supportive climate remains rare. Many refer to leadership, yet it is misleading to assume that leaders and managers understand how to promote creativity and innovation (Storey, 2000). For shared meaning and understanding of the creative requirement to cascade across all workers, it must first exist among managers. HRD represents the missing link in how this might be achieved through effective promotion and support for leaders and other employees. Yet many studies still fail to directly address *how* the capability and commitment necessary for sustainable creativity, innovation and performance might be developed across multiple organisational levels (Egan, 2005).

How might HRD effectively promote individual creativity?

The first problem highlighted by the extant literature concerns the development of individual creative thinking skills. In an environment that is supportive in other ways, a lack of creative thinking skills will inhibit idea generation, as evident from Egan's (2005) observations. This has implications for HRD, given the prevalent perspective that all have the potential to be more creative to a greater or lesser degree across all roles, functions and hierarchical levels or status (Madjar et al., 2002).

Many creativity training programmes exist, ranging from the artistic and aesthetic, relating to theatre, drama, dance, art or improvisation, to training in creative thinking skills, using structured techniques. Robust training programmes that draw on cognitive approaches to the creativity process (Weisberg, 2006) represent credible, feasible and effective training in creative thinking skills that become embedded within the organisation. Training in creative thinking skills emphasises productive thinking and creative problem-solving (VanGundy, 1988; Proctor, 2014), using structured techniques to overcome cognitive blocks. Most are adaptations of the classic Osborn-Parnes creative problem-solving model which emphasises divergent and convergent steps, and is flexible enough to incorporate structured techniques at each stage (Puccio et al., 2006):

1. Mess Finding: Search for challenges and opportunities
2. Data Finding: Gather information about the problem
3. Problem Finding: Redefining the problem.
4. Idea Finding: Generate as many ideas as possible.
5. Solution Finding: Generate evaluation criteria, improve the ideas and select the best.
6. Acceptance Finding: Social validation and gaining acceptance.

Stages 3 and 4 are suggested as the most significant in enhancing creative idea generation using structured techniques. Problem redefinition might include Boundary Examination (De Bono, 1970 in Van Gundy 1988) or the classic 5 W's and H of Kipling's classic curiosity of 'The Elephant's Child' (Van Gundy, 1988). At the idea generation stage, many structured techniques are useful, including brainstorming, one of many structured techniques for use at Stage 4 that is frequently misunderstood in the absence of an awareness of the underlying principles of 'quantity breeds quality' and deferred judgement. The structuring of techniques in this way provides the potential to enhance creative thinking. Ideas generated at stage 4 provide the raw materials rather than solutions developed in later stages.

HRD professionals new to the CPS process might find the Osborn-Parnes model useful as a training programme using structured techniques to develop creative thinking skills (Puccio et al., 2006; VanGundy, 1988; Proctor, 2014) as a means to develop the untapped potential of human capital. This contributes to personal and professional development with the potential for organisational revitalisation and transformation, embedded in a supportive climate.

Given the role of leaders and line managers in developing others, the training programme might first be used in leadership development and disseminated from there. As this becomes embedded into the organisation, it may become part of the repertoire of skills leading to the generation of creative ideas. In larger organisations, creativity and innovation champions might be trained to support dissemination. In addition to enhanced creative thinking skills with potential for organisational transformation involvement of employees across levels in developing creative ideas around actual challenges and opportunities in the workplace, there is also evidence of enhanced intrinsic motivation and morale (Loewenberger et al., 2014).

Strategic alignment of meaning and understanding in the work environment

The second and third problems are at the level of social and organisational support, and comprise a lack of understanding of shared meaning and vision of what creativity and innovation mean in practice and the need for a supportive work environment. HR systems are espoused to be internally consistent and reinforcing to achieve some overarching results, here creativity and innovation, by developing capability and commitment to enhance performance. Lepak et al.'s (2006) HRM systems model is equally relevant to HRD and conceptions of HR systems for strategic objectives are extended to a climate capable and committed to promoting sustainable creativity, innovation and performance. Strategic significance and alignment across levels may not be realised if organisations fail consistently to translate aspirations to creativity and innovation into coherent HR policies.

For management, meaning is determined by an interaction of the dynamic external environment with organisational culture, vision and strategy. This leads to a perceived need to adapt based on intrapersonal beliefs, values and assumptions of the importance, value and priority afforded to creativity and innovation. Vision and strategy have a direct influence on creative and innovative performance (Hunter and Cushenbery, 2011), the promotion of which depends on integration of organisational culture and psychological climate (Lepak et al., 2006). Organisational climate requires alignment between a specific set of organisational policies, procedures and practices within a specific type of organisational climate and overlap with organisational learning and knowledge management (e.g. Gibb and Waight, 2005; McLean, 2005; Waight, 2005) highlighting the significance of human capital (Martins

et al., 2010). Climate creation and enhancement are central roles of HRD. Synthesis with HRD is dependent on effective employee involvement and communication of strategic objectives, meaning and shared perceptions and is central to creative requirement (Unsworth and Clegg, 2010), and creative self-efficacy, the extent to which individuals believe they have the ability to produce creative outcomes.

In summary, considerable ambiguity surrounds creativity and innovation and what this might mean in practice, highlighting the significance of shared meaning and creative requirement in shaping understanding and behaviour. The discussion now turns to the role of organisational climate for creativity and innovation in promoting sustainable creative and innovative performance.

Developing a work environment to promote creativity and innovation

The final problem is the need to develop a climate supportive of creativity and innovation that is sustainable (Amabile et al., 1996; Isaksen, 2007). Increasingly, climate is becoming the dominant emergent theme (Hennessey and Amabile, 2010). There is growing recognition of the role of HRD in developing a supportive climate and the capability and commitment to effectively promote and sustain creativity and innovation across multiple levels. Intrinsic motivation and learning underpin climate models in drawing attention to the factors perceived as significant to enhancing organisational creativity and innovation (Amabile et al., 1996; Isaksen, 2007). Evidence suggests the motivational effects of four of Amabile's stimulant dimensions: Organisational Encouragement, Supervisory Encouragement, Work Group Support and Challenging Work in interaction with Organisational Impediments, an obstacle dimension (Amabile, 1997; Loewenberger, 2009).

Organisational encouragement

Organisational Encouragement (Amabile et al., 1996) represents a climate that encourages creativity through the fair, constructive judgement of ideas, rewards and recognition for creative work, mechanisms for developing new ideas, an active flow of ideas, and a shared vision of what the organisation is trying to do.

Support for idea generation and the fair, constructive judgement of ideas might be facilitated through training in CPS employing structured techniques. Qualitative investigation (Loewenberger, 2009) extends this to freedom to voice ideas (not to be confused with the 'Freedom'

dimension of Amabile's (1996) climate model that is concerned with autonomy). Freedom to voice ideas characterises the perception of an absence of hierarchy, facilitating an open climate where, regardless of status, individuals feel the freedom to contribute to a lively flow of ideas that would be listened to without fear of humiliation, intimidation or ridicule (Loewenberger, 2009). Evaluation and fear of evaluation (e.g. Egan, 2005) are important to creativity from a number of perspectives. For example, if individuals fail to contribute to discussions, potentially valuable contributions are missed. Structured techniques within the CPS process are specifically designed to support the freedom to voice ideas. HRD professionals and leaders need to question whether such a climate exists in their work organisations. Does the absence of hierarchy and climate exist so that all employees feel free to voice their ideas without immediate or subsequent, direct or indirect, fear of intimidation or humiliation? The implication is not that creativity and innovation cannot be successfully achieved in hierarchical organisations. Rather, the potential for creative ideas exists from the bottom-up as well as top-down, such that organisations can benefit from untapped potential at all levels. Can organisations honestly say that all ideas are listened to regardless of employee status? Or do power and influence preside over which ideas receive a fairer hearing?

Qualitative research extends and develops climate models through examples of more supportive environments (Loewenberger, 2009). It evidences the significance of creativity and innovation champions, creativity and innovation clubs that serve dual purposes in providing opportunities for ongoing development, focusing on real challenges and opportunities, and practice in creative thinking techniques that become part of an employee's repertoire of skills. Development of idea management systems for future application contributes to the sustainability of organisational creativity.

Moving towards the more traditional HR areas of reward, recognition and performance management, intrinsic elements of reward systems are more likely to be sustainable in the longer term. Financial rewards might not be precluded for participation in the creativity and innovation processes, regardless of whether the ideas were implemented – since this is beyond individual control – bonuses for achieving creative targets, incentives for creative work or for ongoing learning and knowledge development. Cafeteria reward systems might also be appropriate. Recognition for creative work might take the form of career progression, which is often based on management skills that have not progressed to include creative work, and provides valuable feedback. In a highly

competitive and dynamic global business environment, creativity and innovation skills are important to success and in high demand.

Performance Management provides a valuable opportunity for clarification of creative requirement (Unsworth and Clegg, 2010) in relation to individual and team objectives, as well as for positive and constructive feedback. The subjectivity of creativity processes and the importance of team members and others suggests the appropriateness of multi-source feedback or 360-degree appraisal. Linking challenging targets to creativity can provide a basis for discussion, learning and development. Targets might relate to participation in problem-solving groups and facilitation of group sessions rather than outcomes, as externally imposed goals can inhibit creativity. For organisations newly aspiring to become creative or innovative, in the process of transformation or if needing to reignite inert aspirations, rewarding efforts to engage in the processes is likely to be perceived more fairly than judgement of outcomes. An interesting and challenging exercise might be to set staff a task to use their creativity skills to design a reward system that would be meaningful, valued and intrinsically motivational in stimulating, supporting and sustaining such processes long-term in the organisation, department or work-group.

Supervisory encouragement

Supervisory Encouragement (Amabile et al., 1996) refers to a supervisor or line manager who supports communication and collaboration, shows confidence in the work group, sets appropriate goals, values individual contributions and provides constructive feedback. Others recognise the need for increased involvement, self-esteem, challenging work, supportive cultures, enhanced problem-solving skills, performance and career success (Gilley et al., 2011). These authors suggest experiential development opportunities or mentoring to develop skills, compatible with suggestions for creativity and innovation clubs suggested above. This contribution identifies leadership behaviour, partnering/advocating, encouraging/asserting and styles, as well as learning facilitator, motivator, performance coach and servant-leader. Leaders in work organisations might not have benefitted from management education and may be unaware of more effective leadership behaviour and styles.

Work group support

Work group support (Amabile et al., 1996) represents a diversely skilled work group, in which people communicate well, are open to new ideas, constructively challenge each other's work, trust and help each other

and feel committed to the work they are doing. This is the focus of Egan's (2005) contribution on team diversity and team leadership. Diversity of skills in a group is apt to promote ideas generation, sparking ideas in others, stimulating associational relationships and building on others' ideas. Collaborative performance objectives and targets (although with individual recognition) and cross-functional teams might provide the diversity of knowledge and skills necessary for creativity and allow for greater integration between teams or departments. Mechanisms such as creativity and innovation clubs can also enhance effective teamwork. Sharing of creative and innovative successes within and between groups, perhaps in the form of a short presentation, is likely to inspire others and provide opportunities for collaborative efforts.

Challenging work

Challenging work (Amabile et al., 1996) represents a sense of having to work hard on challenging tasks and important projects. HR models identify challenge as significant to effective performance and as supporting creativity (e.g. Oldham and Cummings, 1996). Challenging work is suggested as highly significant for all individuals but is particularly important for more creative individuals, those high or very high on the Openness to Experience dimension of personality (Loewenberger, 2009). Intellectual stimulation is presented by creative and innovative work, which is also developmental. Work might be made more challenging by assigning responsibility to an individual or group in relation to a project, task or client account, for example, starting with responsibility for a small project, perhaps, and building gradually in scale and demands. This might take the form of self-managed teams in which an individual with the most relevant knowledge and/or expertise would lead. CPS training will directly challenge staff capabilities, taking responsibility for management of small projects or a single problem. Practising creativity techniques on actual problems contributed by cross-functional team members may provide a fun and challenging experience conducive to creativity and team development as well as to developing expertise.

Organisational impediments

Organisational impediments (Amabile et al., 1996) is an obstacle scale representing a culture that impedes creativity. This can be through internal political problems, harsh criticism of new ideas, destructive internal competition, an avoidance of risk, and an over-emphasis on the status quo. This scale represents the antithesis of supportive factors. Central to many items is the notion of control that obstructs

creative behaviour through a negative effect on intrinsic motivation. Some suggest that the significance of this scale is moderated by the 'Openness to Experience' dimension of personality (Loewenberger, 2009). Organisational Impediments appear significant only for those moderately high on the Openness Dimension, yet not for those low on this dimension, nor for highly creative individuals. This suggests greater awareness of barriers to creativity and innovation by those who are moderately creative but not by those who are less creative. For less creative individuals Organisational Impediments might become evident as creativity relevant skills are developed through training in creative thinking skills. This also suggests the insignificance of such factors in presenting organisational barriers to more independent creators.

Conclusion

This chapter contributes to the theoretical understanding and practical implications for HRD in supporting the promotion of creativity and innovation at multiple organisational levels. Multilevel interdisciplinary empirical investigation is complex, often leading to a focus either on individual issues or the larger system, rather than on interactions, and often drawing on a single discipline. Holistic theorising is therefore considered a realistic approach. The chapter draws on literature in the field of creativity and innovation in order to explore three implications for sustainable creative and innovative performance.

The first is the incongruity between the prevalent perspective that employees across all levels and functions have the potential to be more creative, and the observation that creative idea generation is not common among most individuals (Egan, 2005). HRD is well placed to enhance creative thinking skills and it is suggested that the use of structured techniques within a CPS framework might be useful in organising a training programme, initially for leadership development, and extended subsequently across levels by line managers and champions.

Second, what does this mean in practice to individuals across all levels, roles and functions of the organisation? Drawing on HR systems models (Lepak et al., 2006) strategic alignment is highlighted in the development of shared meaning and understanding through effective employee involvement, empowerment and participation aligned to active aspirations and strategic objectives. This highlights the significance of the creative requirement (Unsworth and Clegg, 2010). HRD practitioners are well placed to address this problem as the first stage in realising the untapped potential of human capital.

The third is the need for a supportive climate. Creative thinking skills are necessary but insufficient in an unsupportive work environment. Successful generation and exploitation of new ideas must overcome social and organisational barriers. Climate models are valuable in identifying factors that support or inhibit creativity and innovation. HRD is concerned with *how* this might be achieved in practice across multiple levels of the organisation. Drawing on two influential climate models (Amabile et al., 1996; Isaksen, 2007) and extended to include factors such as the freedom to voice ideas, this contribution presents an in-depth exploration and extensive discussion of potential implications for HRD in the effective promotion of sustainable creativity, innovation and performance. This is not intended as prescriptive. In practice, this provides HRD professionals and leaders with the knowledge, skills and abilities to be creative and innovative in translating theory into practice. While the complexities of systemic research present difficulties, these are not insurmountable, and empirical investigation is called for to support these implications in practice.

Evidence for associations between corporate training and development, interpersonal learning and innovation (Sung and Choi, 2014), and the effectiveness of learning as opposed to performance goals (Choi et al., 2014), reinforces the significance of intrinsic motivation in informing climate models. Integration of creativity and innovation research with HRD remains rare. The holistic conceptualisation of literature proposed here aims to narrow the gap between these dynamic and complex fields.

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5

Applying an Apprenticeship Approach to HRD: Why the Concepts of Occupation, Identity and the Organisation of Workplace Learning Still Matter

Alison Fuller and Lorna Unwin

Introduction

Apprenticeship is probably not the first approach to human resource development (HRD) that many contemporary managers and trainers would naturally refer to or even consider using as they seek ways in which to build workforce capacity. It can be dismissed as an anachronism in the light of the emergent discourse about the so-called knowledge economy and knowledge workers, as well as calls for greater occupational boundary crossing and multi-disciplinary/multi-skilled approaches to work. Knowledge workers are presumed to enter the workplace fully formed, armed with theoretical knowledge and (possibly) some work experience from their university degrees. In contrast, apprenticeship is positioned within an initial vocational education and training (IVET) paradigm and as a journey towards intermediate level expertise. Hence, for some, apprenticeship is an institutional arrangement between the state, employers and (sometimes) trades unions to train young people. For others, apprenticeship has echoes of a medieval world of individual craftsmen (sic), such as carpenters, goldsmiths and stonemasons who earned a living from their skills and formed guilds to control entry into their craft.

Yet, as we will argue in this chapter, if apprenticeship is reclaimed as a model of learning that transcends both its contemporary institutional

form and its traditional association with the novice-master relationship, it has considerable value for HRD. This is because apprenticeship builds and fosters the characteristics that are necessary to support the development and use of both individual and collective expertise in the contemporary workplace. Furthermore, those characteristics underpin the capacity of any workplace, regardless of size or sector, to create the conditions necessary for innovation. We argue that all employees can benefit from the same type of supportive structuring of their development and a graduated approach to their formation as experts that characterise apprenticeship as a model of learning.

The chapter draws on our research in a range of workplaces in the United Kingdom (UK) and we illustrate our argument through a comparison of university contract researchers and software engineers. It continues in four further sections, beginning with a discussion of apprenticeship as a model of learning.

Apprenticeship as a model of learning

Apprenticeship is a highly resilient concept, both institutionally through the IVET systems in many countries (notably in northern Europe), and metaphorically through its meaning for people from a range of occupational fields (from medicine and accountancy to music, hairdressing and plumbing). It crosses the vocational-professional divide found in education systems and the job boundaries found in workplaces. Musicians, chefs, doctors, lawyers and electricians speak of 'serving their apprenticeship'. By this, they mean they have developed their 'craft' through practice over time under supervision to enable them to reach the point where they can work without supervision and be accepted as a full member of an occupational community (Fuller & Unwin 2010).

Sennett (2008:9) has argued that, 'Craftsmanship names an enduring, basic human impulse, the desire to do a job well for its own sake' but, like Braverman (1974) before him, Sennett raises concerns about how some contemporary forms of labour process severely restrict opportunities for people to develop and deploy their craft (see also Warhurst et al. 2004). Likewise, Bensman and Lilienfield (1991) argued that people's 'habits of mind' and 'attitudes towards everyday life' emerged and were developed through the practice of an occupation, profession or craft.

While one can argue, with Marx, that one's social experience determines one's consciousness, a major component of that social experience is the specific activities one performs in one's occupational and professional practice. This includes the peculiar quality of the social relations

involved in the practice...it includes the nature of the materials with which an occupation works...Occupation as craft creates, for any particular occupation, an attitude which is unique.

The reference in this quotation to the 'social relations involved in practice' is a key theme in Lave and Wenger's (1991) seminal study of apprenticeship in which they argue that learning, within what they term 'communities of practice', is a socially situated process. A newcomer to the occupational community plays a role in defining the relations while simultaneously being defined by those relations.

Learning thus implies becoming a different person with respect to the possibilities enabled by these systems of relationships. To ignore this aspect of learning is to overlook the fact that learning involves the construction of identities...identity, knowing and social membership entail one another... (Lave & Wenger, 1991: 53).

The concept of 'communities of practice' has been criticised for promoting an overly conservative picture of the reproduction of the same types of bounded expertise (what the medieval guilds referred to as their 'secrets') and expected behaviour from one generation of employees to the next within settings that remain stable (see Hughes et al. 2007). Critics argue that the contemporary workplace is a much more dynamic and contested space. Yet, Lave and Wenger's concept has value because it draws attention to the symbiotic relationship between the individual and the development of their 'work' identity and the conditions in which that identity is nurtured. If the conditions are not conducive to supporting the individual to enable them to reach their potential and contribute to the community as a whole, this is likely to mean the workplace has wider problems in relation to the way it manages both its human resources and innovation.

Despite its traditional associations, occupational identity has never been seen as a static concept within apprenticeship. Rather, an occupation provides some continuity with the past, whilst also adapting to and incorporating new developments in knowledge and the impact of technologies. Occupational identity is, therefore, a dynamic and multi-faceted concept and a dimension of the broader concept of identity itself. Individuals construct or shape their occupational identities within cultural contexts. Rudman and Dennhardt (2008), writing from the perspective of developments in the field of occupational therapy, discuss Kielhofner's (2002) notion of the narrative construction of occupational identity, which provides a 'vision of life' (Kielhofner cited in Rudman & Dennhardt, 2008: 155) whereby some individuals adopt the identity of those around them, whilst others exert more agency. To enact the vision

requires the development of occupational competence (what Kielhofner calls a 'pattern of occupation').

The development of an occupational identity (the process of 'becoming') takes time and commitment and, hence, the process of maturation has always been seen as central to apprenticeship. This has always been challenging given the realities of workplaces, but was particularly contested through Braverman's (1974) analysis of how the changing nature of production and work organisation associated with industrial and technological innovation undermined the demand for and availability of traditional occupations and skilled trades. Reich (1991) and (1995) argued that advanced industrial liberal economies such as the UK and the US were becoming 'post-occupational' (Fuller 1999). A key question for this chapter, therefore, is whether apprenticeship has meaning in an age when the concept of occupation seems to have either collapsed or has at least been reconfigured.

Creating and managing expansive learning environments

We noted at the beginning of this chapter that apprenticeship is a model of learning that builds and fosters the characteristics that are necessary to support the development and use of both individual and collective expertise in the contemporary workplace. Through our research over the past fifteen years, we have developed what we call the 'expansive-restrictive' (E&R) framework to analyse the differences between workplaces in relation to their propensity to create effective learning environments (Fuller & Unwin 2004). This was stimulated through our curiosity about why it was that workplaces in the same product markets or sectors displayed such different characteristics in relation to both initial and continuing skill formation, and to the way expertise was utilized. Of particular interest was on how workplaces differed in the extent to which they trusted the expertise of their employees and, hence, afforded them the discretion to make judgements and to conceive, carry out and evaluate their work tasks (see Fox 1974 for a landmark study of the role of trust in employment relations). Understanding the nature of institutional trust relations is central to making sense of how expertise is valued.

We developed the E&R Framework (see Figure 5.1) as a way of classifying workplaces according to whether they sat towards the 'expansive' end of a continuum as opposed to those that sat more towards the 'restrictive' end (Fuller & Unwin 2004). Our initial classification arose from studying how some of the different workplaces we were studying

conceive, organised and managed apprenticeship-type programmes, including graduate traineeships. We should stress that we intend the framework to be an analytical tool for use by employers, HR managers and training providers to enable them to evaluate the extent to which they might strengthen the conditions for supporting learning. The framework is not meant as a static judgement of a workplace, rather it is to be used as a mirror for reflection on what might be done to shift a workplace away from an overly restrictive approach and/or to prevent an expansive workplace sliding towards the restrictive end.

A key purpose of the E&R framework is to show the interaction between workplace context and the support for learning. At the expansive end of the continuum, we find employers (of all sizes in all sectors, public and private) who, importantly, are recognising and facilitating apprentices/trainees to have a dual identity as workers and learners for the duration of their apprenticeship. For employees involved in shorter training programmes, the same approach applies. In restrictive environments, apprentices are moved as quickly as possible to being productive workers. All workplaces must be productive and their primary goal is to produce goods and services, but the expansive workplaces try to ensure that short-term production pressures do not harm the longer-term goals of both the organisation and the individual.

In order to strengthen the contextual dimension of the framework, we worked with other colleagues to align it with the concept of the 'productive system' from economic theory (Felstead et al. 2009; Wilkinson 2002). The concept captures the interrelationship between the social networks through which economic activity (in both the public and private sectors) is organised, and goods and services are produced and consumed. In doing so, it sheds light on the patterns of power and control exercised at the different levels within the productive system by different stakeholders. There are two interlinked dimensions to the productive system concept: (a) the vertical interconnections of scale, or 'structures of production', ranging from international regulation down to the individual workplace; and (b) the horizontal interconnections or 'stages of production' through which materials are transformed into goods and services. In the next section, we discuss how we have used the E&R Framework together with the concept of productive systems to compare the way two organisations have approached HRD. We will argue that, in one of them (a software engineering company), the organisation can be positioned at the expansive end of the continuum because its HRD strategy is based on an apprenticeship model of learning that embodies an understanding of the continued relevance of occupational identity. In contrast, the second organisation (a UK university) can be positioned

Expansive	Restrictive
C1 Apprenticeship develops occupational expertise to a standard recognised by industry/sector/profession.	Apprenticeship develops skills for a limited job role.
C2 HR managers/employers understand that apprenticeship is a platform for career progression and occupational registration.	Apprenticeship does not build the capacity to progress beyond present job role.
C3 Apprentice has dual status as learner and employee: explicit recognition of and support for apprentice as learner.	Status as employee dominates: limited recognition of, and support for apprentice as learner.
C4 Apprentice makes a gradual transition to productive worker and is stretched to develop expertise in their occupational field.	Fast transition to productive worker with limited knowledge of occupational field.
C5 Apprentice is treated as a member of an occupational community with access to the community's rules, history, occupational knowledge and practical expertise.	Apprentice treated as extra pair of hands who only needs access to limited knowledge and skills to perform job.
C6 Apprentice participates in different communities of practice inside and outside the workplace.	Training restricted to narrowly defined job role and workstation.
C7 Apprentice's work tasks and training mapped on to the occupational/professional standards and assessment requirements to ensure they becomes fully competent.	Weak relationship between workplace tasks, the occupational/professional standard and assessment procedures.
C8 Apprentice gains qualifications that have labour market currency and support progression to next level (career and/or education).	Apprentice doesn't have the opportunity to gain valuable and portable qualifications.
C9 Off-the-job training includes time for reflection and stretches apprentice to reach their full potential.	Supporting individual apprentice to fulfil their potential is not seen as a priority.
C10 Apprentice's existing skills and knowledge recognised and valued and used as a platform for new learning.	Apprentice is regarded as a 'blank sheet' or 'empty vessel'.
C11 Apprentice's progress closely monitored and involves regular constructive feedback from range of workplace and training personnel who take a holistic approach.	Apprentice's progress monitored for job performance with limited developmental feedback.

Figure 5.1 The expansive/restrictive framework

towards the restrictive end of the continuum because it lacks the characteristics required to properly support its employees.

Contrasting workplaces and approaches to HRD

These two organisations are very different in relation to their histories, product markets and productive systems. We have termed them

the 'University' and the 'Company'. The University sits within the UK's productive system of higher education, which requires it to behave in prescribed ways in order to receive core funding provided by the State for teaching and research. In contrast, the Company is owned by an employee trust and, although it is subject to the international regulation that governs the production of software products, it has considerable autonomy about how it conducts its business. Our research focused on two types of employee: (a) contract researchers in the university; and (b) software engineers in the company. They share similar levels of educational attainment and are working in highly skilled, knowledge-rich environments.

The University

This research-intensive University, which employs several thousand people across a range of occupations, has complex, hierarchical managerial structures. Contract researchers (CRs), who are employed in most academic fields, are paid from income received from externally funded research grants. They tend to be employed on fixed term contracts linked to the duration of projects. Although the European legislation was introduced in 2006 to reduce the use of fixed term contracts, the new 'open-ended' contracts do not protect researchers from being made redundant when a project ends if other work is not available. The University had made attempts through careers advice initiatives and staff development opportunities to improve the employment prospects of CRs as it was concerned that the lack of job security was contributing to high labour turnover (see, *inter alia*, Roberts 2002; Allen-Collinson 2003 for research on the problems CRs face, including the lack of a coherent career and development structure in the UK). These initiatives did not, however, address the weak alignment between the organisation's goals and conceiving the CR role as part of the permanent fabric of the University. The fundamental problem was the failure to challenge the 'master-servant' style relationship between (at least some) senior academics and their researchers. Some senior academics saw researchers as the human resources (productive workers) they needed to 'execute' project tasks. A personnel officer in the University remarked:

I can think of one department where the researcher just has to do the work: [the supervisor asks], "what do you mean 'look at their future career'?" "What do you mean 'give them time to go to a workshop'? ... Well that's crazy, who's going to do the project?" You know it's almost a factory mentality.

Despite the fact that senior academics are formally the line managers of the CRs, they do not have any explicit responsibility for their professional formation and career development. The productive system of higher education actually militates against this, as CRs are not allowed to be the lead name or often even a co-applicant on major research grant applications, and hence, they can be trapped in the role of a permanent apprentice who never progresses to acquire the autonomy and discretion associated with a fully developed occupational identity and role as an independent researcher. Our case study did produce examples of senior academics creating the conditions for CRs to move beyond the subordinate role, but generally the onus was on the individual researcher to manage their own skill formation and create a CV that will enable them to survive in a highly competitive global labour market.

The Company

The Company is much smaller than the University and much narrower in its field of activity. It makes cutting-edge software products and employs around 200 (mainly male) software engineers on permanent contracts of employment. The Company is organised as an 'employee trust' which means that all employees receive an annual share of the profits, based on their performance, as well as their salaries, and it plays an important role in maintaining the very low level of staff turnover. The most striking difference between the Company and the University is, however, its appreciation of how to create the conditions which enable employees to develop and use their expertise in ways that benefit both themselves and the business. The aspirant software engineers have a clear understanding they are on a trajectory that will take them from being novices to becoming experts within the Company. Their dual identities as workers and learners give them access to a structured and supported induction and development process. Each engineer spends time working within and rotating between project teams under the supervision of team leaders and with the support of a mentor. The expectation is that every engineer will become the manager of a team and the way in which their workplace participation is structured contributes to the development of an integrated identity as an engineer and manager. Achieving managerial status is viewed as an indicator of occupational expertise and that the individual now has the capability not only to operate as a 'qualified' engineer but to supervise the development of less experienced colleagues. Management is regarded as a pedagogical process – that is, the key role of the manager is to ensure people develop their expertise through working together to solve problems and, crucially, to give

constructive feedback on a regular basis. Management is a key vehicle in a distributed approach to learning. One engineer remarked:

So I was given to a guy who was an experienced techie and someone who had management aspirations...And I worked with him on supporting a major customer. Actually, I think it gave me a very good start in the company because it put me immediately in a position where I was very much in at the deep end. Because I didn't really know the ropes and I had all this incredibly obscure and difficult code to support. And I had one guy who was a clear expert to guide me through it...that kind of environment meant that I had to learn to stand on my own two feet quite quickly.

Conclusion

At the start of this chapter, we raised questions about the relevance of the concepts of occupation and apprenticeship for HRD in contemporary workplaces. The changing relationship between work and production, including the pervasive influence of technological innovation, has: (a) rendered some occupations obsolete; (b) altered the parameters of others; and (c) provided the impetus for the development of new occupational roles. Consequently, one plausible line of argument is that the usefulness of the concepts of occupation and apprenticeship, as a way of organising work and providing the training and skills needed to undertake it, is out-dated in a flexible and dynamic but unstable global economic environment. This argument is bolstered by discourses of the knowledge economy and knowledge workers who assume that individuals gain their knowledge (and qualifications) through participation in formal higher education, and have the ability or social capital to mobilise these 'assets' in the workplace.

From this perspective, the emphasis for the HR function is on optimising selection and recruitment processes to ensure that the 'best' people (or 'talent') are hired, with the assumption that these well-qualified individuals will require little training or on-going support (or HRD) and will be able to adapt as occupational roles change. The argument we have made in this chapter challenges this analysis by suggesting that apprenticeship as a model of learning has the potential to bring individual, occupational and organisational development together as part of an holistic approach to HRD.

Drawing on our work on apprenticeship and the concept of occupation, we have used the examples of the software engineers and the contract

researchers to suggest they carry important messages for contemporary HRD in the context of 'knowledge work'. We suggested that, despite their levels of qualification on entry to their respective workforces, such workers still engage in an extensive learning journey, which bears at least some of the characteristics of apprenticeship. Both the university CRs and software engineers were, in Lave and Wenger's terms, 'legitimate peripheral participants'.

The apparent trajectory for researchers is for them to make their way through, often, a series of post-doctoral positions to the point at which they could gain permanent employment status associated with occupational expertise, autonomy and discretion. This would include the ability and capacity to lead on research bids and to supervise others. However, the achievement of this recognised occupational status and identity was very uncertain. Far from being a straightforward movement from being 'legitimate peripheral participants' to mainstream members of the academic community, these knowledge workers could be characterised as 'treading water' in the sense that they can get stuck in a succession of post-doctoral posts without managing to achieve that all-important transition. The concept of occupation was weakly articulated and understood, and the development of a secure occupational identity formation was difficult. Inevitably the experience of 'marginality' (Wenger 1998) led some to rethink their academic and research goals and to look to different sorts of career options. Crucially, there was little shared understanding by the employer and the line managers that this challenging and complex pathway required the kind of explicit and structured support associated with an expansive apprenticeship and strong occupational identity formation. The contract researcher employment model allowed insufficient room for the implementation of an expansive apprenticeship style approach to HRD.

In contrast, the management and development of novice software engineers was designed to ensure a steady movement from being 'legitimate peripheral participants' to becoming mainstream members of the company's community. In this sense, their trajectory mapped quite neatly into an apprenticeship model as teaching and learning were integral to their experience of the work and identity formation. As we have explained, the key factors in facilitating this process were the structured development of their technical expertise as well as the scaffolded support for individuals to become managers. For the software engineers then, one indicator of the end of an apprenticeship was certainly met in that they progressed to the stage of a 'teacher' of new novices. The

concepts of occupation, as well as occupational and organisational identity, were all strong in this case.

The approach to HRD at work in the Company differed, therefore, from that in the University. In the latter, workplace learning was considered an ad hoc, tacit and individual aspect of work. Training was available for CRs in the form of generic off-the-job courses that appeared to address individual needs, but which did not form part of an individual, organisational workforce or business development plan. The University was restricted in terms of the reward incentives it could use and the key issue of uncertain job security remained a key factor affecting the turnover of CRs, as well as a major challenge for the development of an HRD and workforce development strategy.

In the Company, the approach to employee development and workplace teaching and learning were aligned with business goals. HRD practices were embedded in the relationships between newcomers and more experienced staff, and in the explicit, structured approach the Company had to supporting the development of occupational expertise and identity. The software engineers had clarity about how they would progress and the changing role they were expected to play in the delivery of business goals and in how they would share in its success. The productive system in which the Company is located is clearly very different to that of the University. Its size, its model of ownership, and its organisational structure and culture all facilitated good internal communications and efficient decision-making. The Company's positioning in the market as a creator of innovative, cutting-edge technology and technological solutions underpinned the value it attached to the quality of its staff and the need for in-house development of their knowledge and skills, as well as their organisational identities.

There are, however, interesting parallels between the University and the Company with respect to the aspirations and motivations of the knowledge workers they employed. In both organisations, interviewees wanted to work in intelligent communities, where the quality of the work was of prime importance. In the case of the Company, a sophisticated system of performance review and constructive feedback, together with the conceptualization of management as a key vehicle for the transmission and creation of knowledge and skills among software engineers, had created an environment in which talented individuals could flourish, but only to the extent that they served the needs of the team.

The contrast between the two sets of knowledge workers, in terms of their experience of legitimate peripheral status, has been insightful as it has indicated that, unlike the software engineers who finish their

'journey', some CRs may never finish as they get locked into a peripheral and marginal status. This is compounded by the employment structure and culture of the research world, which relies on the survival of the fittest and an over-supply of qualified 'troops'.

One way of addressing the negative effects on the development of expertise would be for universities to move away from a concept of CRs as expendable commodities and instead to reposition this group as central to the sustainability of the organisation. This would involve reconsidering, from the business and HR perspectives, how they manage, employ and support research staff and how they recognise their contribution to organisational goals. The evidence from the interviews with personnel and human resource managers in the University suggested that they understood the benefits for individuals and the organisation that could be achieved from adopting a different approach to the HRD of research and were grappling with the difficulties involved in making the sorts of contractual and cultural changes which would help create the conditions for a more holistic approach to the development and retention of expertise. In addition, we would argue that the University needs to think hard about the concept of occupation that underpins the CRs' role, and in so doing to define the associated occupational expertise and think through how its development could be best supported. If, as we have argued, apprenticeship as a model of learning is understood as transcending the novice-master relationship, it could be used to support the development and use of both individual and collective expertise, with the potential to facilitate wider institutional and societal benefits.

The CR example also highlights a flaw in the contemporary narrative of the knowledge worker which has ignored the reality that changes in the demand for knowledge workers mean that many, as in the case of the CRs, may have to stay in the ranks or disappear through wastage. The Company mitigates this risk by matching its intake with its demand for staff. It was deliberately limiting its growth to retain its specialist niche position, and to ensure that it stayed focused on its core business. The directors felt that a growth strategy would inevitably mean that they had to employ more 'troops' or resort to the use of sub-contractors. As we have observed, even in a knowledge-intensive and generally expansive workplace learning environment such as this, there are – probably inevitably – restrictive aspects in their practice.

To sum-up, in this chapter, we have argued that drawing on apprenticeship as a model of learning and applying aspects of the expansive–restrictive framework to our analysis has helped reveal the different

approaches to HRD being experienced by researchers and software engineers. The framework provides an analytical tool which can help expose how the workforce is conceived and valued, and the importance of workplace learning and support in facilitating individual progression and the achievement of organisational goals. It does this by mediating between the macro level insights offered by the productive system perspective into the structural features underpinning the character of organisations, the employment relationships they practise, and the micro-level, day-to-day interactions and relationships that characterise the experiences of employees.

The on-going turbulence in the global economy and the search for competitive edge continue to highlight the importance of finding new ways to think about and support workforce development and organisational effectiveness. We have argued that, far from being outdated, the two concepts of 'occupation' and 'apprenticeship' can play a useful role in challenging how managers and HR professionals conceive the role and contribution of their employees and how the development of their occupational expertise might be better supported.

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6

The Costs and Benefits of Apprenticeships to Employers: Policy, Funding and Training Quality

Lynn Gambin and Terence Hogarth

Introduction

Historically, the UK has experienced relatively low levels of participation in apprenticeships, especially those at Qualifications and Credit Framework (QCF) level 3 that correspond to the standard commonly trained to in countries such as Germany and Switzerland. This chapter looks at employers' rationale for investing in Apprenticeships and how this has been influenced by public policy relating to the publicly funded Apprenticeship system. It shows how policy, following the introduction of the publicly funded Apprenticeship system in 1994, was initially balanced in favour of increasing the volume of apprentices but has increasingly moved towards improving the quality of provision. Whether the quality of provision can be increased, and in so doing potentially increase the cost of training to the employer – whilst at the same time maintaining or even increasing the volume of provision, is a moot point.

The chapter draws on a programme of research the authors have undertaken over the past decade and in particular, two studies carried out in 2012 with IFF Research which evaluated the employer's rationale for participating in Apprenticeships in England (see Hogarth et al., 2012; Winterbotham et al., 2012).

Apprenticeships¹ in England

During much of the 1970s, the British government was concerned about the relatively low levels of participation in post-compulsory education

and training, especially its vocational form, and the implications this had for the country's economic performance. At the time, around 7% of the annual school-leaving cohort entered the main form of vocational education available to school leavers, an apprenticeship (Haxby and Parkes, 1989). In order to boost participation in post-compulsory vocational education and training (VET), vocational qualifications were created in the further education sector that could be studied full- or part-time in college. This contributed as much to the demise of the traditional apprenticeship as did the fall in employment in the industries in which this form of training was typically offered (Gospel, 1995).

Fast forward fifteen or so years, and it is evident that Government was still concerned about the quality of skills supply, especially at the intermediate level. This led, in September 1994, to the establishment of publicly funded Modern Apprenticeships. Existing Government-funded workplace-based training schemes were eventually incorporated into Foundation Modern Apprenticeships, leading to the award of a Level 2 qualification, whilst Advanced Modern Apprenticeships led to an award at Level 3 (Hogarth et al., 2012).

It is apparent, almost from day one, that policy-makers were concerned that Apprenticeships were failing to fulfil their full potential. This needs to be considered alongside the wider debate about the operation of the further education sector as a whole and its ability to deliver vocational education that would prove attractive to learners and employers alike. This was first reflected in the debate about what was needed in order to boost participation in Further Education (FE) (for a review see Kennedy, 1997), and subsequently in that which focused on the economic value VET within FE conferred upon both learners and employers. Both the reviews conducted by Leitch (2006) and Wolf (2011) drew attention to the VET system as being too supply-side oriented, i.e., in other words, training investment was too often directed by training providers rather than by employers. The aim was to make the system more demand-side oriented. This issue is returned to below.

In general, the reviews of VET within FE have tended to look relatively favourably upon Apprenticeships but, as noted above, there have been concerns that Apprenticeships too were in need of improvement, if not major reform. As evidence of this, one has to look no further than the various reviews and recommendations for the reform of Apprenticeships undertaken since 1994. This started with the report of the Modern Apprenticeship Advisory Committee (the Cassel Report) in 2001, followed by the recommendations of the Modern Apprenticeship Task Force in 2005, the LSC/DfES Review in 2005, the report of the House of

Lord's Select Committee on Economic Affairs in 2007, the DIUS/DCSF White Paper *World-Class Apprenticeships: Unlocking Talent, Building Skills for All* in 2008, and bringing the debate up-to-date, the Richard Review in 2012. These have all tended to point towards a need for Apprenticeships to deliver VET of a higher quality than hitherto and which better meets the current and future skills needs of the economy.

In part, the need to improve quality stemmed from some of the practices that crept into the system in order to boost the level of employer and learner participation. It was evident that, in some instances, employers were using Apprenticeships as a form of Continuing Vocational Education and Training (CVET), often with a focus on the Accreditation of Prior Learning (APL), that is, certificating the skills of existing employees typically over a relatively short period of time. There was also concern that Apprenticeships at Level 2 could be delivered as a form of initial vocational education and training (IVET) that contained relatively modest levels of training. Hence policy changes that have removed much of the public funding available to those who were over 24 years of age at the start of their training, in other words the group that was completing Apprenticeships as a form of CVET. The Richard Review also recommended an Apprenticeship system that was more oriented towards Level 3 and above and which gives employers more influence over the content of training.

The reforms by BIS (Department for Business Innovation and Skills) have been outlined in various policy documents. Most recently, in *New Challenges, New Chances: Further Education and Skills Reform Plan* (BIS, 2012) and *Rigour and Responsiveness in Skills* (BIS/DfE, 2013) provide an ambitious plan to ensure that investments in VET are a more attractive proposition to both learners and employers.² There are a number of elements in current policy that are noteworthy:

1. instilling employer ownership in the VET/Apprenticeship system;
2. ensuring that the costs of training, notably in relation to Apprenticeships, are more fairly distributed between learners, employers and the State;
3. improving information flows to employers and learners about the value of investing in different types of skills/qualifications; and
4. allowing progression to higher levels of learning (including that at a higher/tertiary level).

Central to ensuring that Apprenticeships better meet the needs of the employer is the Trailblazer process, essentially that of putting the

employer in the driving seat in designing the standards to be based on occupations that will comprise an Apprenticeship (BIS, 2014). In addition to having more influence over the content of an Apprenticeship, employers will also have funding routed through them rather than through the training provider. In this way, it is anticipated that the employer will be able to negotiate the best deal for obtaining the training they need to meet the training needs of their apprentices. This is especially the case as it is assumed that the employer will be making a direct cash-contribution to the training provider in meeting the overall costs of training.³

Clearly, under the new system, there are incentives for the employer to engage in Apprenticeships, but the requirement that sees the employer meeting more of the overall cost of the Apprenticeship is a potential disincentive. As the remainder of this chapter illustrates, employers are essentially risk-averse in making their investments in Apprenticeships. If they are not guaranteed a return on their investment in Apprenticeships, or at least recovering their costs, they will be unwilling to make that investment. And as the evidence will demonstrate, it is those Apprenticeships at Level 3 that are relatively costly to the employer.

Employer engagement in Apprenticeships

The number of Apprenticeship starts has increased substantially over time. The role of the publicly funded programme seems to have been important in increasing the number of apprentices. A succession of employer surveys demonstrated relatively high levels of additionality associated with the public funding of Apprenticeships (Hasluck et al., 1997; Anderson and Metcalf, 2003). In other words, without the publicly funded programme, a substantial tranche of employers would not have invested in Apprenticeships. Apprentices would appear to benefit, too. Significant wage (and other) returns have been found for former apprentices relative to a variety of comparator groups with a comparable level of educational attainment (e.g. McIntosh, 2007; Buscha and Urwin, 2013; Gambin et al., 2014). Where the evidence tends to be less developed is with respect to the returns employers obtain from their investments in Apprenticeships. This is returned to later.

The number of Apprenticeship starts has increased substantially over the past ten years or more. Figure 6.1 shows the total number of Apprenticeship starts in England (all levels and all ages) from 2002/03 to 2013/14. In 2002/03, there were 167,700 Apprenticeship framework starts. This grew to nearly 280,000 in 2009/10. The most dramatic

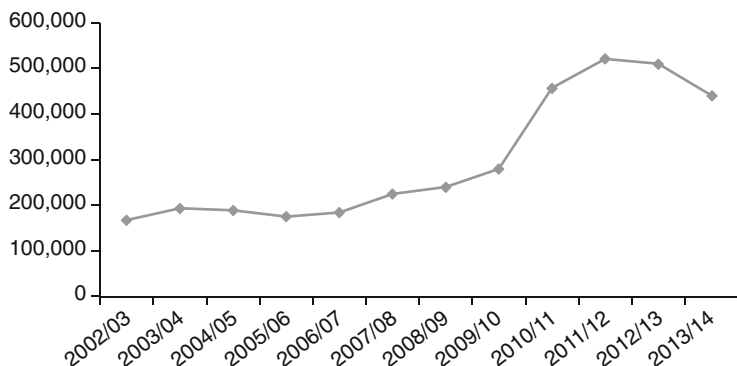


Figure 6.1 Apprenticeship starts, all levels and all ages, 2002/2003 to 2013/2014
Source: Adapted from BIS Statistical First Release.

growth in numbers has been observed since 2009/10. Apprenticeship starts increased by more than 60% between 2009/10 and 2010/11. The number of starts peaked in 2011/12 at 520,600 but in the last two years shown in the figure, total starts declined to 440,400 in 2013/14. As noted above, much of the growth has been driven by supply-side drivers, such as allowing publicly funded Apprenticeships to be used as a form of CVET. As the scope for the supply-side to stimulate growth has become constrained in the post-Richard Review Apprenticeship system, the number of starts has shown signs of falling.

The share of employers that provide Apprenticeships has remained stubbornly modest. This may be seen as one of the principal constraints on increasing further the Apprenticeship system in England so that it attains participation levels akin to those in the dual systems found in Germany and Switzerland. The 2009 National Employer Skills Survey for England (UKCES, 2010) found high levels of awareness of Apprenticeships amongst employers (91% of employers interviewed), but despite the high level of awareness, relatively few employers actually engaged with the programme. At the time of the survey, 8% of employers offered Apprenticeships but only 4% of all employers currently had apprentices. The Employers Perspectives Survey in 2014 (EPS, 2014) provides more recent figures on employer engagement. EPS2014 (see Shury et al., 2014) indicated that 15% of employers in England offered formal Apprenticeships and 10% of employers had at least one apprentice at the time of the survey. Amongst those employers not offering Apprenticeships, the majority (79%) were aware of this form

of training and had some knowledge of what Apprenticeships involved. The EPS2014 also provides further information about the types of employers who are more likely to be engaged in Apprenticeships. Large employers in non-market services and in the construction or manufacturing sectors were more likely than others to offer Apprenticeships. Nearly half of larger employers (with 100 or more employees) employed apprentices or offered Apprenticeships at the time EPS2014 was carried out, whereas 8% of those with 2 to 4 employees, and 15% of those with 5 to 9 employees offered Apprenticeships or currently trained an apprentice. When one considers apprentice numbers across different size businesses, the importance of smaller employers becomes evident, as almost half of all apprentices (48%) are employed by SMEs (Shury et al., 2014).

The relatively modest level of employer engagement in Apprenticeships is curious. The Fifth Net Benefits of Apprenticeships to Employers study (Hogarth et al., 2012) provides up-to-date results from a series of studies that began shortly after the introduction of Modern Apprenticeships. The studies demonstrate a consistent pattern of employers reporting that they gain much from their engagement in this form of training. A further study, the first *Apprenticeship Evaluation Surveys of Employers* (Winterbotham et al., 2012), also suggests broad satisfaction with Apprenticeships and points to a variety of the benefits that this form of training confers on employers.

Costs and benefits of training to employers and the Evaluation of Apprenticeships Employer Survey

As noted above, evidence on the benefits (and costs) of employers' use of Apprenticeships in England is relatively scarce. The studies from which the evidence presented below draws (Hogarth et al., 2012 and Winterbotham et al., 2012), provide examples of recent research in this area that provide insights into the benefits employers obtain through training apprentices. As will be elucidated, the benefits derive from being able to offset the financial costs associated with training apprentices.

The two studies were conducted as part of a wider programme of evaluation of Apprenticeships commissioned by BIS in 2011/12. The first study, *The Fifth Net Benefits of Training to Employers Study* (Hogarth et al., 2012) (hereafter referred to as the Fifth Net Benefits Study), used the same methodology as for the previous reports in the series but on a larger scale, with 80 employer case studies conducted across eight industrial sectors. Both Apprenticeships and other forms of workplace training

(WPL) leading to a formal qualification were included in the study. The study captured data on a variety of costs related to training expended by the employer. The benefits during the training period included the productive contribution of apprentices/trainees in the workplace and any additional income directly attributable to having an apprentice or trainee. In the case of Apprenticeships, the study also involved the calculation of the 'payback period' (i.e. the period after completion of the Apprenticeship during which employers could recoup their investment in training).

The second study consisted of more than 4,000 employers who had recently trained apprentices (Winterbotham et al., 2012). The Evaluation of Apprenticeships Employer Survey (hereafter EASE2012) was designed to collect data from employers to enable a better understanding of: the additionality derived from publicly funded Apprenticeships; the quality of Apprenticeships and differences by employer type and Apprenticeship framework and level; the reasons why employers engaged in this type of training; employer satisfaction with Apprenticeships; and the range of benefits employers obtained from training apprentices.⁴

The results of these two studies are drawn on in the remainder of this chapter to illustrate the benefits of Apprenticeship training for employers. The next section sets out some of the reported reasons why employers decide to train apprentices in the first place and other aspects of the training decision. This is followed by discussion of the types of benefits employers experience. Finally, findings on the net costs of training to employers are presented along with the payback period for Apprenticeships in different sectors.

Employers' training decisions

Employers identify a number of reasons driving their decision to engage in training. In the studies considered here, a variety of factors were reported to have featured in the employer's decision to train apprentices. In the EASE2012, where respondents had begun offering Apprenticeships in the last five years, some of the main reasons for this decision included:

- being approached by a training provider (27% of employers who had recently started offering Apprenticeships);
- needing qualified staff (12%);
- being encouraged by head office to engage (11%); and
- being approached by an employee (4%).

Traditionally, Apprenticeships have been viewed as a form of Initial Vocational Education and Training (IVET) but with the increase in adult Apprenticeships in recent years, it is apparent that Apprenticeships are also as a form of CVET, often with a focus on APL. EASE2012 results suggest that larger employers (with 250 or more employees) were more likely to train existing employees as apprentices (i.e. provision of CVET) than were SMEs (44% of large and 26% of SMEs trained existing employees through Apprenticeship). Overall however, more than three-quarters of employers trained newly recruited apprentices (i.e. used Apprenticeships for IVET).

The reasons employers provide for their engagement in Apprenticeship training (or other forms of workplace learning – WPL) depend largely on whether the training being delivered can be considered IVET or CVET as well as on the characteristics of the business. Table 6.1 outlines some of the factors affecting employers' decisions to train apprentices depending on whether the programme is used to deliver IVET to new recruits or

Table 6.1 Employers' reasons for training apprentices according to who receives the training

Apprenticeships as IVET to new recruits	Apprenticeships as CVET to existing employees
<ul style="list-style-type: none"> • Typically in sectors with a long tradition of training in this manner (e.g. construction, engineering) • Sectors with relatively high professional/statutory standards (e.g. financial services) • Influenced by corporate social responsibility (e.g. business administration Apprenticeships in the public sector) • To replenish skills supply • To gain new skills to share within workforce • To overcome difficulties encountered in recruiting skills from the external labour market • To diversify the age profile of staff • To train new employees in the 'company way' which provided a better fit between the employee's skills and the business' needs 	<ul style="list-style-type: none"> • Where there is a desire to develop the skills of employees sometimes linked to obtaining professional qualifications (e.g. financial services) • To improve retention of staff and reduce labour turnover as being, seen to invest in employees • As a form of reward for employees through provision of an externally accredited qualification (this often provided employees with an opportunity they may not otherwise have) • To improve the business' image and attract new recruits to the company • To improve staff performance through higher morale, increased confidence and greater employee satisfaction • To up-skill existing staff, enabling them to take on higher level roles/ responsibilities

Source: Adapted typology from Hogarth et al. (2012).

CVET to existing employees. Whilst Apprenticeships for the provision of IVET is centrally concerned with providing the skills necessary for individuals to work in a particular occupation, the use of Apprenticeships as CVET can be seen to meet multiple needs in the workplace including training and up-skilling but also wider human resource management requirements.

The Net Benefits series demonstrate that, over time, the personnel responsible for training in the workplace have increasingly been required to make the business case for investing in Apprenticeships, or any other form of training for that matter. When asked about the benefits they anticipate from investing in Apprenticeships employers in EASE2012 mentioned:

- improvement in and/or maintenance of skill levels in the organisation (reported by 45% of employers);
- allowing employers to train people in the company ways (32%); and
- enhancing productivity (14%).

Other studies suggest that employers are aware of and attracted to a number of benefits arising from training apprentices. Wolter (2012), using data from Germany and Switzerland, notes that employers benefit from Apprenticeships in at least three ways:

- the productive contribution made by apprentices during the training period;
- the use of training as a screening device which allows the employer to identify motivated and talented individuals and to then to retain them post-training; and
- by satisfying specific skill requirements which are harder to obtain from the external labour market.

These were reflected in the responses of employers in both the Fifth Net Benefits Study and EASE2012. There are additional benefits of Apprenticeships, which employers identify, though these may not feature heavily in their decision-making process regarding engagement. These benefits include creating a pool of qualified workers from which to draw; qualitative improvements in employee performance; benefits to the individual of a recognised qualification; and potential savings in recruitment costs as well as induction training costs. Other cited benefits include providing skills the company needs to expand and take up new opportunities in the future; and fulfilling the business' succession plans.

In EASE2012, nearly all employers (96%) who had recently trained apprentices indicated that they had experienced at least one benefit from doing so. The majority of employers reported that Apprenticeships improved productivity (72% of employers); improved staff morale (69%); and improved the business' image in their sector (66%). Employers tended to value all components of an Apprenticeship but not necessarily equally. When employers were asked to consider the implications for their business if they were to reduce their engagement with Apprenticeships, 43% indicated that there would be no impact. Another 20% of employers reported that they would be likely to face future skill shortages if they trained fewer apprentices.

What is most evident is that employers had differing rationales for investing in Apprenticeships, depending upon whether IVET or CVET were being delivered. In the case of the former, the benefits stemmed, in large measure, from the production of skills of value to the business. In the latter case, the rationale was very much related to it being a means of labour retention. This, as the next section illustrates, was also reflected in the cost to the employer of investing in Apprenticeships, i.e. relatively high in the case of IVET, relatively low in the case of CVET.

Estimates of the costs and benefits of Apprenticeships for employers

Those employers who provide Apprenticeships derive a variety of benefits from so doing. Using a well-established methodology, the Fifth Net Benefits Study collected relevant data on the benefits and costs of training apprentices to employers. In calculating the costs of Apprenticeships to employers, the approach accounts for course fees paid to providers, apprentice salaries and the costs of supervision and on-the-job training delivered by other staff members, as well as recruitment costs and any additional administrative costs associated with the provision of Apprenticeships. The analysis of benefits includes any income directly attributable to having an apprentice (e.g. grants) and the productive contribution (as a proportion of what is expected of a fully trained/experienced worker) of the apprentice whilst training.

The main estimates of the net costs of Apprenticeship training for a variety of occupations/frameworks are provided in Table 6.2.

Using the net costs associated with each type of Apprenticeship as summarised above, along with the information provided by employers about the change in apprentices' pay once they have completed their training, an estimate of the time over which employers may be able to

Table 6.2 Average net costs of Apprenticeships to employers (by sector and level)

Sector	Apprenticeship Level	Average net costs per apprentice
Engineering	Level 3	£36,300
Construction	Level 2+3	£23,900
Financial Services	Level 2	£6,600
	Level 3	£11,100
Hospitality	Level 2	£4,200
Transport and Logistics (HGV mechanic)	Level 2	£4,500
Business Administration	Level 2	£4,100
Health and Social Care	Level 2	£3,800
Retailing/customer service	Level 2	£3,000

Source: Adapted from Fifth Net Benefits of Training study (see Hogarth et al., 2012).

recoup their investment in training an apprentice can be obtained. As detailed by Gambin et al. (2010), the calculation of the payback period is based on a number of assumptions, including:

- after completion of the Apprenticeship, there is an increase in the productivity of the worker;
- this increase in productivity is obtained by the employer but is shared with the employee through an increase in pay;
- the increase in productivity is assumed to be twice the observed increase in pay as found in previous work and as is typically accepted in the literature (e.g. Dearden et al., 2000; 2005); and
- the ability of the employer to recoup the costs of training depends on the former apprentice remaining with the employer for a sufficient period of time to allow for productivity gains to be accrued.

The calculated payback periods for the latest study are provided in Table 6.3.

It is apparent that, in engineering and construction, when all apprentices were involved in IVET, the costs of training borne by the employer were relatively high and the period over which those training costs were recouped was relatively long. In general, employers investing in engineering and construction Apprenticeships engaged in workforce planning to make sure that they had a demand in the business for the skills the Apprenticeship would deliver, and then had in place a range of human resource practices to ensure that they would retain the services of an apprentice post-training. In contrast, in retail/customer service, where a large percentage of apprentices were existing employees, the

Table 6.3 Payback periods of apprenticeship (by sector and level)

Sector	Apprenticeship Level	Payback period
Engineering	Level 3	3 years, 7 months
Construction	Level 2+3	2 years, 3 months
Financial Services	Level 2	3 years, 8 months
	Level 3	2 years, 6 months
Hospitality	Level 2	10 months
Transport and Logistics (HGV mechanic)	Level 2	6 months
Business Administration	Level 2	9 months
Health and Social Care	Level 2	3 years, 3 months
Retailing/Customer service	Level 2	2 years, 3 months

Source: Adapted from Fifth Net Benefits of Training study (see Hogarth et al., 2012).

cost of the Apprenticeship to the employer was relatively low. This was mainly due to the productive contribution of the employee being relatively high over the training period. It was also apparent that the period over which the employer investment would be recouped was relatively short, too. In many instances, the retailing employers sought to break even at the end of the training period because they knew that there was a real possibility that the employee would leave their employment. On the basis of the evidence presented above, it is employers who are engaged in the delivery of relatively low cost Apprenticeships at Level 2 who are most sensitive to the costs of training.

Conclusion

Employer engagement with Apprenticeships in England is low in comparison with countries such as Germany and Switzerland. A key question worth considering is whether the benefits employers obtain can outweigh the investment required on the employer's part to provide this form of training? In the current policy context, an even more pressing concern is whether the changes in funding will make it more difficult for employers to secure adequate returns on their investment in Apprenticeships. The evidence suggests that if employers are expected to bear more of the overall cost of an Apprenticeship, and assuming that the overall cost (i.e. the cost of training met by the State plus the costs borne by the employer) remains the same, then this will certainly have an impact on employer participation levels amongst the low cost Apprenticeships. What is less clear is what the impact on the higher cost Apprenticeships might be. It is clear that employers here are making

relatively substantial investments in training but are also less sensitive to cost issues because they see the Apprenticeship as a relatively long-term investment. Apprenticeships are again featuring as a tool in human resources management (HRM) policy but it needs to be borne in mind that Apprenticeships are provided alongside and within a wider package of HR processes and approaches. In order for employers to retain apprentices and thereby recoup their investment, other HR policies, which improve retention and provide development and progression opportunities as well as other incentives for former apprentices are also required.

Notes

1. The chapter adopts the convention of referring to 'Apprenticeships' with a capitalised 'A' to refer to the publicly funded programme of training and 'apprenticeships' to refer to the wider programme of vocational preparation that can trace its history back to the mediaeval master guilds.
2. It should be noted that England is relatively unusual amongst EU countries in that there is no wage premium from completing a vocational qualification compared to a general one at the same level – see Gelderblom et al. (2013).
3. This is actually a longstanding aim of policy – see Banks, C. (2010); BIS (2010).
4. This survey (and the related survey of apprentices) was repeated in 2013 and 2014

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Part II

People, Innovation and Performance: In Context

7

Innovativeness of Indian Firms – Catalysts and Deterrents

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7.1 Introduction

Innovation is the driving force that is crucial for firms to sustain their competitive advantage and for economies and industries in general to surge forward. In comparison to developing economies, developed economies have always maintained greater focus on national innovation systems while the firms from these economies have been investing considerable effort on promoting organisational innovation. As firms became increasingly global, consumers across the world, especially from the emerging economies, are getting a taste of more sophisticated products and services. There was also an infusion of knowledge pertaining to cutting-edge technologies, innovation, processes and management systems into this part of the world. However, studies on organisational innovation have largely been confined to firms from developed economies in order to understand the effects of its determinants (Anderson et al., 2004; Choi and Williams, 2014; Li et al., 2013). Given the differences in the socio-cultural milieu between the developed and emerging economies, more nuanced understanding of the factors affecting and the processes associated with innovation in emerging markets is required.

Several of the world's leading MNCs (multinational corporations) such as IBM, GE and Honda from developed countries, have set up R&D operations in emerging markets. India, one of the biggest emerging markets, has close to 1000 R&D centres owned by MNCs and accounts for 23 percent of the overall global engineering R&D outsourcing market (IBEF, 2013). Despite such developments, emerging markets like India still lag behind their western counterparts when it comes to innovation and some of its related indicators. India's R&D expenditure (as a % of GDP) has been on a gradual increase from 0.7078¹ in 2003 to 0.7571 in

2007, but still lags behind its western counterparts. Similar trends can be noticed when it comes to patent indicators as well. However, innovations are not necessarily limited to these indicators alone and there could be innovations that still add value but could be much smaller in scope and scale. While Western economies typically rely more on a planned and systematic approach to organisational innovation that involves huge R&D budgets, emerging economies like India rely more on low-cost improvisations that adopt a more flexible and open approach towards innovation that is based on ingenuity and resourcefulness (George et al., 2012; Govindarajan and Ramamurti, 2011). This is especially valid in the context of emerging economies with limited resources at their disposal. Frugal innovations, often referred to as '*jugaad*' in India, are vital to the innovation ecosystem in these countries (Radjou et al., 2012). These innovations focus on creating value for the consumer while still being affordable and relatively cheap since they are based on simple ideas developed by leveraging the available resources (that are scarce) and adapted suitably to the local environment. This creative improvisation helps turn adversity into opportunity and is something that the Western firms are also increasingly endorsing since several of their customers have also been facing economic crunch in the recent past (The Guardian, 2013). Instances of this flexible and open mindset to innovation could be found in examples such as SELCO's environmentally and economically sustainable energy distribution system, the world's cheapest car – Nano, launched by Tata and the low-cost water purifier – Swach (Radjou et al., 2012).

All of these aspects make India an ideal setting for a study of organisational innovation. There are very few empirical studies exploring the links between HR practices and organisational innovation (Laursen and Foss, 2003; Shipton et al., 2006) and in particular involving emerging markets. Hence this study employs a cross-sectional survey of 174 Indian firms to understand the factors promoting and/or hindering innovation. The findings throw light on the main factors promoting and hindering innovation along with their relative importance from a managerial perspective.

7.2 Human resource management and innovation

In the current business environment, which is very dynamic, firms need to constantly adapt to the environment and sustain their competitive advantage by being innovative. It is now widely accepted that most high-performing firms are very innovative (Damanpour, 1991; Weerawardena

et al., 2006). What does it mean when we say firms are innovative? Innovative firms 'develop or frequently adopt products, services, programmes or innovative ideas (innovation as discrete elements) that need a series of stages (innovation as a process) to be sources of competitive advantage' (Lopez-Cabrales et al., 2009, p. 486), which means that this is an organisational capability. The adoption of innovation consists of the stages of 'generation, development and implementation of new ideas or behaviours' (Damanpour, 1991, p. 556). Firms rely on the knowledge and competencies of their employees (human capital) as the main drivers of innovation (Mumford, 2000) that can enhance organisational performance. It is the employees who generate ideas that are novel and creative, find innovative solutions/approaches to problems and tap into emergent opportunities. Hence the statement that people are an innovative company's major assets and not the products (Gupta and Singhal, 1993) establishes the importance of the links between HRM and innovation.

Traditional HRM may not be very effective in the current highly competitive business scenario to manage and retain the best of talent and achieve positive organisational outcomes such as innovation (Jiménez-Jiménez and Sanz-Valle, 2008). This is where Strategic HRM (SHRM) has emerged, integrating HRM with strategy (Chadwick and Dabu, 2009) in order to deal with issues arising from volatile and demanding business environments (Ubeda and Santos, 2007). This stream of literature has explored the relationship between HR practices and firm-level outcomes (Lau and Ngo, 2004). Strategic HR practices can improve the willingness and motivation of employees to engage effectively with activities pertaining to innovation (Chen and Huang, 2009; Scarborough, 2003) and aids in the way in which the firm creates and uses knowledge. As per the SHRM literature, high involvement HR practices have the potential to influence employee behaviour and attitudes, hone their skills and competencies to motivate them to contribute towards organisational innovation (Collins and Smith, 2006; Prieto and Pérez-Santana, 2014). There are others who also refer to 'innovative or new HRM practices' (Chen and Huang, 2009; Jiang et al., 2012; Zhou et al., 2013).

It needs to be noted that the advantages emerging from human capital could wade out or become obsolete in the long term and hence effective HRM is required to ensure that they evolve and develop with time and are properly managed (Lopez-Cabrales et al., 2009). Human resources also have strategically relevant characteristics like uniqueness, non-depletion with use and free will, which makes them strategically valuable and at the same time, inconsistent in terms of what they can potentially offer to firms (Chadwick and Dabu, 2009). Of these characteristics,

free will is the most unique to human resources and it has both cognitive and emotional aspects to it (Wright et al., 2001). This governs the manner in which individuals think, behave, perceive and react to their work environment, which in turn creates a firm-level heterogeneity that makes HRM even more challenging.

At an individual level, HR practices should help enhance employee's competencies which includes skills and attitudes such as risk-seeking, tolerance to ambiguity, personal initiative/drive and openness to change that are likely to influence innovative behaviour (Amabile, 1998). Synergy effects cannot be ruled out, with the individual efforts aggregating to group/team and organisational level innovation (Zhou et al., 2013). Thus, given that innovation is mostly an outcome of collaborative efforts (Lepak and Snell, 2002), group/team and organisational level focus is also equally important. In this context, social capital also plays a prominent role in organisational innovation (Cabello-Medina et al., 2011). Hence, firms need to focus on HR practices that create a team/organisational environment that creates a positive for knowledge creation and utilisation. In addition to internal collaboration, it is equally important for firms to focus on external collaboration that can drive innovation. This is based on mutual learning and sharing knowledge with business partners, research bodies, academic institutions and so on (Zhou et al., 2013). Most of these HR practices are the most effective not when they are adopted in isolation, but when they complement each other as mutually reinforcing practices (Jiménez-Jiménez and Sanz-Valle, 2008).

7.3 HRM in Indian firms

Considering the fact that studies on HRM and innovation have been mainly confined to the developed markets (Cooke and Saini, 2010), this study is based on exploring these links in an emerging economy, viz. India, which may have less sophisticated HRM systems when compared to the West. In this context, it is also vital to have an understanding of the HR systems in Indian firms and how they have evolved, as India became a more liberalised economy (since 1991) from a centrally planned with a socialist outlook.

Following liberalisation, the Indian market became more competitive and there was an influx of MNCs who were commencing their operations in India. India was rapidly growing into one of the biggest emerging markets with a huge market potential. Indian firms had to deal with more and more competition internally which also forced them to adapt to this dynamic environment by restructuring and initiating several organisational changes (Som, 2006). There was also a rise in the number of

private firms operating in India (Cooke and Saini, 2010). Thus the 1990s witnessed fast-paced developments in HR strategies with firms creating their own HR departments and HR managers, and many of the Indian firms were being professionally managed with appropriate metrics and audits in place (Budhwar and Varma, 2010). Today, several foreign MNCs have set up R&D operations in India and Indian firms have also become ambitious, pursuing their own global aspirations and developing their own competitive advantage. This also meant that Indian firms were also relying on their Western counterparts to adopt new business models and management styles (Budhwar and Bhatnagar, 2009). Thus the last couple of decades have seen Indian firms gravitating more and more towards SHRM, integrating aspects of traditional personnel management and HR function, adopting a more proactive, focused and holistic approach towards HRM (Budhwar and Varma, 2010). Indian HRM systems are still not as formal or structured like those in the Western countries but they are gradually closing the gap.

There are several HR challenges that face Indian firms. The shortage of a skilled and professional workforce and attrition rates are one of the main issues that they face (Budhwar, 2009). The Indian educational system is not fully equipped to meet the demands of the corporate world in terms of the number of professional and qualified personnel (Srinivasan and Chandwani, 2014) that they churn out. In addition, the IT sector has been attracting a large number of professionals thus making it difficult for other sectors to acquire good talent (Rajan and Subramanian 2006). This competitive squeeze is often referred to as the 'Bangalore bug' (Srinivasan and Chandwani, 2014). The shortage of talent is something Indian firms have to deal with across all sectors and this puts additional pressure on HR professionals in terms of staffing and recruitment. Globally, more and more companies are recognising the worth of Indian workforce (Som, 2006). This has prompted Indian firms to focus more on performance management, pay structures, career progression and incentive schemes. It has become not only difficult for Indian firms to attract the best talent, but also to retain it. Maintaining high levels of employee satisfaction is vital for Indian firms looking to retain their workforce. Hence, firms like Infosys provide their employees with stock options, low-interest/zero-interest loans and also focus on the overall well being of its employees by providing them with gym and child-care facilities within their premises. Managing the internal diversity is another challenge that Indian firms face. The Indian national context is also characterised by socio-cultural, regional, economic, political and institutional variations (Budhwar and Varma, 2010). This also contributes to a diverse workforce, which poses additional challenges

for the HR function in terms of managing this diversity and formulating policies and strategies that account for/cater to this diversity.

7.4 Research methodology

The Indian firms chosen for this study were selected from the ORBIS database, and had more than 50 employees. Emails/questionnaires were sent to the contacts at these selected Indian firms. The respondents were asked the open-ended question: *'In your opinion, what are the key factors that facilitate innovation within your organisation? Please mention the top 5 factors below (repeated for inhibitors)'*. The responses to this question included answers such as *'capital investment'*, *'management support'*, *'attitude'* and *'shortage of skilled resources'*. These questions were part of a bigger data collection exercise (questionnaire), which contained several other questions (mainly Likert scale) related to innovation in the Indian context. Since the response rate was very low (<1%) from this process, the above sample was also augmented with convenience sampling/snowballing from other Indian firms that also met the basic criteria. A cover letter was sent initially, stating the purpose of the research and assuring the firms of confidentiality and anonymity in regards to their responses. Following this, the questionnaires were emailed to the R&D/Production/General Operations managers of the Indian firms who agreed to participate in the survey. The respondent managers then emailed the completed questionnaires back to the authors. Finally, responses were received from 174 Indian firms (managers were from R&D (33%), general operations (37%) and production (30%)). The sectoral distribution of these firms indicated that the majority of them were from Automotive & Transport (20.5%), Engineering (19%), Fuel, Power & Energy (12%), Pharmaceutical (8%), IT & ITeS (8%), Chemicals & Fertilisers (8%), Electrical & Electronics (4%) and Financial Services (4%). The average tenure of the respondent manager in their respective firm was 9 years and 12 years in the industry.

7.5 Results and discussion

The top five facilitators and inhibitors were coded to group them into a few broad categories to aid the analysis. The main categories that were identified and their descriptions are provided in Table 7.1.

The main categories of facilitators that have been identified across the five listed respondent choices along with their distribution have been presented in Fig. 7.1. The first choice is presented as 'Facilitator 1' and the second choice as 'Facilitator 2' and so on in the figure. Amongst the

Table 7.1 Facilitators & inhibitors – categories & description

Main Categories of Facilitators/Inhibitors	Description	Main Categories of Facilitators/Inhibitors	Description
Supervisory/Management Support	Providing encouragement, demonstrating involvement and focus of the supervisors/senior management towards innovation in terms of motivating employees and the leadership provided and not the least, their receptivity to change	Infrastructure/Assets	Facilities like labs, equipment and materials to test ideas and implement them as well
Personal Attitude	Individual traits like openness to change/new ideas, personal initiative/drive, oriented towards creative and novel ideas, ability to take risks, tolerance for ambiguity and proactively seeking solutions to problems	Skilled & experienced manpower	Staff with adequate skills and experience that can drive innovation
		Collaborative Environment	An environment that caters to knowledge exchange and working together in teams effectively sharing experiences and ideas (teamwork)
Market & customer demands	Customer or market requirements that drive new initiatives or changes in products/services	Financial Resources	Finance required for investing in innovations
Reward & Recognition (R&R)	Motivational mechanisms that organisations employ to encourage staff by recognising their efforts and rewarding them appropriately	Autonomy	Empowerment of employees' freedom to take decisions
		Alliances, Clusters & Tie-ups	External networks – Alliance or Joint Venture partners, research institutions, universities and other external stakeholders
		Government policies and regulations	Restrictive policies, IPR regimes etc

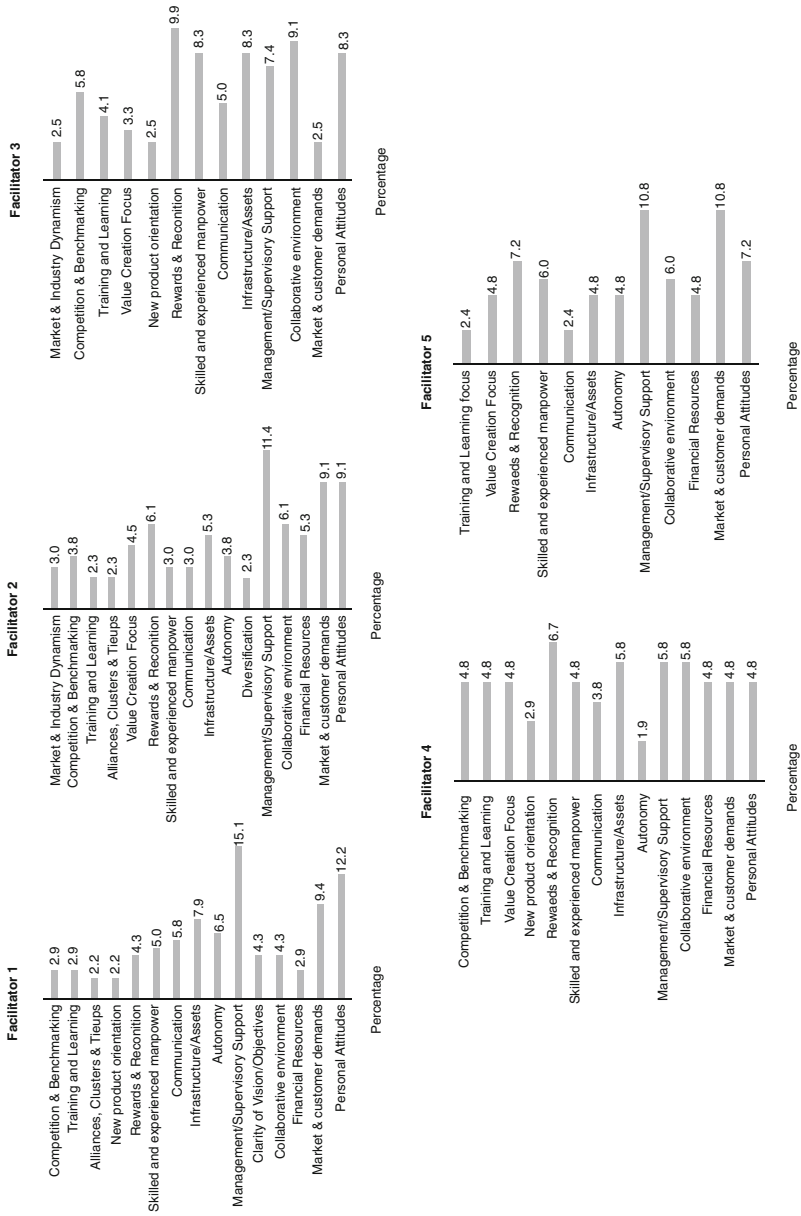


Figure 7.1 Facilitators of Organisational Innovation – top 5 choices (N=174)

first, second and fifth choices, management/supervisory support figures are the most influential facilitator (15.1 %, 11.4% & 10.8%) of organisational innovation. Reward and recognition (R&R) is the most influential factor (9.9% and 6.7%) when it comes to the third and fourth choices.

Besides the above prominent factors, in general, amongst the first three choices, personal attitudes, market & customer demand, infrastructure/assets, communication, collaborative environment and skilled and experienced manpower figure as the main facilitators of organisational innovation. In terms of the last two choices, there are a few other facilitators, like competition and benchmarking, training and learning, financial resources and focusing on value creation, which cater to organisational innovation.

The aggregated percentages of the different categories of facilitators of organisational innovation across the five respondent choices have been presented in Fig. 7.2. The percentages have been depicted across the different categories of respondent managers to indicate the differences in their perception. With regards to the total percentage, it could be seen that the management/supervisory support is the most dominant facilitator (10%). This is followed by personal attitude (9%), market & customer demands (7%), R&R (7%) and infrastructure/assets (7%).

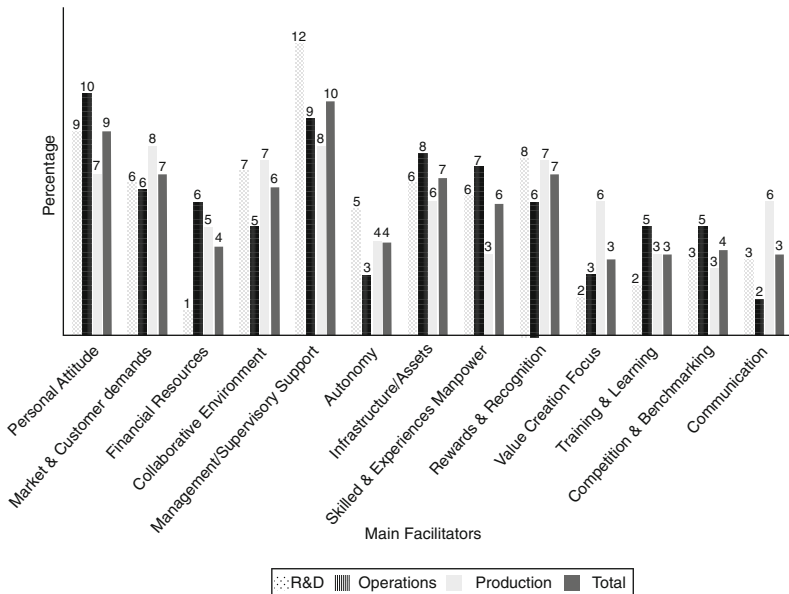


Figure 7.2 Facilitators of Organisational Innovation – aggregated scores across 5 choices (N=174)

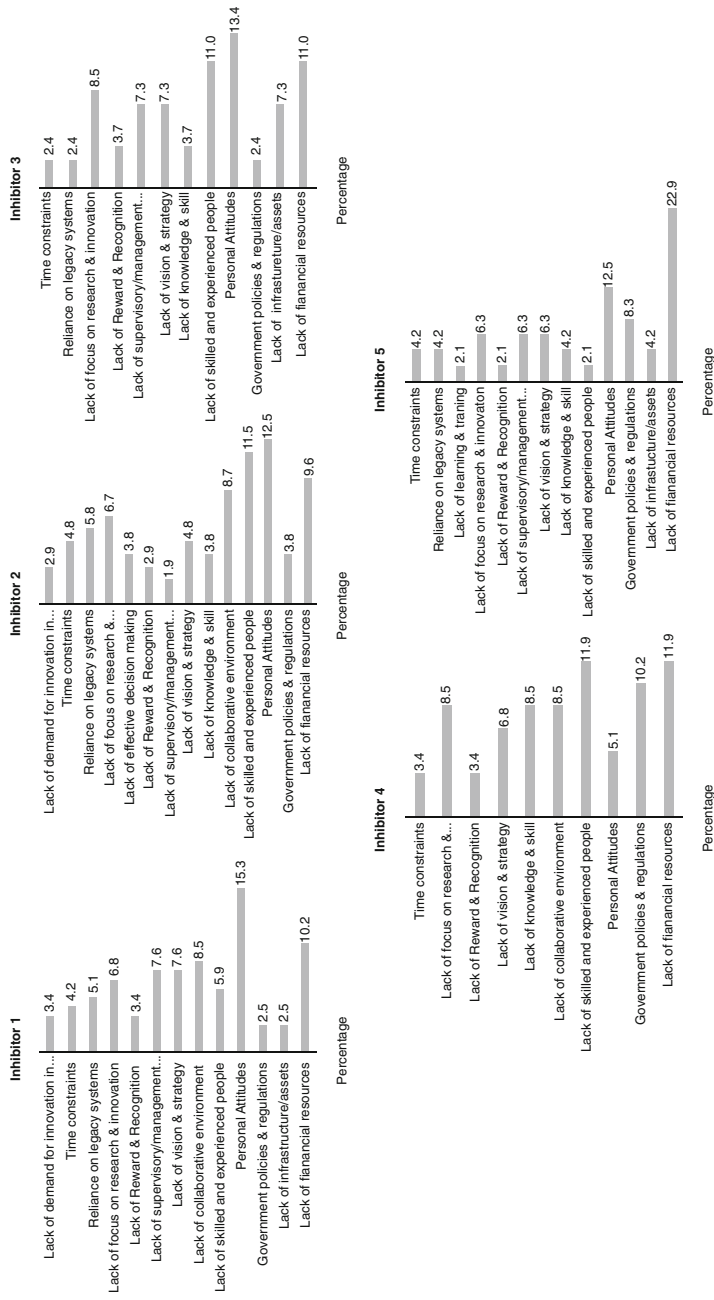


Figure 7.3 Inhibitors of Organisational Innovation – top 5 choices (N=174)

As far as the R&D managers are concerned, management/supervisory support, personal attitudes and R&R are the most important facilitators. For production managers, the most vital were management/supervisory support, market & customer demands, personal attitudes, collaborative environment and R&R. For operations managers, personal attitudes, management/supervisory support and infrastructure/assets are the main facilitators. The trends displayed by these different respondent categories are more-or-less in agreement with the overall trend.

Figure 7.3 presents the distribution of the main categories of inhibitors that have been identified across the five listed respondent choices. As explained earlier on, the first choice is presented as 'Inhibitor 1' and the second choice as 'Inhibitor 2' and so on. Personal attitudes (that hinder innovation) turn out to be the most influential inhibitor (15.3 %, 12.5% and 13.4%) of organisational innovation in the first three choices. Lack of skilled & experienced manpower (11.9%) and lack of financial resources (22.9%) are the most prominent inhibitors in the fourth and fifth choices respectively. In addition to the above main factors, overall, amongst the first three choices; lack of collaborative environment, lack of supervisory/management support, lack of a clear vision/strategy, lack of focus on research & innovation and lack of adequate infrastructure/assets are the main inhibitors of organisational innovation. In terms of the last two choices, there are a few other inhibitors like lack of knowledge & skills and issues with government policies and regulations are found to hinder organisational innovation.

The aggregated percentages of the different categories of inhibitors across the five respondent choices have been presented in figure 7.4. Similar to figure 7.2, the perceptions of the different categories of respondent managers have been captured in figure 7.4. The most prominent inhibitor is found to be personal attitudes (13%). This is followed by lack of financial resources (11%), lack of skilled & experienced people (9%), lack of vision & strategy (7%) and lack of focus on research & innovation (7%). As far as R&D managers were concerned; personal attitudes, lack of financial resources and lack of skilled & experienced people were the main inhibitors. For production managers, the key inhibitors were; personal attitudes, lack of financial resources and lack of skilled & experienced people. Lack of financial resources, personal attitudes and lack of vision & strategy were the important inhibitors for operations managers. The patterns displayed by these different respondent categories are more-or-less in agreement with the overall pattern.

It is interesting to note that the lack of financial resources is seen to hinder organisational innovation but the mere presence of this factor

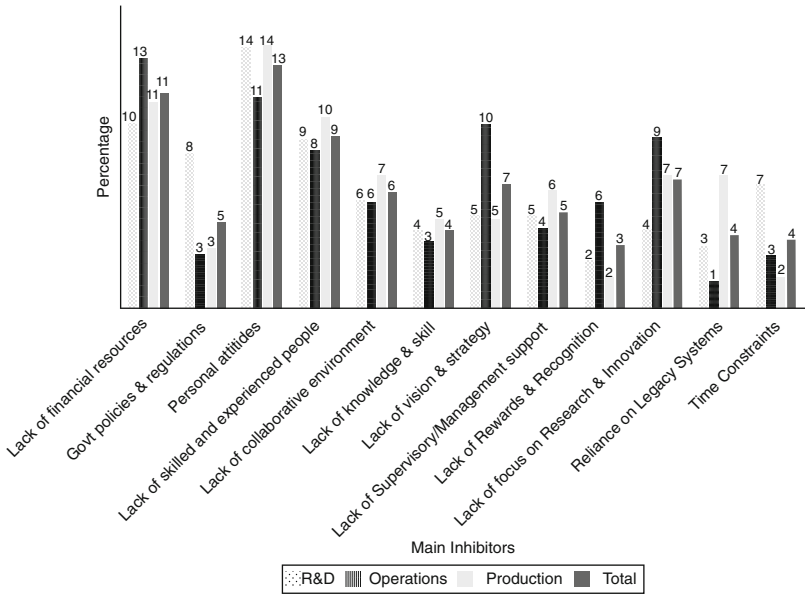


Figure 7.4 Inhibitors of Organisational Innovation – aggregated scores across 5 choices (N=174)

does not facilitate organisational innovation drastically. It could also be seen that R&D managers do not consider this to be a major facilitator or hindrance when compared with the other respondent managers. This suggests that financial resources are definitely necessary for innovation but is not one of the prominent factors that drive the same in the Indian context. This could be due to the fact that emerging markets like India are focused more on frugal innovations because of the limited resources at their disposal, which prevents them from being any more innovative than absolutely necessary. The innovations in such countries are mostly differentiation-related innovations rather than novelty-related innovations (Bradley et al., 2012). Weak institutional environments prevailing in such countries also limit the availability of finances due the uncertainties associated with these environments and the weak intellectual property regimes (IPR). In addition to financial resources, many of these countries also work with limited facilities that include laboratories, equipment and other materials that are required for research & development (R&D). This offers additional constraints on their ability to innovate and also the extent of innovation.

Personal attitudes turn out to be one of the most influential facilitators, while the lack of the same is also one of the major dampeners. This could be the reason why individual traits are also one of the major aspects that traditional innovation research has focused on (Amabile, 1998, Freese et al., 1999; George and Zhou, 2001), especially by organisational psychologists. This is based on the view that personal traits could predispose individuals to innovative behaviour, subject to their cognitive limitations. Innovation-related projects and activities are risky by nature and there is lot of uncertainty surrounding the outcome and the future turn of events. Such projects need individuals to have a continuous focus, perseverance and a thirst for knowledge and novel ideas. Hence for organisational innovation, it is vital to have individuals who are more proactive, creative, always on look out for a challenge, have the capability to take risks and also to deal with ambiguity. High involvement HR practices can play an important role in organisations in shaping employee behaviour and attitudes (Collins and Smith, 2006, Prieto and Pérez -Santana, 2014). They could be used effectively to encourage these personal attitudes by promoting a culture within the organisation that recognises and endorses these traits, and provide more opportunities and resources for such individuals to engage in research-based activities.

Supervisory and management support features as one of the main facilitators while the lack of this is not a major dampener. R&D managers view this as being more important in comparison to the other respondent managers. The support could be in terms of encouraging and motivating employees to engage with innovation-related activities. This could also include empowering the employees in a more participative type of decision-making wherein the views of the employees are heard and acted upon (Allen et al., 2003). A supportive supervisory style signals a concern for the employees and a good understanding of their issues and expectations, whereas a controlling supervisory style hinders creative performance and reduces intrinsic motivation (Beugelsdijk, 2008). Various HR practices like having flexible job designs, providing training, opportunities for skills development and accepting and rewarding novel ideas could improve the employee's perception of management support. A supportive management style is found to be an important determinant of an employee's innovative behaviour (Parker et al., 2006; Scott and Bruce, 1994).

Reward and recognition systems are also found to be a major facilitator of organisational innovation. Compensation (merit-based) and incentives are a big part of R&R and are also very closely linked to the

performance management system. Most R&R systems are closely tied in with performance metrics and should not be used as a means to control employee behaviour but to enhance and promote certain behaviours, attitude and outcomes that are vital to innovation (Cabello-Medina et al., 2011; Chen and Huang, 2009; Jiang et al., 2012). R&R could also include non-financial rewards as well. R&R acts as one of the main motivational mechanisms that HR managers can use effectively in firms to nurture innovations (Jiang et al., 2012). However, care should be taken to see that extrinsic rewards do not conflict with the intrinsic satisfaction that employees seek (Chadwick and Dabu, 2009).

Lack of skilled and experienced people is another main inhibitor of organisational innovation. As discussed earlier, Indian firms face skills and talent shortage to a large extent. Hence HR practices that are focussed on retaining good talent are crucial to sustain innovation. This may include appropriate career progression plans, attractive compensation schemes, flexible working hours and ensuring employee well being in general. To address this issue with lack of talent, another important aspect on which HR managers need to focus is learning and development (Jiang et al., 2012; MacDuffie, 1995; Tannenbaum and Dupree, 1994), which includes providing adequate training, opportunities for higher education and overseas experience, especially in developed markets. Opportunities to interact and share experience and knowledge within the organisation as well as with external stakeholders and working in cross-national or multi-disciplinary teams can enrich employee's experience and skills. A combination of commitment-oriented and collaboration-oriented HR practices could prove to be very effective in achieving this (Zhou et al., 2013). HR managers also need to focus more on recruitment and staffing approaches in such situations where they are competing for the best and skilled professionals.

Other than the above-discussed factors, there are several other aspects that influence organisational innovation. Driving innovation in organisations also requires a clear focus and strategy at the organisational level, which needs to be supported by well-designed organisational processes and mechanisms and the HR function could play a vital role here. Innovation needs a nurturing organisational/team environment for it to be sustained in the long run. A collaborative environment in which knowledge is shared, new ideas are discussed and evaluated and working together as team is encouraged is vital for organisational innovation. For this, employees need to be motivated to share knowledge so that hoarding tendencies are discouraged (Chadwick and Dabu, 2009) and team performance needs to be recognised and rewarded in addition to individual performance.

Innovativeness of firms also varies across industries. Some industries are more stable and mature than others, which mean that the demand for innovation is much less in these industries when compared to some of the very dynamic high technology and knowledge-intensive industries. High technology and knowledge-intensive sectors typically lay a lot of emphasis on R&D and their centres of excellence act as a hub for innovation. Industries also form clusters like the Silicon Valley in United States, which also make them 'pockets of innovation'. The firms within such industrial clusters also tend to be more innovative than others. IPR regimes that are prevalent in these countries also have an influence on innovation. If the property rights are not stringent enough to protect those who invest in innovations, from piracy, then this may prevent innovators from investing in those countries (Bradley et al., 2012). This has a negative effect on innovation. Government policies also influence national innovation systems and R&D managers perceive unfavourable policies to be more of a hindrance when compared to other respondent managers. To encourage and promote innovations, governments need to get involved in a range of activities that include setting up research bodies and institutes, offering funds, sponsoring research projects, promoting industry-academia and cross-national collaborations to name a few. R&D managers also feel more restricted by time constraints when compared to the other respondent managers.

7.6 Conclusion

This study explores the main drivers and deterrents of organisational innovation in Indian firms. Given the limited literature that is available on the influence of HR practices on organisational innovation, this study offers valuable insights on what works and what does not in an emerging market context. The results indicate that while management & supervisory support, personal attitudes, market & customer demands and R&R are the main facilitators of organisational innovation, personal attitudes, lack of financial resources, lack of skilled & experienced people and lack of focus on research & innovation are some of the main inhibitors of organisational innovation. It is essential that effective HR practices need to be designed, developed and implemented in order to cater to an organisational environment that motivates employees, encourages collaboration and learning, improves employee commitment and promotes teamwork to achieve positive innovation-related outcomes. Some of these factors that are more influential than the others like lack of financial resources and lack of skilled and experienced people, are

characteristic of any emerging market like India. India has renewed its efforts in boosting innovation with the President declaring the next ten years to be the 'decade of innovation'. Indian corporates are also equally focussed on catching up with their Western counterparts and innovation is definitely high on their agenda if they intend to be globally competitive. However, the national innovation systems as well as firm-level innovations in India have a long way to traverse. The success in the journey ahead depends on how effectively they address some of the stumbling blocks in their way, which act as dampeners for innovation.

Note

1. World Bank Statistics

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8

Ensuring Engagement and Commitment to Innovative Behaviours in High-Growth, Medium-Sized Businesses

Frances Jørgensen

Introduction

While recent research has focused on how both small entrepreneurial and large well-established firms can exploit human resource management (HRM) to foster innovation, mid-sized businesses (MSBs¹) experiencing rapid growth have been largely missing from the discussion (e.g. CBI, 2011; Stam, 2010). MSBs, despite their small share of the national and international business population, contributed €1.03 trillion to the European economy in 2014. Thus, it is important to understand how innovation and growth can be sustained in MSBs.

Sustained growth and innovation capacity in MSBs requires effective people management, as these firms must seek to balance the increasing formalisation that often accompanies growth with the flexibility underpinning their past success (Chadwick & Dabu, 2009). Unger et al. (2011) emphasise that innovative firms grow through optimal exploitation of their human capital. The optimal exploitation of human capital presents a challenge for high-growth firms² of any size, as they must constantly build their workforces (Navaretti et al., 2014). Therefore, while all firms face an ever-increasing challenge to recruit, select and retain the talent needed to support realisation of their organisational objectives, the magnitude of this challenge is amplified for innovative high-growth firms that must continuously increase the size of their workforce while sustaining their capacity for innovation (McKelvie & Wiklund, 2010).

While the influx of many new employees may afford smaller firms opportunities to more effectively coordinate their activities as they take time to adapt their people management practices and implement more formalised HRM practices (Mayson & Barrett, 2006), high-growth MSBs may find themselves in a situation in which they lack the infrastructures for successfully managing their rapidly and consistently growing workforce. The lack of effective ways to manage rapid growth may, according to Wiklund et al. (2003), have serious consequences for the psychological dynamics in a firm, which could in turn have a damaging effect on a firm's innovative performance.

Because so little research has investigated people management in high-growth MSBs, it is not apparent whether these firms are more or less equipped to deal with the need to implement increasingly formal HRM system than smaller firms or those with more stable growth. Still, unlike stable growth and SMEs, the challenge of managing increasing formality is unlikely to be a one-off issue, as high-growth MSBs will encounter numerous and sporadic 'tipping points', or the problems firms encounter frequently during a decidedly nonlinear trajectory of growth (Phelps et al., 2007). In practical terms, this means that decisions that appear completely on target at one point in time may become completely unsuitable at a later date.

Considering the dearth of research on innovation in high-growth MSBs (e.g. Du & Temouri, 2015), the objective of this chapter is to provide some insights into how people management in high-growth MSBs may influence innovation. In particular, the focus in this chapter is on the role of HRM in ensuring employee engagement in and commitment to innovative behaviours, and identifying people management challenges arising for high-growth MSBs as they strive to sustain innovation. Recent studies have emphasized the mediating effects of employee engagement on innovative behaviours (e.g. De Spiegelaere et al., 2014), as well as the importance of commitment to the learning and knowledge-sharing activities that underpin innovation (Sung & Choi, 2014). Further, research has evidenced links between employee engagement and commitment and their influence on learning behaviours (Yalabik et al., 2014) that have been associated with successful innovation. What has not yet been addressed is how HRM can ensure the employee engagement and commitment needed to drive innovative behaviours in a high-growth MSB context.

The chapter begins with a brief overview of the current knowledge on HRM and innovation from a general perspective. Following this, the relevant literature on the role of employee engagement and commitment

and their links to innovative behaviours is summarised. Then, a qualitative in-depth single case study is presented to highlight some of the challenges associated with implementing increasingly formalised HRM in a high-growth MSB context, and how efforts to adopt formal HRM may impact on employees' engagement in and commitment to innovative behaviours. Further, on the basis of the rich data collected, analysed and presented in this chapter, issues prompting further research are raised.

HRM and innovation

As early as the 1980's, Miles and Snow (1984) proposed that adopting a 'buy' or external market orientation for staffing would have a positive influence on innovation performance, as the external market provided access to the cutting-edge knowledge needed to generate new ideas that were most likely to reach the stage of commercialisation. This approach to HRM advocates the use of sophisticated selection methods, relatively high remuneration, and limited training and development to ensure renewal of the human resources needed to sustain innovation. Alternatively, Schuler and Jackson (1987) proposed that the organisational culture needed to support innovation could only be achieved through a 'make' HRM strategy that emphasized internal promotion, intensive training and development, and internally equitable compensation and rewards. This latter model that aims to establish strong and enduring employer–employee relationships has thus far gained most support. For instance, Shipton and her colleagues (2006) reported that training, appraisal and employee orientation programs impact the organisational learning cycles that underpin innovation. Similarly, Jiménez-Jiménez and Sanz-Valle (2005) demonstrated a link between performance appraisal systems, incentive-based compensation, and internal career opportunities with innovation. In each of these studies, it was proposed that the HRM systems ensured that employees not only possessed the knowledge, skills, and abilities necessary to develop new products and services, but also had ample opportunities and motivation to participate in the learning and knowledge activities necessary for innovation.

The precise configurations of the HRM systems included in these studies differ slightly, yet they are all aimed at building of strong relationships between the organisation and the employee. The assumption that strong relationships between the organisation and the employee enhance performance also underpins more formal HRM systems such as those referred to as High Performance Work Systems (Pfeffer, 1994),

High-Investment Human Resource Systems (Way et al., 2010) or High-Commitment HRM (Walton, 1985). Generally, social exchange theory (Blau, 1964) is used to explain the links between these formal HRM systems and performance, such that employees perceive bundles of HRM practices as beneficial, hereby evoking a desire to reciprocate by contributing to fulfilment of the firm's objectives (Mossholder et al., 2011). In particular, research has demonstrated that certain HRM systems may impact performance via employee engagement and commitment (e.g. Sanders et al., 2008; Li et al., 2011). In the next section, these two important constructs are explored in depth.

Promoting engagement and commitment for innovative behaviours

Employee engagement is generally understood as positive state of mind characterised by enthusiasm, willingness to devote time and energy to the job, persistence and dedication (Schaufeli et al., 2009). High levels of employee engagement have been linked to a multitude of critical performance outcomes, and research has identified how HRM practices such as training and development and job design in particular can contribute to individual and organisational level employee engagement (Li et al., 2011). Although there are only a handful of studies specifically addressing the role of employee engagement in innovation specifically, findings suggest that engaged employees are more likely to engage in creative and innovative behaviours (De Spiegelaere et al., 2014).

Engaged employees may also experience higher levels of commitment that serves as a bond between the employee and any number of commitment targets including but not limited to the organisation (Yalabik et al., 2014). Taylor and Greve (2006) found that high levels of employee commitment to the organisation fuel idea generation, which is the critical first phase of innovation. There is an ever-growing body of literature on how commitment supports knowledge-sharing and learning activities as well as how HRM can support employees' commitment to various commitment targets (Becker, 2009; Jørgensen & Becker, 2014). Further, Sanders and Yang (2015) reported links between employees' perceptions of HRM, employee engagement and commitment, and innovative behaviours.

Unanswered questions

The above brief review of the literature supports the notion that HRM can positively impact on innovative behaviours through their influence

on employee engagement and commitment, yet it also raises some unanswered questions. For instance, studies linking HRM commitment and innovation (e.g. Sanders & Yang, 2015) focus exclusively on organisational commitment, even though a multiple commitment foci perspective (e.g. Morrow, 1983) emphasises that employees experience commitment to targets in addition to or in place of the organisation that could alter the exchange relationship between employees and their organisations. Research is therefore needed to understand how HRM systems such as High-Commitment HRM systems impact differentially on multiple commitment targets and how the existence of multiple commitment targets may influence innovative behaviours.

In addition, considerable work on the antecedents and facilitators of organisational ambidexterity suggest that the aim of High-investment, High Performance and High-Commitment HRM to support long-term employee relationships may run counter to successful innovation. Here the notion of homogeneous versus heterogeneous human capital becomes relevant. According to recently proposed conceptual models (e.g. Kang & Snell, 2009), the relatively homogeneous human capital derived from an internal market HRM strategy is most suited for exploitative activities associated with continuous improvement, whereas heterogeneous human capital acquired from an external market HRM strategy is needed for the explorative activities that provide opportunities for innovation. Further, there persists a debate as to how the relative homogeneity-heterogeneity of a firm's workforce influences such factors as organisational trust, knowledge sharing, and open communication (Antoni & Hertel, 2009) that may be important drivers of sustained innovation. What is not known is how firms introducing increasingly formalised HRM systems to accommodate growth can achieve balance between explorative and exploitative activities.

Another issue that is far from clear is whether these HRM systems are always appropriate for all firms, as the preponderance of research on HRM systems and innovation involves studies in large manufacturing firms. Recently, some researchers (e.g. Chadwick & Dabu, 2009) have raised the question as to whether the increased formality and the associated heavier administration and bureaucracy often associated with these HRM systems might hinder entrepreneurial growth and innovation in small firms. More directly, Verreyne et al. (2011) maintain that increased rigidity accompanying the introduction of more formal systems may adversely affect the social relationships on which the shared learning and knowledge activities critical to innovation are based. In their empirical study of Canadian firms with less than 100 employees,

Chadwick et al. (2013) reported that the relationship between formal HRM systems and performance is highly complex and dependent on a variety of internal and external conditions. Specifically, they found that formalised HRM systems increase productivity of small firms when industry growth is high, yet argue that high investment HRM systems ‘... will not be effective in contexts that make greater demands on managerial attention for flexibility and customisation of firm activities’ (p. 8), which would undoubtedly apply to high-growth firms reliant on innovation to survive. By focusing on the costs of using these HRM systems relative to productivity gains, however, they did not address how HRM systems might be structured and organized in a way that continues to support innovative behaviours in high-growth firms. In addition, they did not investigate high-growth firms specifically.

If increasingly formal HRM is indeed a natural consequence of growth, and increasing formalisation does in fact pose a potential threat to firms dependent on innovation, then the question arises as to how high-growth MSBs can manage their human resources effectively in a way that ensures continued engagement in and commitment to innovative behaviours. The unique challenges related to HRM that arise for these firms are highlighted in the case study presented in the following section.

Methods

Given the paucity of research on people management in high-growth MSBs, a qualitative single case methodology was adopted. According to Yin (2009), this approach provides opportunities for gathering rich data concerning how and why events occur in an organisational context. The case example presented in this chapter was derived from a larger dataset of Danish firms classified according to the OECD’s (2011) definition of high-growth enterprises. From this dataset, the case example was purposefully selected as representative (Patton, 1990) of an MSB (OECD, 2006).

Data were collected through combinations of semi-structured and open interviews from December 2011–December 2013 at five collection points in order to capture changes in people management/HRM in the firm and people management issues that arose over time. Rutherford et al. (2003) remark that one of the reasons our understanding of HRM growth is limited is the lack of studies utilising longitudinal research designs. Interviews were conducted with the owners of the firm and the individual with responsibility for HR related activities at each of the five

collection points to ascertain the current status of any people management/HRM activities, how current activities related to past activities, and whether and why challenges were encountered as changes were implemented. Interviews were tape-recorded, transcribed, and translated to English then used to create a loosely structured narrative (Clandinin & Connelly, 2000) according to the changes in people management and HRM within the firm and the challenges arising with relation to those activities. The narrative is presented below, and points related to the objectives of the chapter are reviewed in the discussion.

A case example: D-Systems³

Today, D-Systems is a market leader in integrated digital software design with 238 employees. Situated in Denmark, the firm was established as a part-time endeavour five years ago by two software engineers, Brian and Paul. Within the first year, the firm experienced explosive growth, resulting from the commercialisation of a customisable data management solution. As this has continued at a rate of 45–77% annually (calculated in terms of labour force increases and profit), the owners readily admit to feeling completely unprepared for the challenges of owning a high-growth business. While they provide numerous examples of administrative and legal issues, such as patent applications and international contract negotiations that caused frustration along the way, they maintain that managing their human resources has been and continues to be the most demanding and difficult for them.

When the firm was established, Brian and Paul initially relied on professional networks to recruit new software developers and targeted recent graduates, as they were interested in *'young and quick minds that were up for a super exciting challenge and would be ready and willing to jump right into the job without demanding top salaries or even a promise of what the future might bring'* (Brian). Together, they conducted telephone and face-to-face interviews with candidates who had been recommended by their contacts. Because they only interviewed candidates who had completed an education in computer science or a similar field, they concentrated on their own evaluations of personal characteristics they believed would be compatible with those of their firm. They offered no formal training or development, although courses were funded as needed. Brian explained: *'...we expected they were ready to work from day one'*. Further, because many of the employees were recent graduates, they were all started on the same salaries and bonuses, based on a percentage of the profits that were equally distributed. Brian stated: *'We didn't have a system for keeping*

up with individual performance, we didn't need it then. Even though we were all crazy busy, we still had an idea of what everyone was doing because we ate together, or we shared a beer at least a few times each month. The people we hired stayed, and they couldn't have been more driven if it had been their own business'.

Shortly after their first anniversary, Brian took over the staffing, as Paul was needed to focus on managing orders and customer service as well as other managerial tasks. About 14 months after they had started the company, they began to receive considerable notoriety for their innovative designs and were flooded with applications from developers from all over the world. For the most part, applications were reviewed and then discussed over lunch, and then Brian and one-two of the designers would interview the top candidates and make a decision. By the time the firm had grown to approximately 40–50 employees, they enlisted a consultancy firm to make the process more efficient and to be able to concentrate on product development. Brian explained: *'We felt we were too small to hire someone that could handle all of the applications. It was an overwhelming administrative task. Outsourcing seemed to be the way to go until we had time to catch our breath.'*

In less than six months, however, they decided to hire an experienced HR manager, as Paul recounted: *'...too much seemed to be lost in translation with the consultancy companies. We realised that we needed to keep the process internal, because there was something we were looking forward that was apparently hard to put into words.'* At the same time, they were beginning to discuss the need for more systematic training and development, performance management, and a more structured reward system. Brian related the reasoning behind this decision: *'Looking back, it's like everything changed at once, but of course that's not the case. First we realised we were getting too bogged down in how to recruit the type of developers we wanted... We wanted people with as much drive as we have, but how do you know that without spending hours with someone yourself? We made a few bad choices, and the ramifications were extreme because the guys work so closely together. It's true that one bad apple can spoil the bunch. As we grew, documentation requirements increased dramatically, so there was also a lot of paperwork and filing to be done. We were certain that having a formal HRM position would resolve a lot of those issues, and we were aware that whomever we took on board had to become a member of the top management team with Brian and me. We are extremely happy to have found Erik who had extensive experience as an HRM professional in three small firms and two large global concerns'.*

In the eight months that followed, Erik worked closely with Paul and Brian to develop an HR strategy that they all felt was aligned with

their current and future business goals. As a first step, Erik conducted focus group meetings with the developers in an attempt to ascertain the personal and professional qualifications they should target when hiring new employees and to develop a performance management structure that would allow him to differentiate between employees. He noted: *'We were very mindful not to focus only on outcomes, but also on the generation of new ideas, teamwork, networking skills and several other softer measures.'* Shortly thereafter, Erik created guidelines for staffing, performance management, in-house and external training, career development, and compensation and rewards. He invested in sophisticated selection tools including personality profiling and behavioural interviewing. Erik commented: *'As important as I know it is that there's a good match between the company, the team, and the candidate, we also really needed to focus on getting some new skill sets and different perspectives under our roof. When the company was smaller, the makeup of the workforce was very similar, and we knew we needed to increase the diversity to meet our different clients' needs.'*

By the time the company had grown to employing more than 140 developers and 24 support staff, and nearly two years after the HRM office had been established, issues with their newly adopted HRM system became apparent. According to Brian: *'...we'd lost several of our top performers, one right after the other. I did exit interviews, and they all basically said that they simply weren't happy here anymore, that whatever had made D-Systems a great place to work a year or two before had now vanished. We also started to notice that NPD activities had levelled out for all of the teams. It wasn't all at once, but a trend became evident. For the first time in the company's history, we were also getting some complaints about sluggish or incomplete service...the problems were coming more from the developers who had been here longest...[they said] that something was missing for them and that they didn't feel as much a part of the company as they had when it was smaller. Some of them even complained about bonuses not being personal even though the ones I talked to were getting far higher bonuses than before the new system was put in place. We had more orders coming in than ever before and we didn't want to lose any more of our best employees.'* Erik noted: *'Both Brian and Paul decided that they needed to spend more time in the trenches interacting with the developers, so they scheduled time for that. They started eating lunch with the guys as often as they could. We planned several social events for the developers and their families, and we started up more in-house team training, like team-building activities. But none of it really seemed to make a difference. I was perplexed about what was going on because I felt like I was doing it [HRM] by the book!'*

After losing still more of their long-term developers to competitors, as well as discovering that some of the newer employees did not seem to fit well with the project teams, Brian, Paul and Erik reached the conclusion that their efforts to structure their HRM had failed, and that they needed to return to at least some of the ways in which they had been managing employees when the firm was smaller. Erik scrapped many of the formal practices he'd implemented and transferred a large portion of the responsibility for selection, planning of training activities and bonus distribution to the project leaders. He conducted training for the project leaders to ensure that they were up to speed on legalities and offered to serve as coach whenever needed. In summarising these changes, he explained: *'We went back through every single process we'd implemented and brainstormed about how we could tone them down, to somehow pick back up some of the feeling of being a smaller entity. We have what we now jokingly call "deconstructed" HRM, and it's working. If I were to put it into one heading, I'd say we are focusing far more on job design now, and how we can keep some of the small company feeling through decentralising HR. Our voluntary turnover is next to nothing now, our teams are working better together and with each other, the mood is lighter and friendlier, and all of our critical performance measures have improved. During the last few months, we've developed more new products than ever before in our history, and sales at a phenomenal rate. The best part is that we're don't have to worry about how future growth will impact us, because we don't feel that we're getting bigger even though we certainly are.'*

Key points

From the above narrative, a few key points are highlighted below:

- Staffing activities, in particular, that were managed initially by the owners were delegated to administrative personnel within the firm and then outsourced to consulting agency before an HRM position was established internally. These changes were accompanied by less personal involvement on the part of the owners of the firm.
- Staffing became more strategic, i.e. staffing became increasingly aligned with the strategic goals of the company and less administrative.
- Staffing targeted greater heterogeneity of knowledge, skills and abilities and less personal characteristics judged compatible by owners.
- Challenges arose when attempting to make explicit the staffing needs and the methods and tools for effective selection.
- HRM-related initiatives were often changed in an attempt to better fulfil the firm's changing needs and goals. Although the owners and

the HRM manager appeared to give considerable thought to these changes, they acknowledged heavy reliance on experimentation.

- The high-growth of the firm appeared to accentuate the need for congruence between HRM initiatives, such as when changes were needed to training and development, as well as compensation and performance management once new staffing procedures were implemented.
- Employees appeared to perceive the increased formalisation of people management as a signal that the firm was heading in a less desirable direction.
- Employee engagement in innovative behaviours appeared to diminish over time.
- Employee commitment to the firm and its projects and project teams appeared to diminish over time.
- Changes to aspects of job design provided the firm with a way in which to balance more informal and personalised people management with practices that accommodated the firm's growth.

Discussion

This case raises several interesting points relating to our current knowledge about how relatively informal people management transitions to more formalized and structured HRM as a firm increases in size. Initially, these changes were primarily reactive as the owners began to delegate their staffing, in particular to allow them time to focus on other areas of the business, which is consistent with the literature on HRM in small firms as they grow (Barrett & Mayson, 2007). Of note here is that the owners of the firm did not appear reticent about giving up control of people management as they grew as proposed by Phelps et al. (2007). Instead, they seemed convinced that delegating what they perceived at the time to be administrative tasks was a prudent decision.

The owners seemed to begin to think of HRM from a more strategic perspective only once they experienced problems with the selection decisions made by others. These problems led to the firm hiring a HRM manager, who in turn focused much of his attention on staffing. While the HRM manager admitted that the decision to concentrate on staffing was to address the immediate problems experienced in the firm, research also emphasises the important role of effective staffing to firm growth (Kim & Ployhart, 2014). Once new staffing practices were adopted, he realised the need to align the other practices such as training, compensation and performance management, which is consistent with a

configurational HRM perspective (Toh et al., 2008). Employees however seemed to perceive the introduction of the formal HRM system as a loss of the small firm culture, which echoes the concerns raised by Chadwick and Dabu (2009) as there was mention of how the increasing formalisation of HRM was linked to a loss of the entrepreneurial characteristics that were present when the firm was small. Moreover, the employees' perceptions of the HRM system seemed to have negative consequences on their engagement and commitment. This reaction on the part of the employees is perhaps surprising, given that recent studies emphasise that links between HRM systems and organisational performance are re-enforced when employees perceive HRM to be 'strong' (Bowen & Ostroff, 2004). Furthermore, Sanders and Yang (2015) demonstrate that employees' perceptions of HRM systems have a positive influence on employee engagement and commitment. In this case, while causation cannot be inferred, a return to less formalized and more personalised people management seemed to have a positive impact on employee engagement and commitment.

Another interesting point raised in this case is that both the implementation of new HRM practices and the consequences of people management decisions (e.g. turnover, decreased NPD) appeared to create tipping points for the firm that required further managerial changes. Thus, while growth in size and increased sales served as tipping points, people management itself may also be one for high-growth firms as they transition to more formalised ways of managing their human resources effectively.

Conclusion

The above analysis highlights the complexity of HRM in high-growth MSBs due to the lack of empirically grounded methods for adapting people management practices to accommodate growth. The lack of such models is surprising, given the support for a contingency perspective to HRM that was conceptualised nearly three decades ago. Firms may therefore appreciate that HRM should be aligned with the organisational strategy and characteristics of the internal and external environment, yet have no idea how to accomplish this task. As shown in the case, experimentation with different models can be costly in terms of both financial and non-financial measures. Worse still, selecting the wrong system for the circumstances can have serious consequences, as here in the case where employees become disenchanted with the firm after formal HRM had been implemented. The case also suggests that

employees' perceptions of HRM may strongly influence their effect on employee attitudes and their performance, as Bowen and Ostroff (2004) propose, although perhaps in another direction than suggested by recent research (e.g. Sanders & Yang, 2015) for high-growth MSBs.

Given that high-growth firms account for more than half of all new jobs established annually (OECD, 2012), future research will need to focus on developing more flexible models of HRM that can be shifted as a firm grows or experiences events that result in misalignment. As an important component of such models, researchers should recognise the potential role of employee perceptions and attitudes as they apply to both HRM and innovative behaviour.

Notes

1. According to the OECD (2006), classifications for small and medium-sized enterprises are as follows: micro with < 10 employees and turnover/balance sheets of ≤ €2m; small with < 50 employees and turnover/balance sheets of ≤ € 10 m, and medium-sized with <250 employees, turnover of ≤ € 50 m and balance sheets of ≤ € 43 m.
2. According to the OECD (2011), high-growth businesses, as measured by employment (or by turnover), are enterprises with average annualised growth in employees (or in turnover) greater than 20% a year over a three-year period and with ten or more employees at the beginning of the observation period.
3. Due to a confidentiality agreement, the name and other identifying information about the firm in question have been changed.

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9

Exploratory Learners, HR Ambidexterity and e-HRM Projects

Carole Tansley and Susan Kirk

Introduction

In this chapter, we focus on how innovative thinking might be generated within an organisation, a question that has been identified as a particular challenge for medium and small businesses (MSBs); whilst simultaneously balancing the day-to-day business demands. This ability to operate efficiently now, by exploiting existing resources, while at the same time looking forward in an explorative manner is known as ambidexterity (Duncan, 1976; Gibson & Birkinshaw, 2004; Raisch and Birkinshaw, 2008; Tushman and O'Reilly, 1996). e-Human Resources Management (e-HRM) relates to web-based systems that enable the deployment of HR processes and information to line managers and employees (Foster, 2010; Ruël et al., 2004). These systems, it is argued, are a form of organisational capital, which can act as catalyst for exploratory learning and it is through exploratory learning we argue that knowledge is generated.

Considering the implications for strategic HRM, we will build on insights shared in a recent White Paper (Sparrow, 2010). Cross-level dynamics will be debated, for example, how exploratory learning might be set in motion by managers (Kang et al., 2007), facilitated by organisational capital but maintained and shared via human and social capital in the form of exploratory learners acting to span the boundaries between the internal and external interfaces. This chapter reviews how exploratory learners can enable HRM ambidexterity using e-HRM, as a form of organisational capital as architecture of intellectual capital.

We suggest that in order for the human resource (HR) function to support organisational innovation, HR practitioners must first understand the challenges of innovation in their own functional area. We

argue that to do this with any chance of success, continuous development of the HR knowledge assets of the organisation needs to be undertaken by *exploratory learners* working with internal and external stakeholders. This is important because contemporary organisational developments, such as the growth of knowledge-based and networked organisations, mean that managing HR knowledge both now and in the future is vital to an organisation's health and growth (Tyson, 1999). One major learning challenge for HR practitioners in this endeavour is to carry out the potentially contradictory tasks of not only acquiring and exploiting existing HR knowledge assets (*exploitation*), but also to enable the generation, transfer and integration of new knowledge assets from both inside and outside the organisation (*exploration*) to provide exceptional HR service to all stakeholders inside and external to the organisation (Tansley et al., 2014). This balancing of knowledge, exploitation and exploration has been termed *ambidexterity* and this is the first concept we draw upon as an analytical frame to examine HR ambidexterity as an innovatory practice in this chapter.

Ambidexterity

The generation of knowledge assets linked to organisational learning has been described as having two forms – exploration and exploitation (March, 1991). Exploration 'involves a relatively broad and generalised search to expand the organisation's knowledge base into novel areas and/or to extend existing capabilities into new knowledge domains', whereas exploitation 'relies on a narrower, in-depth search to expand an organization's knowledge base and on combinative mechanisms to reconfigure existing knowledge into new types of capability within its existing domains' (Kang et al., 2012; Snell & Morris, 2014, p. 217). Both exploitation and exploration relate to innovatory practices.

We suggest that the notion of ambidexterity is particularly useful at HR functional level as HR specialists need to learn how to enact their own practice efficiently as well as gain an appreciation of what we see as the two vital facets of innovatory practice, namely, the drawing upon intellectual capital resources by exploratory learners.

Intellectual capital

Intellectual capital has been defined as the set of intangible resources and capabilities, or knowledge assets, that are possessed or controlled by the firm, and which are linked to a firm's competitiveness and performance (Nahapiet & Ghoshal, 1998; Teece, 2000; Subramaniam & Youndt, 2005; Martín-de Castro et al., 2006; Martín-de Castro, 2014). Intellectual

capital is a useful second concept for this chapter because it enables us to empirically examine how organisational stakeholders might juggle three classes of knowledge assets: *organisational capital*, *human capital* and *social capital* (Snell & Morris, 2014) and understand how HR ambidexterity may be attempted through managing all three over the life of a project.

We can provide useful definitions of intellectual capital's three classes of knowledge assets. By the term *organizational capital* we mean 'the codified knowledge embedded in an organization's systems, processes, routines, structures and technologies' (Edvinsson & Malone, 1997; Levitt & March, 1988; Martín-de Castro et al., 2006; Snell & Morris, 2014, p. 217). *Human capital* is the sum of expertise and employee skills within an organisation (Joia, 2000), and *social capital* is 'the aggregate of resources embedded within, available through, and derived from the network of relationships' (Snell & Morris, 2014, p. 219; also see Nahapiet & Ghoshal, 1998). With intellectual capital, 'value is derived, in part, from the organization's ability to create and acquire knowledge locally and to leverage it across the organization and what an organization learns in one location can be potentially replicated, modified and integrated in other locations' (Snell & Morris, 2014, p. 214). In this chapter, we take intellectual capital as an innovation affordance, i.e., what organisational, human and social capital can provide for managing HR knowledge in order to enact ambidexterity. A key skill of those managing this affordance is to adopt the role of an *exploratory learner*.

Exploratory learners

Learning occurs in the processes of knowledge generation, transfer and application (Snell & Morris, 2014). Such learning can be termed 'exploratory learning', as it involves 'the generation of new ideas by actively searching for alternative viewpoints and perspectives', which happens 'in part as employees engage with parties external to the organization and in part as knowledge is exchanged within the organization' (Shipton in Rathbone, 2012, p. 12). Those involved in HR projects will therefore be exploratory learners throughout the project lifecycle as the project team attempts to enact dynamic capability (Teece, et al., 1997) through HR ambidexterity. Thus exploratory learners engaging in these processes of dynamic capability development constitute the third conceptual element utilised in this chapter. We see the relationships between these concepts as shown below in Figure 9.1.

Our framework shows how achieving a balance of HR knowledge exploitation and exploration in ambidexterity is afforded by intellectual capital and that exploratory learners facilitate that affordance.

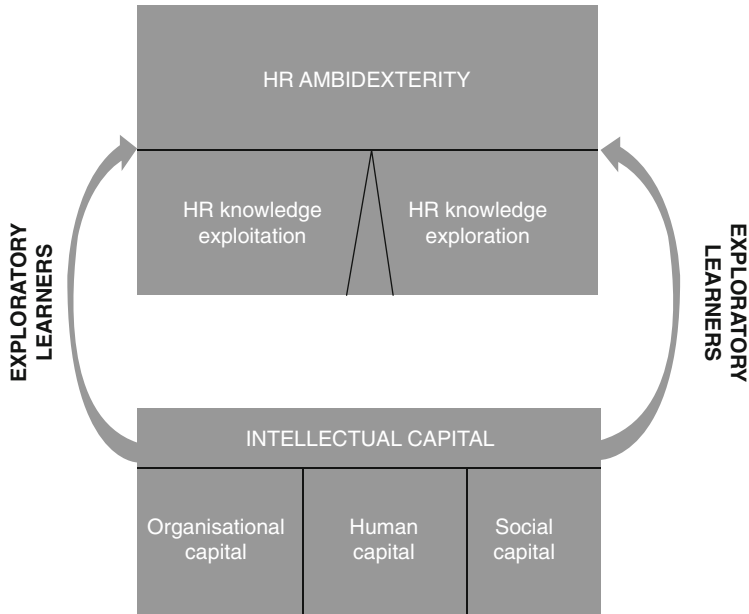


Figure 9.1 The Relationship between HR ambidexterity, intellectual capital and exploratory learners

In order to examine how HR ambidexterity is established, interconnected and amplified, we examine a case study of HR specialists and management of a UK local authority (TLA) engaged in major changes in HR strategy alongside an electronic HRM (e-HRM) system implementation project.

The local authority (TLA) story

Our case study is a UK, rural, local authority employing around 8,000 staff, making it the largest employer in the county responding to government efficiency initiatives requiring innovative approaches to cost reduction. The Local Authority's (TLA's) corporate Change Plan for corporate improvement is aimed at all functional areas, with the Employment Services Division particularly seeking to improve quality and reduce the costs of delivering HR services. Such a quality and cost improvement strategy requires the leveraging of intellectual capital consisting

of intangible resources and capabilities. Key to this are the knowledge assets of organisational capital, human capital and social capital. In the next section we explore how organisational capital is manifested as an e-HRM system.

e-HRM as organisational capital

Organisational capital comprises the codified knowledge embedded in the organisation's systems, processes, routines, structures and technologies (Edvinsson and Malone, 1997; Levitt & March, 1988; Martín-de Castro et al., 2006; Snell & Morris, 2014). e-HRM systems are part of this architecture, as they have traditionally enabled the acquisition and exploitation of existing knowledge assets relating to employees (Tansley et al., 2001; 2014).

e-HRM's power as an exploitation tool is often used as the main sales rhetoric for vendors to persuade organisations to purchase such systems (Bondarouk et al., 2009, p. 578). TLA's e-HRM vendors paid little attention to their system's exploratory capability, so that their e-HRM system is primarily a knowledge repository for HR information. Nevertheless, with increased technological sophistication, e-HRM systems are being used to leverage existing information to generate new HR knowledge, thus generating innovative knowledge in the hands of exploratory learners. In light of this, we argue that in moving beyond e-HRM exploitation to exploration, the expertise and skills of exploratory learners, as *human capital*, need to be appreciated in order that HR ambidexterity can be enacted.

HR expertise/skills as human capital

Human capital is defined as the sum of expertise and skills of employees within an organisation (Joia, 2000) and it is important because how employees are managed within an organisation has an impact on knowledge generation and, in turn, knowledge dissemination via social capital structures. Human capital (in our case study this is represented by the local authority officers, particularly the managers), is the key causal driver of knowledge generation (Zucker et al., 1998). Hatch and Dyer (2004) found that investments in the development of organisation-specific human capital had a particularly significant impact on organisational learning and performance.

In terms of e-HRM exploitation of human capital, one area that TLA was engaged in was gathering and collating data about professional development. As one manager explained:

Part of my team are collecting and aligning the qualifications, then we'll give that piece of work to the T&S Manager's team who convert it to whatever. So we are working internally in two different teams on that. Then once we've got that in the system, anyone new to the organization that isn't in the menu will come to us in Learning and Development and we'll look at where it fits into the framework. We'll key it into the system to keep the data as pure as we can.

Principal Officer, Professional Development

So, in addition to using e-HRM to manage the day-to-day business, there was evidence of the functionality of the system being a catalyst prompting exploratory learners to generate and share new and novel ideas.

Human capital has been recognised as an important driver of exploration via innovation (Alpkan et al., 2010). Bledow et al. (2009) define innovation as 'the development and intentional introduction of new and useful ideas by individuals, teams, and organizations'. In order to fully realize the benefits of the innovative knowledge generated by exploratory learners, it must be disseminated to relevant stakeholders within the organisation. This is the role social capital networks play in ambidextrous HR systems.

Networks of exploratory learners and their social capital resources

Social capital has been defined as 'the aggregate of resources embedded within, available through, and derived from the network of relationships' (Snell & Morris, 2014, p. 219). The exploitation skills associated with social capital have a dual purpose in e-HRM systems implementation. On the one hand, they are necessary for managing the day-to-day tasks with a myriad of relationships. This has been aptly put together by one of our respondents:

I think that was the time when you sort of really honed your negotiation and communication skills because you were dealing with people literally who was picking their pay packet up and their pay was incorrect, and trying to deal with them and it's got to get back to the managers and at the same time the next day you might be sat the board at a completely different level.

T&S Manager

On the other hand, exploration skills are also crucial in utilising e-HRM systems geared towards HR ambidexterity:

In terms of L&D, we haven't got an external web based thing. We have our own intranet, since we are predominantly internal customer facing. But my department are going for some external stuff. Since, for local businesses, we can deliver training much cheaper...it's just a push from our team really. They can come on our courses. I think the Authority's emphasis is on community focus and I was thinking how does that apply to L&D since we are internal focused. So we are looking at small businesses in terms of what can we offer them.

Organizational Development (OD) Manager

Highlighted here is how social capital is being enacted by networks of exploratory learners, both internal and external to the organisation. What we also see is how in the context of this e-HRM implementation project, TLA's exploratory learners' network with each other, drawing upon both organisational capital and human capital to do so.

Exploratory learners as communication 'stars'

Individuals who facilitate exploratory learning across boundaries tend to have exceptional communication capabilities, enabling them to draw value from extensive internal and external social networks and have been labelled as communication 'stars' (Allen & Cohen, 1969). In the research TLA, it was found that many of the e-HRM project stakeholders had these characteristics, having gained the requisite knowledge and experience to make them well placed to generate and share knowledge in the future. The TLA's CEO was a great proponent of this:

[r]ather than just thinking up and down the silos, [I] encourage thinking across...free thinking and coming up with ideas and sharing them.

CEO

Thus, there was wide engagement in networking to a certain degree, although arguably, just as some individuals are better at accruing and utilising social capital than others, some people are more adept at networking. Whatever the levels of skill and tacit knowledge of the actors concerned, all need organisational support to facilitate such exploratory ambidextrous behaviours.

For exploratory learners to network, it is necessary to have appropriate HR architecture, and TLA achieved this to a certain extent by working with the system vendor:

I'm managing the Learning and Development Team and the Occupational Health and Safety Team and the Analyst Team on the Job Evaluation project. So certainly with the Job Evaluation project we've been doing a lot of work with [the vendor] because we've actually got to look at how we're going to be implementing the new pay model, so they've been helping us to look at how the system is going to hold that information. It's a bit difficult on the project to put deadlines into place because at this particular point in time... we haven't finalised the consultation part of it with the unions, so we don't know at the moment if we're going to agree a collective agreement with them.

OD Manager

Here, we imagine the diversity of knowledge generation, transfer and application occurring across external and internal functional boundaries and exploratory learning being enacted in social networks by the OD manager. Her comment also demonstrates how project work involves networking to develop social capital across many different groups of people, including trade unions. We see this in another area of HR:

The T&S Manager is my main link. They and I will brandish ideas around and then think, well, how are we gonna do it, about lots of things. You know even now we've developed a lot of this stuff, there's still stuff that is being done manually that I know at some point... End users will say "you didn't ask us, this doesn't work for us..." so then we have to go back in and tweak it a little bit. You always have to think of the end user.

Recruitment Team Leader

In this comment, we see how exploratory learning involves generating ideas across time scales (now and for the future) and across media (manual and computer systems). It also requires that facilitators of this process learn how to take micro politics into account when gauging and addressing the opinions and resistance from users.

Finally, sharing problems is one way for exploratory learners to use their social capital whilst engaging in networking activities:

I must admit, when they [the e-HRM systems team] came here there was headaches to start with, but I think they took it really well and helped us through that because we had concerns of how it was going to work and, very useful I must admit... and it's quite simple, any of

the problems we've had have been very simple to correct as well. So again it's all linked and [my] teams here, they can see it and simply "ah right yeah", it's not just my problem it's someone else's problem".

Assistant Leisure Centre Manager

As our research has highlighted, within the TLA e-HRM project, networking across external boundaries is held to be equally as important as internal boundaries. These linkages encompass relationships and external partnerships with both public and private sector organisations. The public sector stakeholders range from higher education institutions to the National Health Service and also to forging links with other local authorities as well as more widely:

Regionally we do a lot of work with another local authority...and they have agreed to take the HR System and we are going to work with them to help them implement it. And the view is, again, if they have the same processes and modules as us, we can then look across the two organizations to see how we can jointly deliver the services. Social Services is an example, and Highways where we already working together.

T & S Manager

The partnerships fostered enabled innovation knowledge generation. For example, TLA management benefited from a leadership-training programme brought in by their local university. Another example was where TLA engaged in knowledge transfer about e-HRM strategy and practice to a neighbouring local authority. Forging and maintaining these relationships is ensured through the social capital activities of TLA's exploratory learners, who also operate as networkers, communicating and negotiating between the internal and external interfaces. Top-level engagement is essential for the sustainability of such practices:

[b]oth CEOs have said that they will collaborate...we have to work towards it, because if we don't and *the other TLA* go elsewhere, you'll never get the opportunity back.

T & S Manager

A growing area for such partnerships is with a range of private sector organisations that link in via third parties:

we get a lot of private companies really, now. I mean a lot of people now, through [the vendors] customer user group as well, they know

not only about what this TLA is doing, but they'll ring cos my name's just there, all my contact details are on the website.

OD Manager

So these relationships may extend to other potential partners, and such partnerships can be enduring with some spanning many years. The TLA's exploratory learners were found to have utilised the outputs from these liaisons to explore new possibilities and innovative ways of working. For instance, one manager explained how she would build on work undertaken by external consultants looking at behaviours for the TLA:

I will pick up to look at strength-based and a whole load of stuff so, we are getting ready for June. We may be moving in slightly, possibly a different way.

Innovative thinking is thus stimulated through such external relationships enabling exploratory learners to balance both the exploitation and exploration aspects of ambidextrous e-HRM. Such has been the success in social capital terms, that TLA plan to extend their private stakeholder network by forging links with smaller employers and seeking to put junior employees onto apprenticeships with these organisations.

Discussion

So far we have explored an organisational example of the ongoing relationship between intellectual capital as a set of knowledge assets and the drive towards HR ambidexterity as a way of balancing HR exploitation and exploration through an e-HRM implementation in a medium-sized local authority. Cook and Brown (1999) describe the *generative dance* between knowledge and practice that permits learners to reflect on their practice as they draw on the knowledge they acquire, then refining this knowledge based on the practice that they perform. In this section we will consider this relationship and identify lessons for practice, particularly in relation to exploratory learners and exploratory learning.

Exploratory learning

Shipton found that 'two groups of HRM mechanisms are likely to enhance innovation in products and technical systems; those designed to promote exploratory learning (e.g. project work and placements) and those intended to exploit existing knowledge (i.e. training, induction, appraisal, contingent pay and teamwork)' (2012, p. 19). Exploratory learning involves a 'trade-off' between exploration and exploitation

and may produce 'conflicts between short-run and long-run concerns and between gains to individual knowledge and gains to collective knowledge' (March, 1991, p. 75). As we have argued, the three classes of knowledge assets embedded in intellectual capital – organisational capital, human capital and social capital are affordances of exploratory learning and thus help to resolve tensions inherent in achieving a balance in ambidextrous e-HRM environments. We now consider each of these elements in turn.

Organisational capital and exploratory learning

e-HRM systems, as a form of organisational capital in this case, offer exploratory learners the opportunity to manage day-to-day tasks more easily by handling routine data recording and maintenance. The functionality of such systems can also act as a catalyst for innovative thinking and creative solution identification by exploratory learners, thus helping to resolve some of the tensions inherent in achieving a balance between exploitation and exploration, i.e. HR ambidexterity.

Organisational capital is linked to organisational learning because 'an organization learns if any of its units acquires knowledge that it recognizes as potentially useful to the organization' (Huber, 1991, p. 89 in Hargadon & Fanelli, 2002, p. 42). This is important because 'processes, systems, structures, and routines inform practice by guiding action in a way that might both enable and constrain learning behaviour' (Bowman & Swart, 2007) (Snell & Morris, 2014, p. 222). In order to realize the benefits of e-HRM organisational capital, it is vital for an organisation to place an emphasis on the support and development of its human capital.

Human capital and exploratory learning

Human capital comprises the expertise and skills of the employees within an organisation (Joia, 2000) and it is these attributes, which are vital in ensuring knowledge generation (Zucker et al., 1998). The quality of human capital is of key importance in the achievement of a balance of exploitation and exploration in HR ambidexterity. However, skilled and knowledgeable people alone are not sufficient to ensure exploratory learning. As Bowman and Swart suggest, 'current approaches that position human capital as central to value generation in knowledge-based industries obscure the importance of the relational nature of knowledge production' (2007, p. 488).

Grigoriou and Rothaermel argue that we should conceptualise 'new knowledge development as a process of search and recombination' and that 'a focus on individual productivity alone presents an under-

socialised view of human capital. Rather, we emphasise the importance of embedded relationships by individuals to effectively perform knowledge-generating activities' (2014, p. 586). We assert that human and social capital should operate interdependently to drive knowledge generation.

Social capital and exploratory learning

Social capital is a key constituent of intellectual capital that is 'based on relationships and networks between people, groups and organizations' (Martín-de Castro, 2014, p. 239). Social networks contribute to knowledge creation because they alert individuals to the existence, location and significance of new knowledge and the configuration of these networks determines the pace and direction of knowledge creation (Hansen, 2002). Tsai (2001) found that organisational units could produce more innovations and enjoy better performance if they occupied central network positions that provided access to new knowledge developed by other units.

What brings together the enactment of all of these elements and their alignment is exploratory learning, which is not only focused on knowledge generation, transfer and application processes throughout an e-HRM project, but also on the development of 'combinative capability' (Kogut & Zander, 1992, p. 391). That is, to learn not only how to 'generate new combinations of existing knowledge' and connect previously unexplored knowledge domains, but also to 'generate new combinations of existing knowledge' and connect previously unexplored knowledge domains.

Exploratory learning is not just an individual activity in a project team environment, so group exploratory learning is important because 'if the strategically most important resource of the organization is knowledge, and if knowledge resides in specialised form among individual organizational members, then the essence of organizational capability is the integration of individuals' specialised knowledge' (Grant, 1996, p. 376). Such learning can take place across both internal and external boundaries and involve many stakeholders, the process being facilitated by exploratory learners who act as boundary spanners (see Hustad & Bechina, 2011).

Conclusions

In this chapter, the interrelationship between the knowledge assets of intellectual capital (in the form of organisational capital, human capital

and social capital) were examined in order to gain insights into how organisations can, through exploratory learning, enable organisational ambidexterity processes. We show how engagement in the use of intellectual capital at all organisational levels can enable managers to facilitate both exploitation and exploration. We particularly highlight the importance of encouraging exploratory learners to utilise social capital networks, thus enabling organisations to generate knowledge through both internal and external stakeholder relationships. This is vital because exploratory learners enact ambidexterity by using their knowledge and skills to manage day-to-day tasks, whilst simultaneously forging social capital networks both inside and outside the organisation to benefit from knowledge exchange.

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The Impact of Human and Client Capital on Innovation

Juani Swart and Nicholas Kinnie

Introduction

The importance of knowledge, skills and experience (i.e. human capital) in the process of innovation, is well-recognized (Kimberly & Evanisko, 1981). However, we know less about the influence of external stakeholders, such as clients, on the ability of a firm to innovate. This is surprising, given that employees in contemporary organisations work closely with their clients, when innovating (Alvesson, Karreman, Sturdy & Handley 2009; Bettencourt, Ostrom, Brown & Roundtree 2002). These client relationships can act as a relational resource which enables, or constrains, innovation. Indeed, Fosstenlokken, Lowendahl & Revang (2003: 876) noted that ‘we need to look further into the role of the client in knowledge development.’ In this chapter, we consider how firms that work within a complex set of external stakeholder relationships develop products and services (Nikolova & Devinney, 2009; Reihlen & Nikolova, 2010; Swart & Kinnie, 2014) in order to generate a competitive advantage through innovation. We build on theory that argues that the process of innovation requires the renewal of knowledge by *exploring* novel solutions whilst also *exploiting* existing solutions (Crossan, Lane & White, 1999; March, 1991). We focus on Professional Services Firms (PSFs) in particular because they are so reliant on knowledge of their employees as well as their client relationships to produce innovative services and illustrate that HRM practices need to be focused on the management of client relationships *as well as* human capital to enable innovative outputs. We present case studies to identify four innovation orientations underpinned by specific configurations of human capital and client relationships.

We define innovation in terms of the ability to generate innovative *outputs* which hold value in the market. The focus is on contexts where

it is evident that the firm would be able to appropriate value from the innovative outputs generated. We acknowledge the categorisation of the innovation outputs into two main categories, i.e. exploratory (generative) and exploitive (refinement) (Kang, Snell & Swart, 2012; March, 1991). This literature suggests that firms explore new opportunities outside their current knowledge domains, whilst also exploiting and deepening existing knowledge stocks. There is an inherent tension between these innovation strategies where 'the pursuit of either becomes a strategic choice for firms' (March, 1991, p. 71). The resources, such as human and client capital that underpin both exploratory and exploitive innovative outputs, therefore need to be managed in order to address these tensions.

We argue that innovative outputs are mainly underpinned by intangible resources, such as tacit routines, knowledge and skills (human capital) and relationships (client capital) within and between firms. Physical resources may contribute to the generation of innovative outputs but they do not hold innovative potential in and of themselves. The firm therefore relies on the interplay of the intangible assets, such as human and client capital, to innovate (Subramaniam & Youndt, 2005). The significance of human and client capital in organizations has also long been recognized as employees with high levels of human and client capital are more likely to provide high quality services.

Human capital theory refers to an individual's set of knowledge and skills and Mayer, Somaya & Williamson (2012) have distinguished between firm, industry and occupation-specific human capital. Human capital specificity refers to the degree to which an individual's knowledge, skills and experience are so rare or unique that they generate above-average organizational rents for the firm (Hatch & Dyer, 2004). Firm-specific human capital is less transferable across organisations and, given our emphasis on tacit routines, it is likely that it will enable the production of innovative outputs. Industry or client-specific human capital tends to be developed through working very closely with clients, often over extended periods of time, and is expressed in an intimate knowledge of client preferences. It tends to be embedded in client-specific processes and procedures.

The client-specific human capital is therefore more likely to enable the PSF to deliver products and services which are tailored to the client's needs. Occupational human capital refers to the profession-specific knowledge (Mayer et al., 2012). Given that we are studying PSFs we assume this knowledge, e.g. law, accounting and software, is necessary for entry into the market and included as a foundation upon which firm- and/or client-specific knowledge is built. Occupation-specific human capital becomes particularly valuable when it is combined with

firm- and/or client-specific human capital. Hence, we focus on the interrelationship between firm- and client-specific human capital in the generation of innovative outputs.

Client capital refers to an individual's ability to access resources through relationships. Indeed, it is thought that firms renew valuable knowledge in collaboration with their clients as professionals work across boundaries (Gulati, Nohria & Zaheer, 2000; Raisch, Birkinshaw, Probst & Tushman, 2009). This literature brings into focus the co-production of 'new' knowledge (Reihlen & Nikolova, 2010; Sturdy, Handley, Clark & Fincham, 2010) where social resources that impact upon knowledge renewal are situated outside the boundaries of the firm.

Previous research provides a valuable basis for analysing the influence of human and client capital on innovation, but three areas need development. First, it does not explain the different roles played by clients in innovation. Second, there is limited evidence of innovation in opportunistic relationships. While Reihlen and Nikolova (2010) and Bettencourt et al., (2002) provide detailed insights into the interaction mechanisms between clients and consultants, their analysis is restricted to situations where the two parties work together very closely. Third, previous work pays attention to human *or* client capital and we need to identify the various configurations of human *and* client capital which enable innovation.

Case studies

We present case examples from PSFs which included consulting, software and web development and marketing agencies (see Table 10.1 for further details). These firms were studied during a 10-year period and involved 84 interviews lasting at least one hour each of individuals who were working closely with a range of clients and who were directly involved in the generation of innovative outputs, e.g. directors, senior managers, project managers and knowledge workers¹. We collected the data in three stages around particular themes. First, we conducted in-depth interviews with senior managers and directors to identify the strategic challenges facing each firm. We identified their core client interface process and asked about the human and client capital on which they drew during their client interactions and their supporting HR practices. Second, we interviewed professionals responsible for managing client relations, for example principal consultants and practice managers, to understand their interactive processes. Finally, we asked employees directly involved in developing the innovative output to categorise the outputs, that were

Table 10.1 Summary of the case studies and data collected

Case	Details	Observations	Interviews with managers			
			Senior	Middle	Junior	Total
STRATEGY CONSULTCO	Multi-national audit and business advisory	2	7	–	–	7
HR CONSULTCO	Major consulting firm	–	5	–	–	5
ADVERTISING CO	Medium-sized independent marketing agency	12	19	16	–	35
MARKETING CO	Small marketing agency, part of a major multi-national	–	9	11	1	21
WEBCO	Small web portal part of a major communications organisation	3	9	6	1	16
		17	49	33	2	84

delivered as a result of working with the client, using the explore-exploit categories put forward by March (1991). In addition, we observed 17 meetings for at least an hour each, sometimes substantially longer, to collect data about the actual processes of innovation.

We found both firm- and client-specific human capital and identified several dimensions through which client capital varies; i.e. *power differentials* and *the extent of work integration*. The power-base of the firm is influenced by whether the firm is contacted on a retainer or a project basis; which party has control over resource inputs and outputs; and the degree of control over the performance management of the account. There are situations in which the PSF can specify what solutions will be delivered, as well as when and how this will be done. We find that in opportunistic relationships, a powerful client may wish to control the desired outputs and methods of achieving these outputs, whereas in co-operative relationships the creation of innovative outcomes tends to be shared between the client and the firm.

The second dimension, the extent of work integration, varies depending on the way in which work is organized (e.g. dedicated professionals from both the PSF and the client that work as an integrated team or high degrees of separation between the work structures of the PSF and the client); the degree to which work is shared between the firm and the client; and the nature of the client contact, e.g. frequency and

method of the contact. In co-operative relationships, the firm and the client tend to work in an integrated way, often in a dedicated client account team which can be characterised by co-location and frequent interaction with the client to develop ideas and solutions. In opportunistic relationships contact between the parties is intermittent with the client often dictating the nature of the outputs. These themes enabled us to delineate the broad categories of client capital, i.e. co-operative and opportunistic (see Gulati et al., 2000).

We found further that PSFs typically engage in both collaborative and opportunistic client relationships enabling them to innovate. Importantly, there are prominent combinations of human and client capital that lead to either exploratory or exploitive outputs.

The innovative orientations

Our case studies pinpoint how either firm or client-specific human capital interacts with co-operative or opportunistic client capital to produce four specific types of innovative outputs, which we label as innovation orientations (see Figure 10.1). These types were derived from thematic analysis, following coding of the data to identify the forms

Human Capital	Firm-specific	<p>Explore: Regenerate</p> <p>Shared control</p> <p>High degree of work integration</p> <p>Space to innovate</p>	<p>Explore: Re-invent</p> <p>Client control</p> <p>Limited work integration</p> <p>Pressure to innovate</p>
	Client-specific	<p>Exploit: Refresh</p> <p>Shared control</p> <p>High degree of work integration</p> <p>Small refinements</p>	<p>Exploit: Re-use</p> <p>Client control</p> <p>Limited work integration</p> <p>Pressure to refine</p>
		Co-operative	Opportunistic
		Client capital	

Figure 10.1 The Client-Innovation Matrix (CIM)

of capital involved, the nature of the interactive processes, the types of outputs produced and the tensions inherent in each type.

Regenerate

This orientation is underpinned by a configuration of firm-specific human capital and co-operative client capital, i.e. within a context in which power is shared between the firm and the client, to produce highly innovative professional services outputs. Human capital was not developed with specific clients in mind, but was aimed more at helping the firm to develop a strong reputation for particular competencies. Interviewees indicated that in this orientation, clients wanted to be challenged and exposed to 'counter-category' solutions, breaking away from tried and tested solutions, often associated with client-specific human capital, and to take innovation risks. The Head of Digital Delivery in 'AdvertisingCo' said of one client, 'they always want something different, want you always to kind of push it a bit further.' The importance attached to developing innovative capability was captured well by a Creative Director who categorised their engagement processes according to the innovative outputs that would be required: 'gold' being the most innovative, 'A gold is an opportunity that is recognized as; you know what, it is one of those moments where we really have an opportunity to find a new way of doing something because the client is open to it and the brief is really open and exciting.' This creates an ideal environment in which the firm can attract and retain highly creative people to develop their innovative capability.

Typically, these relationships are characterised by long-term economic contracts, usually for 2–3 years, that provide financial security to the PSF and encourages an equalisation of power. The shared power is demonstrated in the way the work for the client is managed. In 'Strategy ConsultCo' there are long-term, trusting relationships, for example the firm advises a major petro-chemicals company on large scale and radical change processes. 'HR ConsultCo' was approached by a local authority to design an innovative output, which had no prior solution, and they collaborated on the development of innovation. Besides demonstrating high trust, the PSF also referred to the fact that the client regarded them as 'experts' and considered that they were known for services which their competitors could not deliver. Indeed, the very detailed firm-specific expertise that they have developed makes them one of the most attractive development firms for the young professionals they employ.

The performance management of the client account is conducted via regular reviews which include both formal and informal processes

and are characterised by qualitative judgements in the development of unique solutions. The client trusts the PSF's expertise because the outputs are often so innovative. The impact of the adoption of the innovation will be measured jointly by the PSF and the client.

Innovation activities are highly integrated and take place in a hybrid PSF-client team with frequent interactions in highly integrated work-processes. For instance, an 'AdvertisingCo' Account Director said, 'I would speak to the client 4 or 5 times a day with lots of emails, so very, very close contact.' Each stakeholder dedicates resources to the account and it is managed by jointly agreed, broadly defined objectives. The client and the firm have a responsibility for resource allocation that has a direct impact on collaborative knowledge creation.

The emphasis on creative outputs has two challenges to the maintenance of competitive advantage. First, it is predicated on the basis of continuing commercial value being attached to creative output. However, if clients are no longer prepared to pay for highly innovative outputs there is a potential mismatch between market demands and the firm-specific human capital base which has been so carefully attracted and nurtured. Secondly, there is also a danger that the PSF may always assume that the client wants highly innovative outputs. As a Global Creative Director in 'AdvertisingCo' expressed: 'I would say that we are a very ambitious agency and we aspire to creating great things for our clients and things that are meaningful and engaging and sometimes I think we don't pay attention to the signals as well as we might,...I think we don't really realise that they are kind of saying "we want an orange soufflé, we don't want an upside down cake."' The challenge is therefore to balance the firm-specificity of the human capital with a judgement of what is acceptable in the market and will generate value.

Refresh

Innovative outputs in this orientation are produced via a combination of client-specific human capital and co-operative client capital in ways which were categorised as a refinement and a re-working of existing solutions. The data indicates that when human capital becomes focused on client-specific processes it is more difficult for the firm to produce exploratory outputs. The path-dependant nature of the development of client-specific human capital means that the firm and the client become bound by previous solutions and existing ways of working which makes it more difficult to take innovation risks. This is often the result of either long-term client relationships with clear preferences regarding the type of innovative output or a demanding and powerful client who dictates

the outcomes and processes (which is expressed in the fourth innovation orientation).

The focus in this orientation is on equality of power and a high degree of work integration, which is often enabled by working on a retainer-basis to refine client-specific solutions. 'MarketingCo' had a series of long-term accounts with clients in telecommunications, utilities and financial services which involved producing a range of outputs including direct mail, bill inserts and door drops. Planning for these clients took place collaboratively and well in advance. Objectives were set mutually and the close working relationship continued as the communications were developed for each campaign. The achievement of targets depended on the shared analysis of data from previous campaigns by data analysts and planners who worked closely with dedicated client representatives on shared customer data. The creatives took a back seat with their contributions being limited to low key revisions of text or graphics. The human capital was extremely client-specific and expertise lay in identifying and targeting customer segments on behalf of the client with carefully refined communications rather than innovative, creative work. Material created for a direct mail campaign is refreshed for an email or bill insert. The production of refined outputs involved a cycle of client proposal and agency response. According to the Account Director, 'The client might propose we target X amount of customers and we then talk through their plans. We dig down into the reasons behind this, asking questions to the client. This does not involve the Creatives, this is data analysis. We then go back to the client and present our revised proposals which they consider and come back to us.'

'WebCo' worked in a similar way, by seeking to establish long-term relationships, some as long as 3–5 years, with major partners who pay a tenancy fee to ensure they have a continuous visible presence on the site. Indeed, the products will often be co-branded with the logos of 'WebCo' and the client. Innovation is focused on refinement to jointly adapt existing advertising materials to a web-based environment. Once the partner is established on the site, 'WebCo' and the client work together closely to monitor and analyse the advertising performance.

The advantage of being situated within the Refresh innovation orientation is that the client can become dependent upon the PSF because they have client-specific contextual knowledge, thereby securing future income. Here, the PSF becomes an 'insider' working closely with the client to generate novel ideas and implement solutions. The danger is, however, that the innovative capability of the firm becomes 'locked-into' the client processes. As the Strategic Planner in 'MarketingCo' said,

'I have a closer relationship and share more knowledge with the client in Sweden than I have with people in my agency across the room working for other clients.'

There is also a risk of becoming over-dependent on a relatively small number of clients. In the event that the firm loses a client it becomes difficult to deploy this human capital across other client accounts. Furthermore, knowledge workers may become frustrated by their lack of 'developmental' opportunities. As an Account Director explained: 'everyone knows X is a pain, it is valuable work, but there are so many stakeholders to please on such a big account, and there is so much baggage due to previous campaigns, but we have to do the work, it is our bread and butter.'

There is an additional challenge in this orientation, i.e. the employee spends extended periods on a client account, often on a client site, and therefore 'goes native'. This poses a retention threat to the employing firm that may further influence the capability of the firm to innovate.

Re-invent

This innovation orientation represents one of the most challenging and 'exciting' spaces in which to work. It relies on the combination of firm-specific human capital and opportunistic client capital to produce highly innovative outputs. Clients would approach firms to produce novel solutions because they are known for a particular approach or skill (firm-specific human capital). However, these client engagements can often be on a one-off or project basis. The nature of the opportunistic client capital also means that clients typically occupy a powerful position which may be expressed by requiring demanding outputs within short time-frames. The Public Relations partner of 'AdvertisingCo' explained that these powerful clients are very valuable and there are reputational benefits related to delivering highly innovative outputs in tight time scales. She explained how this is reliant upon a combination of detailed knowledge and prior experience, i.e. firm-specific human capital: 'so we created a first ever 3D billboard down at Waterloo [...] I said we have come up with this idea, went to see our creative director and [...] so we got the technology, we found out how to do it, managed to turn it round in 2 weeks.' This demonstrates the capability to innovate within highly demanding client relationships.

Typically, the client controls the problem definition and may require 'counter-industry' innovative solutions, where the client makes the judgement regarding the quality of the outputs. The output is controlled by commercial contracts based on a fixed-fee or project basis and which

are usually open to competitive tendering. This creates a powerful position for the client where the risk and responsibility for innovative output lies mostly with the PSF. The power relations here were made clear by a Strategic Planner in 'MarketingCo', 'We might be a big direct marketing agency, but in strategic terms we are but a speck in the ocean compared to the client. They are running 20 different agencies'. The impact of the opportunistic nature of client capital on the innovation process is expressed in the fragmented way of working and the limited involvement from the client in the production of innovation. For example 'AdvertisingCo' had to bid for all new work from an oil company client who, according to the Creative Director, 'are a big account, but they know very clearly what they want.' Critically, the client plays a powerful role as the judge over what is an acceptable quality of work during the formal review processes, which may be a source of risk for the client.

Although this orientation is associated with the production of highly innovative outputs under pressure, the risks are associated with power and the ownership of uncertainty. The client occupies a position of power and tends to want highly creative solutions that make it difficult to develop a high degree of work integration because client contact is intermittent, making progress slow and frustrating. In particular, this presents a challenge to the creation and retention of innovation capability. The series of one-off tasks, which have to be achieved under time pressure, can be highly demanding for the employees concerned. However, if the firm is capable of delivering innovative output via its firm-specific human capital then an opportunity is created to build trust within the specific client relationship. This could then become a resource-base, possibly characterised by a relationship which developed in a more co-operative way, from which future innovative outputs can be generated with more opportunities for creative work for staff.

Re-use

In this orientation, the firm operates within a space that is characterised by client-specific human capital and opportunistic client capital, whereby clients exercise their power by defining the problems, outlining possible solutions and monitoring the outcomes. A powerful client may demand that their processes and procedures are used to generate innovative outcomes. This means that the firm needs to operate as an extension of the client's organisation, e.g. as its marketing or legal department. This is combined with opportunistic client capital where control over outputs tends to be project-based. In this context, the firm is expected to refine, re-work and develop existing outputs. For example,

a client may request that proven techniques from a previous innovative output, such as an advertising campaign, are used. An Account Manager expressed this by saying; 'We know what will work, and what will not work in order to communicate ideas to mass audiences and we make small adjustments to perfect this.'

The opportunistic nature of client capital is evident in the low degree of work integration, whereby the PSF is expected to work to a tightly scripted brief. For example, the Head of Digital Delivery in 'MarketingCo' said, 'the client literally wants us to take their existing emails (to customers) and redo them, update them and maintain them.' We found limited evidence of an iterative process by which innovative outputs are produced. The limited contact is mainly virtual and tends to be focused on monitoring of performance by the client, with little scope for creative input by the PSF. Clients exploit their power by offering the promise of further work or by simply trying to get the lowest price for the work.

This provides a context which has both innovation and human resource management challenges. First, when client demands are tightly specified, the firm needs to develop client-specific human capital, in a short period, in order to secure future success, i.e. retaining the client. The risks of innovation are therefore covered entirely by the PSF but if successful, they have the opportunity to take on higher value work once they have proven their credentials. We found that these conditions are more likely to exist either in small, start-up firms who will leverage economies of scale and depth of experience to offer client-specific solutions at a lower cost.

Second, the nature of work in this innovation orientation has a direct impact on the type of outputs needed to satisfy the client: the innovation is often bound by client interpretation and instructions. If the client has a clear specification of outputs to be delivered then the challenge lies in the capability of the human capital in the firm to produce client-specific solutions that can then lead to repeat work. As with the 'refresh orientation' this represents a situation where the capability to innovate become focused on, and locked-into, client-specific processes, management systems and notions of innovation, only in this orientation the work itself is much less creative. The firm would therefore need to balance their engagement in this orientation with exposure to other types of client relationships in order to build their innovative capability.

Third, the limited creativity of the work also provides a development and retention challenge. Furthermore, given the short-term nature of

the client relationships the firm may also have more limited scope to provide knowledge workers with career opportunities within a specific client account.

Discussion

We have illustrated how human and client capital are configured so as to underpin the production of four innovation orientations. In this section, we discuss the HRM practices that firms use across the various orientations in order to ensure that, at the firm-level, both firm-specific and client-specific human capital is developed and that they balanced client-relationship portfolios.

Innovation orientations that are characterised by refinement (Refresh & Re-use) rely on client-specific human capital. The challenge here is that the client-specificity of the knowledge crowds out the ability of the PSF to be innovative in the future. In these orientations, HRM practices need to focus on the development of innovative capability via firm-specific creative processes, such as providing exciting skill development opportunities in order to retain knowledge workers. If these employees operate predominantly in the exploitation mode of innovation, they would have limited developmental opportunities, as they face the *boredom challenge*. One response is to rotate knowledge workers between client accounts in order to manage the risks of potentially losing clients; to stimulate creativity by exposure to variety and further enhance the development of firm-specific human capital; and manage the motivational contract of knowledge workers by providing exciting opportunities for skill development (Swart & Kinnie, 2013).

These practices can be adopted more easily in the Re-use orientation, given the nature of short-term contracts. If firms can leverage experience and learn to work within opportunistic client relationships, they can generate an advantage by 'winning' clients' trust which may result in more co-operative relationships. The case studies indicated further that more junior professionals often work within this orientation whilst they build firm-specific innovative capabilities, which are then deployed later in their professional careers in order to generate more innovative outputs.

In the Refresh orientation, firms tend to leverage the financial stability and trusting client relationships to build a strong reputation in the market. In addition, they provide knowledge workers with the opportunity to work on innovative projects within the firm, thereby addressing the motivational aspect of the employment relationship. The

firms also create career structures within client accounts to allow for continuity of contact, and ultimately shared power, between the firm and the long-term client. They also shape their resourcing strategy to ensure their human capital is carefully aligned with client needs, by, for example, recruiting staff from their clients and seeking to develop and retain these key staff by suitable performance and reward practices.

The innovation orientations that are characterised by exploratory outputs (Regenerate and Re-invent) draw upon firm-specific human capital. The challenges in these orientations are related to the need to develop firm-specific skills which are market-leading. There is, however, a danger that market demands will shift and that the specialist skill becomes removed from what clients are willing to pay. In the Regenerate orientation, this can be addressed by co-creating innovation with the client. The adoption of the innovation therefore becomes path-dependent upon the working relationship with the PSF. The hidden challenge that goes hand-in-hand with this 'safer' space within which to innovate is that the firm-specific human capital becomes intertwined with client-specific skills which may result in a weaker ability to 'surprise and delight the client'. It is therefore important for the firm to balance the seamless working with the client with opportunities to retain firm-specific human capital that is so central to the generation of highly innovative outputs. The HRM practices therefore need to be focused on keeping firm-specific skills cutting-edge. In order to do so, the case study firms adopted two-way mentoring processes. This was illustrated by a Global Marketing Director in 'AdvertisingCo': You know I'm really senior but when I work with my teams I often say that I don't have the answers and I listen to the younger creatives who, now with social media, often have better ideas.'

In the Re-invent orientation, the opportunity to engage the client in shared innovation, is much more limited because the generation of outputs is much less extensive, sophisticated and iterative. The risks associated with the development of highly innovative and firm-specific skills are typically covered by the firm. It is therefore critically important that the firm adopts two strategies to sustain its advantage. The first is related to the leveraging of the innovation, for example, by using the solution generated across various client markets, thereby creating a need by competitors to gain access to a particular product or service in order to remain competitive. The second strategy is motivational in nature; knowledge workers who operate continuously in this orientation may face a 'burn-out' challenge, i.e. they may be dealing with the most demanding clients who require the most innovative outputs. In these

contexts, it is important to develop both client relationship management skills that may address the strains of a demanding client but also offer additional rewards such as the showcasing of exceptional achievements which recognises that both the individual and the team would be necessary to maintain the motivational contract of employees in these highly pressurised and demanding contexts.

Our case examples illustrate that firms are likely to engage in a combination of innovative orientations, i.e., they adopt ambidextrous solutions (Kang et al., 2012) linked to different types of clients. In some cases, the firm may adopt a *structural ambidexterity* solution to generate both firm-specific and client-specific human capital, with some client teams or departments engaging in exploratory work and others in exploitive work only. However, this challenges the motivation and retention of human capital. Another approach is to use *project-based ambidexterity* where the innovation orientation evolves through the stages of the client engagement process, e.g. a consulting firm may re-use tried and tested analytical techniques as part of a long-term co-operative relationship with clients which have novel outputs. A third approach is *career-ambidexterity* where the innovation orientations are developed through the various stages in the employee's career. Innovative outputs created at the beginning of an engagement by senior professionals but may subsequently be exploited by junior staff. This in turn, provides an opportunity for mentoring and a clear incentive structure, which enhances the firm's ability to retain knowledge workers and ensure future success.

Conclusions

In this chapter, we have illustrated how configurations of both human and client capital underpin innovation, which emphasises the important role that HRM plays in generating competitive advantage. First, we defined innovative outputs that include both exploration and exploitation (March, 1991). Second, we paid attention to the *interplay* between human (firm-specific and client-specific) and client capital (opportunistic and co-operative) in the generation of innovation. In particular, we drew on extensive empirical research in contemporary contexts where knowledge workers predominantly work across organisational boundaries. Third, we identified four innovation orientations (Regenerate, Refresh, Re-invent and Re-use) each of which presents particular advantages and tensions which need to be managed in order to sustain the firm's competitive advantage. The identification of these orientations and their associative resource configurations enabled us to understand

how the firm generates a competitive advantage in contemporary contexts as well as the specific role that HRM practices play in enabling innovative outputs.

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Part III

Leadership and Innovation

11

A Bird's Eye View of the Creativity–Innovation Nexus: The Moderating Role of Supervisor Support and Decision Autonomy

Matej Černe, Tomislav Hernaus, Anders Dysvik and Miha Škerlavaj

Introduction

Creativity is a necessary, but insufficient antecedent of innovation, which also includes the finalising step, that is, the implementation of creative ideas. Therefore, it is imperative for managers and HR experts alike to know how to stimulate both employee creativity and individual innovation, as the latter ultimately provides a tangible value for the firm (Baer, 2012). In order to obtain a deeper understanding of the mechanisms and foundations for individual innovation outcomes, recent research on creativity and innovation has examined a diverse set of their antecedents.

Despite the increased interest in this relatively new topic of research, questions remain concerning innovative work behaviour (IWB) requirements against a backdrop of innovation and change. While organisations are increasingly seeking to use individual creativity, the role of HRM (compared to other contingencies such as personal predictors, organisational or team climate and employee connectedness/organisation; Baer, 2012) is rather under-researched. Specific HRM practices, such as job design, i.e. how to design the workplace to foster creativity and innovation, have received little attention in the literature, especially among the HRM and OB scholars. Furthermore, existing studies have predominantly applied a single-level perspective, and were thus mostly unsuccessful in correctly estimating cross-level contextual influences and interactions with individual-level factors

in predicting the transformation of creative ideas into implemented innovations.

The aim of this chapter is to investigate the interplay between organisational and job factors in stimulating the innovation process. We discuss how perceived supervisor support and decision autonomy moderate the creativity–innovation nexus. In conceptualising our arguments about the proposed connections, we draw on the theoretical framework of the Self-Determination Theory (SDT; Deci & Ryan, 1985). The core premise of the SDT is that individuals can be proactive and engaged in beneficial activities as a function of social-contextual conditions (Ryan & Deci, 2000). These conditions influence the satisfaction of three innate psychological needs – autonomy (i.e. possessing opportunities to choose), competence (i.e. the need to feel like you are able to perform the task at hand successfully), and relatedness (i.e. the need to feel belongingness and connectedness with others). When these are satisfied, they yield most effective functioning (Gagné & Deci, 2005; Ryan & Deci, 2000).

After defining the multi-stage and multi-level nature of the innovation process, we focus on the link between idea generation and implementation at the individual level, and examine the importance of perceived supervisor support (organisational-/managerial-level) and decision autonomy (job–employee-level) for transforming creative ideas into implemented innovations. We suggest that this moderation occurs through fostering employees' perceptions of psychological states of competence, relatedness and autonomy, as predicted by the SDT. Taken together, this chapter is conceptual in nature, as it aims at uncovering the workplace features related to job design, leadership and personal characteristics conducive to working creatively and implementing creative ideas, and HRM and OB practices that represent a crucial stepping-stone towards fostering organisational innovation.

We contribute to the literature by relating to multi-level theory (Kozlowski & Klein, 2000) and taking a cross-level perspective in examining top-down contextual influences and cross-level interactions in predicting individual-level creativity and innovation. This approach is important because it helps to estimate accurately and unravel the key contingencies involved in the individual-level innovation process. By examining both creativity and innovation within the same model (focusing on the relationship between them), we connect diverse streams of literature on those constructs that were previously examined separately. Our discussion offers several research propositions that could potentially drive future research efforts. A practical contribution of this chapter focuses on the people-related challenges of achieving creativity

and innovation in organisations and discussing the implications of our findings for HRM in small and medium-sized enterprises (SMEs).

Individual innovation as a two-stage multi-level process

Creativity at the individual level provides the foundation for individuals, groups and organisations to pursue innovative efforts. Previous research on creativity at work, rooted in the historic traditions of psychology, focused either on examining the antecedents of creativity or on investigating the drivers of implementation. The first part has mostly been covered within the behavioural research on individual creativity, whereas the second represents the domain of organisational research on innovation (Woodman, Sawyer & Griffin, 1993). Separate research streams of creativity and innovation do little favour to the field in terms of providing a comprehensive understanding of the 'black box' of the innovation process.

Recently, the relationship under examination has been increasingly addressed through individual innovation – a multi-dimensional construct that can be viewed in terms of different types (e.g., product, service and process), levels (e.g., radical and incremental) or stages. The latter, dynamic aspect of the innovation process is increasingly relevant and under-investigated. The stages or phases of the innovation process detail the major steps that a creative idea must go through in order to become fully realised. While IWB can be conceptualised as a two-, three-, four- or five-stage process, we simply envision the individual innovation process as consisting of idea generation and implementation, where creativity is 'the seed of innovation'.

By taking a binary perspective of IWB it is possible to identify similarities and differences present within the innovation process. Recent studies by Baer (2012) and Škerlavaj, Černe, Hernaus, and Dysvik (2014) have found that the relationship between individual creativity and innovation implementation is not as straightforward and linear as it seems. Therefore, examining the moderating roles of contextual (managerial and job) factors on the relationship between idea generation and implementation at the individual level offers promising avenues to advance research on the micro-foundations of innovation. We follow the study of Škerlavaj et al. (2014) who conceptualised and tested a curvilinear, inverse U-shaped relationship between creativity and innovation, and account for such a shape in theorising about our propositions and potential moderating factors.

In practical terms, this implies that moderate levels of creativity are most beneficial for individual innovation implementation. Conceptualisation

of such a relationship is based on the fact that excessively creative ideas are usually based on the novelty aspect of creativity during the idea generation stage. Very novel ideas might be difficult to implement due to their out-of-the-box nature and the resistance of others that may arise because of their risky nature. The implementation of creative ideas into innovative processes or products challenges established power structures, which is why it is likely that this will conflict with certain interests within the organisation (Janssen, Van de Vliert & West, 2004). Some creativity is required for ideas to be noticed as being different from the previous status quo, but too much novelty may cause too much resistance in the organisation for ideas ever to be implemented.

Maximising the conditions fostering creativity is unlikely to translate directly into innovation implementation. Whilst the implementation part seems to be critical in introducing organisational changes, most empirical studies have so far focused on creativity rather than implementation. Studies directly examining working conditions in an idea implementation phase hardly exist (e.g. Hernaus, 2016), and the positive linear relationship between employee creativity and innovation implementation has been largely presumed in the literature.

Whereas Shalley et al. (2004) drew our attention and recommended that the creativity and innovation relationship should be studied more thoroughly, Sarooghi et al. (2015) took matters a step further and have recently provided the first meta-analytical review of the issue. They reported a positive relationship between creativity and implementation, particularly at the individual level. However, their meta-analysis did not provide cross-level data about important moderators of the innovation process, and did not offer an appropriate theoretical framework for understanding its complex nature. In this chapter, we build upon the work of Baer (2012) and move beyond the person-centric and single-level perspective in examining the process of translating creativity into innovation. We have accounted for the person-context interaction that is consistent with the SDT by simultaneously examining individual traits or behaviour (creativity as a predictor variable) and contextual factors (supportive supervision and job autonomy).

Multi-level factors of employee creativity and individual innovation

An overview of cross-level effects on employee creativity and innovation implementation

Although it is undeniable that creativity stems from individual ability, whether or not individual creativity is activated, exercised and channelled

into the final products or services is a function of the work environment or the contextual characteristics. Such an *interactionist* model of creativity has been originally proposed by Woodman et al. (1993), arguing that multiple components must converge for creativity to occur. A systematic review of the literature has identified potentially salient factors of creativity and innovation at four different levels: organisational, team, job-related and personal/individual. We will firstly examine the well-established antecedents of creativity, followed by less investigated factors shaping implementation stage of the innovation process.

At the individual level, personal factors such as extraversion, openness or conscientiousness (Feist, 1998) were frequently posited as predictors of creativity. The same applies for attitudes such as positive mood or a risk-taking/experimental attitude (Harvey & Novicevic, 2002). Motivational research into creativity has singled out intrinsic motivation or creative self-efficacy (Tierney & Farmer, 2002) as crucial predictors of creative performance. Moving beyond individual factors, the social research of creativity argues that creativity is an interactive construct involving social interactions, collaboration, creative requirements and creative tensions leading to novel ideas (Perry-Smith, 2006).

Naturally, whether or not employees at work will be creative also depends on the job-related context. Factors related to the SDT as drivers of positive psychological states, such as job autonomy or task interdependence (Amabile, 1998), job complexity (Campbell, 1988) or task variety (Taggar, 2002) are frequently identified as key components of a stimulating, creative work environment. Oldham and Cummings (1996) indicated the relevance of various job characteristics for predicting creativity at work, while Hammond et al. (2011) concluded that jobs could eventually be designed to promote creativity. In particular, if we give employees freedom and provide them with higher levels of control of their work, they will be more able to provide creative inputs.

Team-level context at work has also been examined as a circumstantial factor of creativity. Phenomena, such as climate (empowerment, safety, innovation etc.; Hunter, Bedell & Mumford, 2007) have been linked to creative performance. Recent meta-analytical evidence stresses the impact of evaluative information on creative processes at work (e.g. Hammond et al., 2011). Apparently, the situational cues concerning the criteria for success or failure in the work environment can contribute significantly to the increase or decrease in creative performance, thereby highlighting the importance of the team-level motivational climate for creative work.

Creative performance of employees quite often depends upon the leadership, which is demonstrated by several conceptualisations and

empirical studies (e.g. Oldham & Cummings, 1996), be it at the individual (leadership perceptions), team or organisational level. Evidence suggests that inducements at levels above an individual, such as establishment of a positive motivational climate or supervisor and social support (Amabile et al., 1996), indirectly influence individual creativity, mostly because they help to develop employees' positive emotional states, such as psychological safety, or through building the appropriate climate for stimulating creativity (Ekvall, 1996). Employees feel safer and more confident, which in turn boosts their creativity.

The study of idea implementation, i.e. innovation at the individual level, is a bit more short-handed, especially in terms of empirical research. With recent studies of Axtell et al. (2000), Baer (2012), and Škerlavaj et al. (2014), the study of individual innovation, in particular transforming creative ideas into innovative solutions, gained momentum. Hammond et al. (2011) argued that contextual factors, such as leadership, become more important for successful implementation rather than for the mere generation of creative ideas. On the other hand, Škerlavaj et al. (2014) and Baer (2012) focused more on the importance of employee relationships at work (i.e. networking skills, resource allocation or job design).

Out of the variables mentioned that might be relevant for enhancing either creativity or the implementation at the individual level, we have selected two that might be particularly relevant. This selection is influenced by the over-arching theory of this chapter – the SDT that intertwines to form the basis for our interplay-predicting research propositions. As cross-level moderating effects of supervisor support and decision autonomy could potentially represent key features of the innovation process, the focus has been placed on these two contextual factors of influence on creativity and innovation implementation.

Supervisor support as an organisational-level factor of creativity and innovation

Leadership issues in creativity research have been thoroughly examined. Findings suggest that certain types of leadership behaviours induce employees' perceptions of leader or supervisor support that is conducive to their subsequent creativity. These leadership behaviours involve emotional support, and more instrumental support forms (Amabile, Schatzel, Moneta & Kramer, 2004). Supervisory encouragement presents the latter one, and facilitates employees with tasks, ensures they develop the expertise necessary to perform well and elicits the intrinsic motivation for creative work (Amabile et al., 1996).

In line with the organisational support theory and SDT, supervisor support includes providing help and resources to the subordinates (Shanock & Eisenberger, 2006). Thus, the majority of leaders' effectiveness in stimulating creativity can be explained through social influence (Mumford, Scott, Gaddis & Strange, 2002), making supportive supervision a beneficial factor of employee creativity. Highly creative tasks are often poorly defined and do not need control, but require at least some level of structuring, routinisation and direction. Close relations with supervisors, manifested in perceived supervisor support that can provide structure, may help improve employee perceptions of self-competence and influence the internalisation (Ryan & Deci, 2000) of creative work, enhancing their perceptions of competence and relatedness. In other words, leaders need to know how to provide a context for employees' creativity in order to stay competitive in today's turbulent and fast-changing working environments.

The SDT concurs that job characteristics are one way of stimulating motivation, but the interpersonal style of supervisors seems to be even more important (Gagné & Deci, 2005). This is also consistent with findings from creativity and innovation literature. Contextual factors, in particular team leadership and management support, were shown to be more important for implementation than for idea suggestion (Axtell et al., 2000; Oldham & Cummings, 1996). Therefore, supervisor support is the key to enhance employees' perceptions of competence and relatedness. When these are satisfied, they yield most effective functioning (Gagné & Deci, 2005; Ryan & Deci, 2000). The determination and engagement in implementing innovative ideas stem from satisfied psychological needs (Cadwallader, Jarvis, Bitner & Ostrom, 2010).

Decision autonomy as a job-level factor of creativity and innovation

Along with organisational characteristics such as organisational climate and supervisory practices, researchers have maintained that individual creativity can be enhanced by appropriate job design (e.g. Hammond et al., 2011). Job autonomy provides employees with the resources to experiment and, thus, to be creative. Its pivotal role in fostering the innovation process has been well-documented, particularly for facilitating decision-making within the creativity stage (Amabile, 1983). For example, employees occupying expert positions are expected to be autonomous while solving business-related problems. Because such problems are often complex in nature and unexpected or novel, knowledge

workers such as engineers, consultants or physicians need to find creative solutions as a part of their job requirements.

According to the SDT, a direct focus on autonomy is crucial for identifying contextual and individual factors that promote one's creativity (Deci & Ryan, 2008). Providing employees with the freedom and independence to determine which procedures should be used to carry out a task may increase the likelihood that they would be willing to implement them within their job. In addition, job autonomy is important for creative work involvement as it provides employees with a sense of responsibility for their jobs.

Although studies have shown that autonomy is the most important aspect of the work environment that fuels individual creativity, it has also been found that discretion at work relates positively to innovative behaviours (Amabile, 1983; Axtell et al., 2000). Unsworth (2001) goes even further and suggests that job autonomy is more strongly related to the implementation of ideas as opposed to the initial generation of ideas.

Cross-level effects of supervisor support and decision autonomy on the creativity–innovation link

Leaders can use both formal and informal means for stimulating employee creativity and innovation implementation. By designing autonomous jobs and providing employees with an opportunity to choose their working methods, define work scheduling and practise discretion at the workplace, they formally send the 'be creative' message to their subordinates. However, less formal engagement of supervisors within the innovation process is also important. Supervisors need to provide additional, informal support in order to boost innovative performance. Creative employee ideas very often cannot be realised without having a strong wind in the back and if a supervisor's attitude "I am with you" is missing. Supervisors need to be there for their subordinates in order to encourage them, as well as to provide a necessary advice, direction or resources when needed. The moderating influence of formal job requirements and informal supervisor support can significantly shape the innovation process outcomes (see Figure 11.1). Therefore, their role should be more thoroughly described as it follows.

Rosing et al. (2011) indicated that a single leadership style can not constantly promote innovation effectively. Instead, particular leadership traits or mechanisms for influencing employee behaviour are more important. Supportive supervision might be the key and it has also been

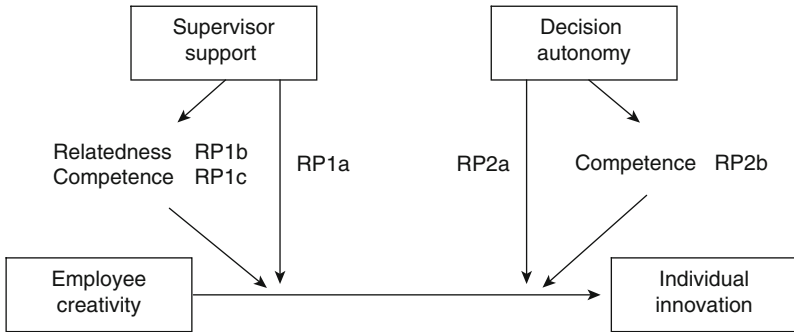


Figure 11.1 The relationship between employee creativity and individual innovation moderated by supervisor support and decision autonomy

shown to be essential in bringing creative ideas to fruition in terms of innovation implementation at higher levels (Mohamed, 2002). This is consistent with a recent meta-analysis (Rosing et al., 2011), which showed that supervisor support is more important for implementing than for generating ideas. This is additionally supported in the latest study by Škerlavaj et al. (2014). However, we propose an alternative explanation, one that bases its arguments on self-determination and intra-psychic processes as a consequence of supportive supervision, rather than resource allocation.

Supervisor support can also represent an important mechanism for connecting employees to the supporters needed for implementation (Škerlavaj et al., 2014), and thereby preventing alienation that can happen to individuals who get caught up with highly creative work. Employees are more likely to adopt activities that relevant social groups value, i.e. innovation implementation that provides a tangible value to the firm, when they feel efficacious in those activities (Ryan & Deci, 2000). In this way, individuals' relatedness with the supervisors and others increases, helping to produce a climate or context that is supportive of innovation – by promoting creativity and providing assistance and support for implementation, thereby facilitating relatedness. The satisfaction of this psychological need is crucial for the internalisation of the task (Ryan & Deci, 2000) and thus more successful implementation of highly creative ideas.

In practical terms, highly-supportive supervisors understand employees' perspectives better, welcome their initiative and provide feedback in a constructive rather than a controlling way, encouraging

subordinates to display more positive work-related attitudes (Gagné & Deci, 2005). This helps to improve the perceptions of fairness and reduce the levels of stress related to innovation (Janssen, 2004) because it enhances feelings of security. Positive and intense collaboration with a supervisor can increase an employee's self-efficacy, eventually boosting IWB. In addition, mutual understanding between supervisor and subordinate can influence the internalisation of the fact that very creative ideas also need to be implemented if an organisation is to have any benefit from them. Taken together, supportive supervision that is manifested through constructive feedback and open communication influences the feelings of competence that can enhance intrinsic motivation for the action at hand, such as implementation of highly creative ideas (Ryan & Deci, 2000).

An example of applying self-determination in leading for innovation is the case of Kelvingrove Gallery and Museum (Liedtka & Salzman, 2009). A new director came on board to renovate the building that soon became Scotland's most popular tourist destination. He has done so by utilising an innovative style of management that he describes as 'maze behaviour' – trial-and-error learning by engaging the curators (through a number of personal briefing meetings) into creating exhibits based on stories rather than professional classification. The director's belief that he can make a difference has thereby spilled-over to his colleagues at the museum. He was able to bring the staff along by building upon their self-perceptions of confidence and relating them into a joint community by remaining consistent over time. He claims that "[innovation] is often about removing obstacles [including those in people's minds] and securing resources" (Liedtka & Salzman, 2009).

The motivation for innovation implementation is therefore more likely to flourish in contexts characterised by a sense of security and relatedness (Ryan & Deci, 2000). Therefore, the implementation of highly creative ideas increases when employees are both able (competence) and enabled (relatedness) to participate in decision-making (Anderson & West, 1998), which both stem from supportive supervision. Otherwise, although a person can generate new ideas alone, the implementation of ideas will be questioned in the absence of the approval, support, and necessary resources (e.g. Axtell et al., 2000).

Research Proposition 1a: *Supervisor support moderates the relationship between employee creativity and individual innovation: the relationship is positive and linear for employees who perceive high levels of supervisor support. The relationship is, in general, weaker and curvilinear with an inverted U-shape for employees who perceive low levels of supervisor support.*

Research Proposition 1b: *Relatedness mediates the moderating effect of supervisor support on the relationship between employee creativity and individual innovation.*

Research Proposition 1c: *Competence mediates the moderating effect of supervisor support on the relationship between employee creativity and individual innovation.*

While external support initially represents an important predictor of innovation, structural job changes are more important in the long run. Cognitive evaluation theory, presented by Deci and Ryan (1985) as a sub-theory within the SDT, specifies that competence and relatedness cannot enhance intrinsic motivation and engagement in the task unless accompanied by a sense of autonomy. Individuals must experience their behaviour as self-determined, which means they must perceive an internal locus of causality for their motivation to be in full effect (Ryan & Deci, 2000). In a high decision autonomy condition, an individual has the freedom to choose a method and procedure to get the work done (Zhou, 1998). The more decisions they can make on their own, the more effort will be put into implementing their own creative ideas. In other words, the person-job integration process of innovation implementation is assured by the decentralisation of decision-making in order to promote autonomy (Drach-Zahavy, Somech, Granot & Spitzer, 2004).

Autonomy itself facilitates the perceptions of self-competence that employees need in order to overcome difficulties connected with the implementation of highly creative ideas. This is illustrated by the well-known examples of Google, 3M and Virgin, who allowed their employees to devote a portion of their time to personal (side) projects. As a result, not only creativity but also implementation flourished, offering innovations such as Gmail and AdSense. Particularly interesting and somewhat less familiar example is the case of FINN.no, Norway's largest online marketplace (Hauglum et al., 2014). Founded in 2000, it was already twice named the Greatest Place to Work in Norway (2011 and 2012). Knowing there's a strong link between employee engagement and innovation capacity, the company pursues a strong people-practice for innovation. It has defined a high-level process to visualise the connections between goals and where teams and individuals have different levels of autonomy. When goals are prioritised and understood, teams or individuals can go about creating insights, generating ideas and finding the right actions to implement. Employees are encouraged to conduct experiments without formal authorisation procedures in order to generate and deliver creative ideas. According to their corporate logic, idea generation needs direction; however, if you want ideas

with impact you need an empowered problem owner (i.e. a knowledgeable and competent employee) who can take ownership for execution (Hauglum et al., 2014).

On the contrary, if an individual works in a low autonomy environment with little freedom to decide how to work on a task and having little control over its execution, he or she is likely to experience diminished intrinsic motivation (Zhou, 1998) to work towards the implementation of creative ideas. While, in studies on task autonomy, the tendency is to assume that job characteristics remain the same over time (Amabile et al., 1996), autonomy requirements seem to transform throughout the innovation journey. We propose that the moderating effect of decision autonomy makes the relationship between idea generation and implementation positive and linear, thereby increasing the implementation levels of highly creative ideas.

Research Proposition 2a: Decision autonomy moderates the relationship between employee creativity and individual innovation: the relationship will be positive and linear for employees with high levels of autonomy. The relationship will be, in general, weaker and curvilinear with an inverted U-shape for employees with low levels of autonomy.

Research Proposition 2b: Competence mediates the moderating effect of decision autonomy on the relationship between employee creativity and individual innovation.

Conclusion with implications

Relational and social aspects of job design that might stimulate initiative in examined processes have been underestimated in past research. Thus, we drew on the SDT and proposed moderating roles of supervisor support and decision autonomy through mechanisms of competence and relatedness, buffering the curvilinear relationship (Škerlavaj et al., 2014) between creativity and innovation in order to make it positive and linear. The elements of the SDT can be used as managerial remedies to unlock the potential of highly creative individuals with 'overly' novel ideas.

Our theoretical discourse suggests two practical paths that organisations can take in order to improve the implementation of highly creative ideas. First, supervisors should exhibit high levels of instrumental and socio-emotional support. This can contribute to the creation of a more desirable climate denoted by relatedness and serve as a practical way in which to provide more tangible resources (e.g. via training) to stimulate competence. Second, we show that creative employees need high levels

of decision autonomy in order to feel more competent, which in turn helps them to bring their creative ideas to fruition. While this situation is known in the case of creativity, it may, in fact, be surprising for innovation. It is not the control that is suitable for implementation, but rather tight supportive relationships with supervisors, accompanied by high levels of autonomy that are positively related both to creativity (Amabile et al., 1996) and innovation (Spreitzer, De Janasz & Quinn, 1999). Managers who seek to increase innovation implementation from creativity among their employees should ensure that employees have a sense of control over their situations rather than provide a tight control with little support and guidance. Even if employees are very creative, this approach would stifle their idea implementation and detrimentally influence on individual innovation.

Since this study was conceptual in nature, our contributions relate to initial conceptualisations of the contextual influences, boundary conditions and especially interactions among personal, job design and managerial-level variables that are salient for either creativity or innovation, and for their relationship at the individual level. We have done so by applying the elements of the multi-level theory in addition to the SDT as our over-arching framework. Future research should test our propositions empirically with a two-level approach, applying random coefficient-modelling techniques (hierarchical linear modelling/multi-level analysis).

Research propositions can be applied to both large organisations and even more so to SMEs, in light of the fact that small firms may not have an abundance of resources to effectively implement creative ideas, but rather need to capitalise on employees' creative ideas and their motivational states. They are also less bureaucratic and may be in a better position to generate novel and useful ideas than larger firms, through developing a supportive and autonomous work context. Therefore, they should be more focused on improving innovation implementation, while large organisations still struggle with stimulating creativity among individuals and teams. Nevertheless, future research should also tackle the differences in the cross-level innovation processes in different sizes of firms and industries, and test additional work-environment variables, such as the nature and quality of relationships with colleagues and work climate, as both could influence the proposed associations.

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12

Leadership Style and Behaviour, Employee Knowledge- Sharing and Innovation Probability

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Introduction

The importance of innovation for sustained national and firm competitiveness is widely acknowledged by scholars, practitioners and policy-makers (Cho & Pucik, 2005; OECD, 2012). Firms with higher levels of innovation will be more successful in responding to changing environments of deepening globalisation, increased competitiveness, rapid technological change and shorter product life cycles (Manso, 2011; Rosenblatt, 2011) and in developing new capabilities that will allow them to achieve better performance (Montes et al., 2004). Highly innovative firms ensure that a broad range of employees are involved with innovation and recognise the importance of employee-driven innovation (Høyrup, 2012). Such firms are also likely to have leaders with behaviours that are conducive to enhancing employee-driven innovation, of which knowledge-sharing is likely to be critical (Mumford et al., 2002).

While innovation is a critical performance output for sustained competitive advantage, knowledge is a fundamental input to stimulate innovation in organisations (Foss, et al., 2010). The knowledge-based perspective depicts firms as repositories of knowledge and competencies (Grant, 1996; Spender, 1996). Knowledge sources are fundamental to enhancing innovation in organisations and enable the creation and appropriation of value (Grant, 1996; Nonaka & Takeuchi, 1995; Wang & Noe, 2010). Specifically, researchers have identified the importance of knowledge-sharing between key stakeholders within, across and external to the organisation (Foss, et al., 2010) and its role in

enhancing the capability of an organisation to innovate (Daellenbach & Davenport, 2004).

Knowledge-sharing, in this chapter, refers to the collective beliefs or behavioural routines related to the spread of learning among different individuals or units within an organisation (Moorman & Miner, 1998). Prior research has demonstrated that knowledge-sharing can lead to increased innovativeness of firms (Tsai, 2001). A growing body of research has examined knowledge management in general (Hansen, 2002; Lu et al., 2006; Teece, 1998), and factors that facilitate knowledge-sharing, in particular (Davenport & Prusak, 1998; Lu et al., 2006). Yet, little is known about the role of leadership in facilitating employee knowledge-sharing (Nonaka & Toyama, 2005). Leadership styles and leadership behaviours have increasingly been recognised as pivotal for encouraging – or constraining – employees to share knowledge.

While innovation and knowledge-sharing are generally recognised as being inherently related, the complex processes that contribute to this relationship are not well understood. The current study contributes to this gap by examining the role of leadership styles and behaviours in facilitating employee knowledge-sharing. The specific research questions examined in this chapter are as follows: (a) How do leadership styles and behaviours influence employee knowledge-sharing?; and (b) is employee knowledge-sharing positively associated with higher rates of innovation? A multi-respondent, longitudinal approach is used to reflect input from key stakeholders within the sample organisations (e.g., subsidiary managers; R&D specialists; and employees) (Sanders et al., 2014).

The region of Central and Eastern Europe (CEE) provides an excellent context in which to examine the relationships between leadership styles, behaviours, employee knowledge-sharing and innovation. Since the enlargement of the European Union (EU) in May 2004, the CEE region has been a significant recipient of foreign direct investment (FDI) flows and is an important emerging region on the global economic landscape (Jimborean and Kelber, 2011).¹ The three study countries – the Czech Republic, Hungary and Poland – have been the major regional destinations for FDI inflows since the mid-1990s and in 2012 received almost US\$27.5 in FDI (compared to India's US\$25.5; and 23% of the size of China's US\$121,080 inward FDI in 2012) (UNCTAD, 2013). In the case of Poland and Hungary, the number of FDI projects rose 40% and 38% respectively from 2009 to 2010 (Allen & Overy, 2011). Despite the inward flows of FDI, an understanding of management practices, and especially employee behaviours, in CEE firms remains limited (Pocztwoski, 2011).

In addition, managers in this region have a historical legacy of executing communist ideology and keeping control over employees through administration and monitoring (Hetrick, 2002). During the transition period – throughout the 1990s – companies in the CEE region struggled to restructure and survive. Given their leadership roles in organisations, many – managers in general – became associated with job loss and often protracted periods of long-term unemployment for individuals who found it difficult to obtain employment in private sector companies. This potentially contentious context in which managers in this region operate may constrain employee knowledge-sharing, so leadership styles and behaviours may be of particular importance.

The chapter first reviews the relevant literatures and, based on this review, a set of six progressive hypotheses are posited; the study's method and sample are then described; the results presented; and the chapter concludes with a discussion. Finally, limitations are recognised which identify avenues for future research.

Literature review

Leadership styles and knowledge-sharing

Few studies have examined leadership styles and leadership behaviour simultaneously, especially in relation to their potential implications for performance outcomes. Leadership style has increasingly been recognised as a strategic factor influencing knowledge and innovation (Nonaka & Takeuchi, 1995). Transformational leadership, unlike 'transactional' or authoritarian leadership, should help to stimulate knowledge transfer and innovation. Transformational leaders encourage good communication networks and enable transmission of knowledge. Transformational leaders are also linked to the generation of knowledge slack, increased absorptive capacity and transfers of explicit and tacit knowledge of individuals, groups and organisations. They also positively influence learning in their organisations. All of these influences of transformational leadership should have a positive effect on innovative behaviour.

Moreover, transformational leaders serve as role models and guides, articulating a shared vision of innovation and such leaders also have charisma and can help to inspire and intellectually stimulate their employees (Bass & Avolio, 2000).

Empirical evidence of a positive association between transformational leadership and innovation is reported in the comprehensive study by García-Morales et al. (2008) who find that the relationship is

operationalised by such leadership developing a foundation of organisational knowledge within organisations. Although focusing on group creativity (a potentially important input into innovation), Zhang et al. (2011) found that transformational leadership was positively associated with group creativity through increased knowledge-sharing among group members; whereas authoritarian leadership had a negative effect on knowledge-sharing and group creativity.

Hypothesis 1 Transformational leadership will be positively associated with knowledge-sharing.

Leadership behaviours and knowledge-sharing

While transformational leadership reflects a specific style of leadership that is expected to influence knowledge-sharing, the potential for supportive leadership behaviours (defined as modelling collaboration and knowledge-sharing and encouraging information exchange, openness, and idea-sharing) (Carmeli, Gelbard & Reiter-Palmon, 2013) is also expected to indirectly influence knowledge-sharing through their influence on norms and climate of work groups. A climate that emphasises open communication has been found to enhance knowledge-sharing and leaders are instrumental in developing work climates that are conducive to knowledge-sharing and innovative solutions (Tjosvold, Yu & Wu, 2009).

Despite a substantial body of research that examines ties (e.g., through their frequency and closeness – ‘strength’ of ties) and knowledge exchange, less is known about the ways in which relational ties cultivate and build knowledge-sharing. Leadership behaviours toward knowledge-sharing are likely to have a critical influence on the development of relational capital, which is widely recognised as crucial for knowledge-sharing. Previous research suggests that leadership is important for enhancing employee creativity (Mumford & Hunter, 2005). Carmeli et al. (2013) find that leader-supportive behaviours facilitate knowledge-sharing and employee creative problem-solving capacity, which enhance creative problem-solving capacity. Influenced by Carmeli et al. (2013), it is posited here that leaders who base knowledge-sharing and collaborative behaviours and encourage information exchange, openness, and idea-sharing are more likely to motivate individuals to share and exchange knowledge within and outside the organisation.

Hypothesis 2 Pro-knowledge sharing leader behaviours are positively related to knowledge sharing.

Given that both transformational leadership and pro-knowledge sharing leader behaviours are hypothesised to be positively associated with knowledge-sharing, the interaction between leader style and leader behaviours is also expected to be positive.

Hypothesis 3 The interaction effect between transformational leadership and pro-knowledge sharing leader behaviours will be positively related to knowledge-sharing.

Knowledge-sharing and innovation

Knowledge-sharing is understood in this chapter to refer to activities aimed at transferring or disseminating knowledge from one person to another (Lee, 2001). Research has consistently shown that knowledge-sharing is positively associated with reduced production costs, faster completion of new product development projects, team performance, innovative performance, and other firm performance measures, including sales growth and revenue from new products and services (e.g., Collins & Smith, 2006; Cummings, 2004; Hansen, 2002; Lin, 2007).

Given these potential benefits, organisations have invested considerable resources in knowledge management systems (KMS) initiatives yet vast amounts of knowledge remain unshared in organisations (Babcock, 2004). Wang & Noe (2010) suggest that an important reason for the failure of KMS to facilitate knowledge-sharing is the lack of consideration of how the organisational and interpersonal context, as well as individual characteristics, influence knowledge-sharing.

Knowledge management scholars have recognised that knowledge creation processes are central to innovation (Collins & Smith, 2006; Nonaka & Takeuchi, 1995). The knowledge-based view depicts firms as repositories of knowledge and competencies (Grant, 1996; Spender, 1996). While knowledge creation is important, it is the sharing of knowledge that is critical for innovation (Foss, et al., 2010). Knowledge-sharing enables the capture of existing knowledge both within and outside the organisation. The synthesis of this knowledge enhances the capacity of employees to develop new platforms for the development and introduction of new products and services and new processes within their organisation (Nonaka & Takeuchi, 1995; Wang & Noe, 2010). If knowledge is not shared, however, experience and expertise will not be utilised to their full potential (Hansen, 2002) and is therefore, unlikely to significantly influence innovation. It is therefore posited that:

Hypothesis 4 Knowledge-sharing is positively associated with innovation.

There is no *a priori* reason to expect that a transformational leadership style or pro-knowledge-sharing leader behaviours will have a direct effect on innovation, rather the leadership variables are expected to positively interact with knowledge-sharing, which, in turn, is expected to be positively associated with innovation.

Hypotheses 5 (a and b) The relationship between knowledge-sharing and innovation will be moderated by (a) leadership style and (b) leader behaviours, such that there will be positive interactions between the two measures of leadership, knowledge-sharing and innovation.

Finally, given the expected positive interaction between the two leadership variables and knowledge-sharing, posited in hypothesis (3), the final hypothesis is as follows:

Hypothesis (6) Leadership style and leadership behaviours will interact positively with knowledge exchange, such that subsidiaries with higher levels of transformational leadership and pro-knowledge sharing leader behaviours will have higher rates of innovation.

Methods

Population and case study sample characteristics

The rationale for the selection of the three study countries was that they were the significant recipients of significant UK foreign direct investment (FDI) flows at the time of the commencement of the study (Trade and Industry Committee, 2007).² The Dun and Bradstreet's (D&B) Global Reference Solution (GRS) (D&B, 2013) provided the population. The GRS database is the most comprehensive and detailed source for information on complex organizations, specifically MNCs (see Henriques, 2009 for details). To control for potential 'country of origin' effects, the study focused on UK-owned MNCs only (see Edwards et al., 2007 for a detailed discussion). The other criterion for the sample was that the subsidiary had to employ over 200 people (to be consistent with Cranet criteria at the time of the original survey in 2010 (Cranet, 2011) and have subsidiaries in at least one of the three study countries. Three hundred and seventy-eight organisations met the selection criteria (158 in Poland, 128 in the Czech Republic and 92 in Hungary).

Research method

Similar to Shipton et al., 2006, this was a longitudinal study, which involved collecting data at two specific points in time. At time 1 (December 2009–March 2010) and time 2 (January–March 2013). Data were collected from multiple respondents: the subsidiary general manager; HR manager/specialist; senior line manager; R&D manager/specialists; and employees. Given the focus of this chapter, responses from the subsidiary general managers and, where available (70 subsidiaries) from the R&D manager/specialist and employees are analysed.

The method used to collect the data from the managers was a large-scale telephone survey conducted by a professional survey company.³ Following Carmeli et al. (2013), we asked either the subsidiary manager or HR manager, to identify employees who were engaged in knowledge creation at work (e.g., involved in the development of new services, products and technology). Such employees were present in every subsidiary.

Completed ‘matched’ managerial interviews were achieved in 143 foreign subsidiaries, representing a response rate of 37.8%. Nine hundred and forty-two completed and usable employee surveys are utilised in the analysis. Due to missing data, 128 subsidiaries are included in the estimations. Forty-six of the study subsidiaries were based in Poland, 42 in the Czech Republic and 40 in Hungary. A two-stage Heckman test was used to test for response bias. The results were not statistically significant.

Measures

Transformational Leadership Style (Employees, Time = 1 (2009–2010)) (n = 946)

The strategy and leadership literatures include research that measures transformational leadership (Kusunoki, Nonaka & Nagata, 1988). We used the scales tested in a study with parallels to this one by García-Morales et al. (2008) for diverse aspects of transformational leadership to reflect employees’ perceptions of transformational leadership of managers within their subsidiary.

The questions asked were as follows: (1). The subsidiary’s management is always on the lookout for new opportunities for the unit/department/subsidiary; (2). The subsidiary’s management has a clear common view of its final aims; (3). The management succeeds in motivating the rest of the subsidiary unit; (4). The management always acts as the subsidiary’s

leading force; and (5). The subsidiary has leaders who are capable of motivating and guiding their colleagues on the job. Consistent with prior research on transformation leadership, which has validated the use of a single scale to represent transformational leadership (Judge & Bono, 2000), all items were averaged into a single measure. The Cronbach's alpha for this measure was 0.89.

Pro-Knowledge Sharing Leader Behaviours (Employees, Time = 1 (2009–2010)) (n = 946)

Following previous studies on leadership and knowledge sharing (e.g., Carmeli et al., 2013; Carmeli & Waldman, 2010), four items were constructed to assess the extent to which employees believe their managers support and encourage knowledge exchange which were as follows: (1). My manager encourages information exchange between members; (2). My manager encourages openness in discussion meetings; (3). My manager encourages members to share ideas with each other and (4). My manager is a role model for collaboration and knowledge-sharing. Responses were on a five-point scale (ranging from 1 = not at all to 5 = to a large extent). Results from an exploratory factor analysis indicate that all four items loaded on to one factor with an eigenvalue of 2.63 and explained 65.3 per cent of the variability. The Cronbach's alpha for this measure was 0.82.

Employee Knowledge Sharing (Employees, Time = 1 (2009–2010)) (n = 946)

Eight items were used to assess the extent to which employees exchange knowledge with colleagues inside and outside their organisation (see, Lee, 2001; Lu, Leung & Koch, 2006 who used similar measures). The Cronbach alpha for knowledge-sharing was 0.86. Knowledge-sharing is estimated as a scale variable (ranging from a minimum of 8 ('no knowledge-sharing') to a maximum of 40 (knowledge is shared 'to a large extent') and estimated by hierarchical regression.

In this study, the subsidiary unit was considered to be the units of analysis. Given the multiple respondent (employees) answers for the leadership and knowledge-sharing variables, tests were used to determine whether the data should be aggregated to the subsidiary level. Interclass correlations (ICCs) were used to assess unit member agreement. ICC(1) indicates the extent of agreement among members of the same unit (subsidiary); and ICC (2) indicates whether units can be differentiated based on the variables of interest. A value of 0.70 or above is suggested as "good" with respect to ICC (1) (James et al., 1993) and

“satisfactory” with respect to ICC(2) (Bliese, 2000). A range of between 0.30 and 0.70 for the two measures is generally regarded as acceptable (Carmeli & Azeroual, 2009). The values for the variables were as follows: transformational leadership, ICC(1) = 0.68; ICC(2) = 0.73; pro-knowledge sharing leadership behaviours, ICC(1) = 0.82; ICC(2) = 0.80; and for knowledge transfer, ICC(1) = 0.72 and ICC(2) = 0.83.

***Innovation Probability (Subsidiary Manager or R&D Director/
Specialist, Time = 1 (2006–2009) and Time = 2 (2011–2012))***

The definitions of innovation here are broadly based on those in the Community Innovation Survey (CIS, 2010). The CIS definition was modified slightly to reflect the unit of analysis – subsidiaries of MNCs. It was important to capture innovations introduced by the subsidiary unit, rather than those adapted or adopted from headquarters (HQs) or another subsidiary within the MNC’s family tree. Specifically the definition used is as follows: ‘An innovation is the introduction of a new or significantly improved product, process, organisational method, or marketing method by your subsidiary. The innovation must be new to your subsidiary, although it could have been originally developed by other organisations that are NOT part of this multinational corporation (MNC)’.

Control Variables (Subsidiary Manager, Time = 1 (2010))

Standard control variables in the innovation and firm performance literatures are used (see, for example, Giannetti & Madia, 2013). They are as follows: log of subsidiary size; age; industry to reflect manufacturing or services (1 = yes; 0 = no); high technology (1 = yes; 0 = no) (all firms classified by the Global Industry Classification Index (GICI) taxonomy with codes > 9000); prior innovation probability (2006–2009). The three study countries are also estimated as control variables. The Czech Republic is excluded in the estimations.

Analysis and results

Table 12.1 reports on the factors that influence employee knowledge-sharing. Of the control variables, only previous innovation is significant. Transformational leadership is significantly associated with knowledge-sharing ($p < 0.10$) and ‘pro-knowledge-sharing’ leader behaviours is significant at the $p < 0.05$ level. Hypotheses 1 and 2 are therefore not rejected. The interaction of transformational leadership with ‘pro-knowledge-sharing’ leader behaviours is significantly associated with

Table 12.1 Hierarchical estimation results – leadership style and behaviours and knowledge-sharing

Construct	Employee Knowledge-sharing Base Model	Employee Knowledge-sharing H1	Employee Knowledge-sharing H2	Employee Knowledge-sharing H3
ln (Size of subsidiary)	0.105 (0.087)	0.104 (0.086)	0.104 (0.086)	0.103 (0.085)
ln (Age of subsidiary)	0.117 (0.071)	0.116 (0.073)	0.115 (0.072)	0.112 (0.069)
Industry	0.098 (0.075)	0.097 (0.074)	0.096 (0.075)	0.096 (0.072)
Industry (high tech)	0.109 (0.082)	0.108 (0.081)	0.107 (0.080)	0.107 (0.079)
Prior innovation probability, (2006–09)	0.224** (0.072)	0.221*** (0.068)	0.220*** (0.067)	0.219*** (0.066)
Hungary	0.006 (0.005)	0.005 (0.005)	0.005 (0.004)	0.005 (0.004)
Poland	0.004 (0.004)	0.004 (0.004)	0.003 (0.003)	0.003 (0.002)
Transformational Leadership	–	0.173* (0.095)	0.168* (0.094)	0.162* (0.089)
‘Pro-knowledge-sharing’ leader behaviours	–	–	0.253** (0.113)	0.243** (0.111)
Transformational Leadership* ‘Pro-knowledge-sharing’ leader behaviours	–	–	–	0.387*** (0.115)
R ²	0.023	0.148	0.301	0.473
Adjusted R ²	0.019*	0.137*	0.267**	0.439***
Change in R-Square		0.118*	0.130**	0.172***

Notes: *p<0.10; **p<0.05; ***p<0.01

N = 128. Standardised coefficients are reported in the parentheses.

knowledge-sharing at the p<0.01 level. The fit for the interacted model in terms of adjusted R squared is also significantly better compared to the non-interacted models. Hypothesis 3 is therefore not rejected.

The probability of innovating indicates whether the subsidiary innovated or not and is estimated by univariate probit with heteroscedasticity. Of the control variables, subsidiary size, operating in a high-tech industry and previous innovation all significantly influence innovation. Employee knowledge-sharing positively and significantly

Table 12.2 Probit estimation results – leadership style and behaviours, employee knowledge-sharing and innovation probability

Construct	Innovation Probability Base Model	Innovation Probability H4	Innovation Probability H5a	Innovation Probability H5b	Innovation Probability H6
In (Size of subsidiary)	0.104*** (0.037)	0.103*** (0.038)	0.103*** (0.039)	0.102** (0.044)	0.102** (0.048)
In (Age of subsidiary)	0.001 (0.001)	0.001 (0.002)	0.001 (0.001)	0.001 (0.001)	0.001 (0.000)
Industry	0.003 (0.002)	0.004 (0.003)	0.003 (0.002)	0.003 (0.002)	0.002 (0.002)
Industry (high tech)	0.086** (0.036)	0.81** (0.032)	0.080** (0.033)	0.077** (0.032)	0.076** (0.031)
Prior innovation probability, (2006–09)	0.168** (0.069)	0.167** (0.068)	0.166** (0.067)	0.165** (0.066)	0.165** (0.065)
Hungary	0.001 (0.003)	0.001 (0.002)	0.001 (0.002)	0.001 (0.002)	0.000 (0.001)
Poland	0.003 (0.003)	0.002 (0.003)	0.002 (0.002)	0.002 (0.001)	0.002 (0.001)
Employee Knowledge-Sharing	–	0.338** (0.130)	0.336** (0.129)	0.335** (0.128)	0.334** (0.127)
Transformational Leadership* Employee Knowledge-Sharing	–	–	0.106* (0.050)	0.105* (0.051)	0.103* (0.057)
‘Pro-knowledge- sharing’ leader behaviours * Employee Knowledge-Sharing	–	–	–	0.203** (0.083)	0.200** (0.081)
Transformational Leadership * ‘Pro-knowledge-sharing’ leader behaviours * Employee Knowledge-Sharing	–	–	–	–	0.492*** (0.154)
Constant	–0.632*** (0.198)	–0.561** (0.234)	–0.479* (0.241)	–0.460* (0.233)	–0.403 (0.243)
Pseudo R ²	0.105	0.167	0.235	0.316	0.417
Change in Pseudo R ²	–	0.062*	0.068*	0.081**	0.101***

Notes: *p<0.1; **p<0.05; ***p<0.01

Marginal values of the coefficients are given and standard errors are reported in parentheses.

N = 128.

influences innovation ($p < 0.05$). Thus, hypothesis 4 is not rejected. The interaction effects on innovation between a transformational leadership style and employee knowledge-sharing on innovation is significant at $p < 0.10$; and when pro-knowledge-sharing leadership behaviours is interacted with knowledge-sharing, there is a positive and significant effect on innovation at the $p < 0.05$. Thus, hypotheses 5a and 5b are not rejected. The interaction between the two leadership variables and employee knowledge-sharing positively and significantly influences innovation ($p < 0.01$) which is consistent with hypothesis 6. Although not formulated as hypotheses, for completeness, whether the two leadership variables directly influenced innovation was tested. Although the coefficient signs were positive, neither was statistically significant.

Discussion and conclusion

This chapter aimed to examine the relationship between leadership style and behaviours, employee knowledge-sharing, and innovation. The simultaneous analysis of these often quite disparate literatures makes several contributions. The complexity of these relationships was demonstrated by the use of multi-level and multi-respondent analysis (see Sanders, Shipton & Gomes, 2014 for a detailed discussion). In particular, the micro-level data from employees enabled a much greater understanding of the processes that contribute to macro-level innovation outcomes. The analysis examines how employees' perceptions of leadership, affects their knowledge-sharing behaviours, and whether these 'inputs' may influence the critical 'output' of innovation.

This chapter offers several theoretical and practical contributions. Each contribution is elaborated on here. First, it is found that transformational leadership and 'pro-knowledge-sharing' leadership behaviours directly enhances employee knowledge-sharing – the latter, in particular. Employee knowledge-sharing in a previous period is found to significantly influence the likelihood that the subsidiary would innovate in the subsequent period. The longitudinal dimension of this study is also significant as it shows that there may be causation in the relationships examined. Specifically, the estimates on innovation probability controlled for previous innovation and the employee data were collected in a time period prior to the innovation estimations. Thus, leadership styles and behaviours which facilitate employee knowledge-sharing in one period appear to have a positive impact on the probability of innovation in a subsequent period.

In terms of practical implications, these findings indicate that a short-run approach to evaluating leaders' performance – for example, using quarterly or even yearly profits or share-prices – may be very detrimental to medium- and longer-term performance, especially the innovation performance that is critical for sustained competitive advantage. Recent research shows that 'short-termism' is likely to be particularly acute in foreign-owned subsidiaries due to information disadvantages and information asymmetries (Dill, Jirjahn & Smith, 2014). Thus, policies that encourage longer-term perspectives of foreign investors are needed and management practices and/or policy incentives for increasing knowledge-sharing and reducing information asymmetries should be promoted within MNCs.

Another significant contribution of this chapter is that leadership – whether its style or the associated behaviours that it helps to generate (e.g., here knowledge-sharing) – does not directly impact on innovation probabilities. It is only through the effects of leaders' style and behaviours on employees' knowledge-sharing activities that the leaders' positive effects on innovation are actually realised. In other words, this study finds that neither a transformational leadership style nor 'pro-knowledge-sharing' leadership behaviours directly influence innovation, rather the effect of leadership on innovation is an indirect one through higher levels of employee knowledge-sharing activities.

This finding has important implications for the selection and development of leaders. The analysis shows that leaders should, at least in certain contexts, be selected for their transformational style and competencies and a willingness to encourage their employees to share knowledge but it is only through the *implementation* of these leader characteristics – in this case, through employee knowledge-sharing – that these leader characteristics will influence innovation. These findings also have implications for leadership development programmes which should help to develop transformational leaders – which, it is recognised, may not always be feasible or even appropriate – and leaders who encourage their employees to share knowledge externally and internally (McCarthy, 2014). Leaders also have a critical role to play in signalling what information can be shared inside and outside the organisation. The selection and subsequent development of leaders should access their views and proposed policies to enhance knowledge-sharing, including their policies on social media, among the employees whom they may lead.

A third contribution of the chapter relates to uncovering the effects of knowledge-sharing on innovation. Despite the considerable body of research on knowledge management in organisations, limited empirical

evidence has accumulated surrounding the role that knowledge-sharing behaviours plays in enhancing innovation. Building on previous research (Foss et al., 2010), this analysis reveals a significant and positive effect of knowledge-sharing behaviours on innovation. Furthermore, although knowledge-sharing behaviour is likely to enhance innovation, the leader's style and behaviours to encourage knowledge-sharing is of paramount importance. Thus, senior management within organisations should pay particular attention to creating a climate that is supportive of knowledge-sharing.

Indeed, the context of the study is also likely to be important for the analysis of leadership. The three study countries were all part of the 'Soviet/Communist' bloc until the late 1980s and this rule, both politically and managerially, was highly authoritarian. Knowledge-sharing within both society and workplaces was also potentially extremely dangerous as it could result in immediate dismissal from employment and/or imprisonment if viewed as 'subversive'. While the median age of employees in the sample was 35.7 years and therefore most respondents would have few direct memories of Soviet rule, this influence has not been completely eliminated or forgotten. The effects of transformational leadership and 'pro-knowledge-sharing' leader behaviours as well as employee knowledge-sharing generally may be lower in this sample as compared to other contexts, including those of Western Europe or North America. Thus, further empirical analysis needs to be undertaken in different contexts.

The synergies found here between the various studies that are normally on quite different trajectories and the value of multi-level and multi-respondent analysis for such analyses, paves the way for important integrative future research.

Notes

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1. The data analysed are part of a wider EU-funded study that examines the determinants of foreign direct investment (FDI); the role and functions of human resource management; and subsidiary level performance in three Central Eastern European Countries: Poland, Hungary and the Czech Republic.
2. A House of Commons examination of the economic implications of EU expansion reported that "UK stocks of FDI in the A8 (Accession countries) was £5,550 million in 2005, the vast majority in Poland and the Czech Republic...A8 stocks of FDI in the UK totalled just £36 million in 2005, with

- investments from countries other than the Czech Republic, Hungary and Poland being too small to be reported in the ONS figures" (Trade and Industry Committee, 2007: p. 26).
3. The company is ISO 20252 accredited. A native speaker conducted all of the interviews at the foreign subsidiaries in the native language.

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13

A Tale of Two Approaches: How and Why a Person-Centred Approach would Provide New Insight into the Leadership of Innovation

Yvonne van Rossenberg

Introduction

In managing innovation, leaders set out to make sense of large chunks of information. This consists of the constant processing of data from a variety of sources, such as performance data, financial reports, market analyses, insight from employee surveys and management literature. Analysing and comparing information from a variety of sources can be experienced as a daunting and technical task. One of the risks lies in using conservative and 'best practice' types of data analysis. This chapter will outline why this limits insight in complex processes, which is particularly the case managing innovation.

Data related buzz words pop up continuously, introducing the 'next big thing' in data collection and analysis, including: open data, data-mining, linked data, and big data. It is both the increasing volume and diversity of information becoming available for analysis, as well as the techniques for data gathering, handling and analysis developing in a furiously fast pace. Together this opens up a whole new space of opportunities of data available for analysis. New techniques create opportunities for looking at new types of information in different ways, which is a basis for innovation by itself.

The role of leaders is to find a balance between making optimal use of new data opportunities at the limits of organisational processing

capacity. The excitement about new opportunities goes hand-in-hand with anxiety and reluctance. This is based on variety of reasons, varying from reluctance to change, ethical considerations, concerns about information security and the personal angst of 'not getting it'. Organisational difficulties can lie in the development of analytical skills, the organisation of data flows and keeping up with market requirements.

Another set of risks lies in limited insight into the management of human resources by using the most common types of analysis. In this case, core assumptions of the 'most common' approach may be breached when the decision-maker fails to consider the fuller range of approaches. Unsuccessful in identifying the most optimal technique limits the usefulness of results, *which may reduce trust in both data and method*. Eventually, this can lead to withdrawal from any type of quantitative data analysis, basing decisions on experience and intuition only. In sum, there is scope to make better use of information and data streams in organisations, which is essential in gaining insight into complex innovative processes.

This chapter does not set out to prescribe how to analyse data for kick-starting innovative processes (e.g., Magnusson, 1998). It is neither a practical tool to improve your understanding of data analysis using the latest techniques, since there are plenty of practical guides for this purpose (e.g., Davenport & Kim, 2013). This chapter aims to outline two general approaches in analysing data, which are very specific in purpose, and the underlying fundamental assumptions about the nature of innovation and its leadership. Regardless of the new techniques being developed, awareness of the underlying differences of these two approaches is essential in summarising data, finding meaning in it, and extracting its value. Outlining and distinguishing between the two approaches shows opportunities for data analysis which are particularly relevant in the management of innovation.

Distinguishing between variable-centred and person-centred types of analysis is not new. This chapter outlines these two basic perspectives and assumptions in the light of technical developments which enable new ways of measuring, connecting and analysing aspects of the organisational environment. Applications of the person-centred approach in recent management research are provided, as well as practical examples of this approach in the management of innovation. In particular, this chapter includes a case presenting results from innovation data analysed using a person-centred approach, which demonstrates the value of the person-centred approach in managing innovation. To conclude, this chapter points out the importance of making a distinction between

types of data analysis and discusses the value of juxtaposing the two perspectives in the analysis of business data.

A tale of two approaches

This chapter sets out to go back to a fundamental understanding about approaches to analysing data. Developments in information technology have caused (1) more data and a large variety of data to be available for analysis in business, but also (2) more advanced types of analysis to be available as a result of a general increase in computing power. While only a decade ago we would be limited in what types of analysis could be used, the possibilities now seem to be unlimited. In this multitude of new opportunities it becomes more important to identify what exactly we are after researching and which technique would provide this information, rather than analysing the data available using techniques we are familiar with. The two approaches to data analysis presented in this chapter underlie all research in business, however these are rarely recognised and considered.

The two general approaches are the variable-centred approach and the person-centred approach, an overview of the differences is provided in Table 13.1. A variable-centred approach towards the analysis of data assumes all the subjects in the data (employees, teams, organisations) to contribute to variance in the data. This variance may be explained by one general trend on how subjects score on indicators and how these indicators relate to each other. This trend holds for all subjects for which data have been collected. This assumes that all subjected will react in a similar way to the conditions in the work environment, in other words subjects are homogeneous. In this way, research has found that transformational leadership has a direct and positive effect on organisational innovation (Jung, Chow & Wu, 2003), with transformational leadership to have a general positive effect on empowerment and the innovation-supporting organisational climate.

The name 'variable-centred' refers to the idea of grouping items in the most optimal way representing underlying variables. An example would be the variable work engagement consisting of the three elements – absorption, vigour and dedication – which are measured by three items for each sub-category. A factor analysis is used to explore the relationship between items, exploring underlying groups in a set of questions. This type of analysis finds a number of questions together to represent a latent variable. The aim of this grouping of items is to represent the variance in the data in the most optimal way, in such that the grouping

Table 13.1 A tale of two approaches

	Variable-centred approach	Person-centred approach
<i>Nature</i>	Confirmative, deductive, specific	Explorative, holistic, intensive, integrative, inductive
<i>Research question</i>	What is the (latent) structure of subjects' case scores in a number of variables?	Which way of grouping of subjects/respondents/cases can explain the most variance?
<i>Grouping of ...</i>	Variables/questions/items into factors representing underlying variables/factors	Subjects/persons/organisations into groups representing underlying groups
<i>Assumption</i>	Homogeneity Normal distributed data Climate/context conditions are independent	Heterogeneity Underlying groups for which the effects are specific Existing variables cannot identify these groups
<i>Necessary condition</i>	All groups in the data are 'known' All climate conditions are measured	Very large variety of cases in the data Intensive data: much is known for each respondent
<i>A good approach if ...</i>	There are clear expectations, effects can be expressed in hypotheses All subjects are expected to follow the same pattern To test the effect of one specific condition The research field is theoretically developed	Expectations are unclear, effects cannot be hypothesised There are groups of subjects for which patterns are different
<i>Analysis technique</i>	Exploratory/Confirmatory Factor Analysis Reliability Analysis	Exploration of big data, data-mining The research field is theoretically less developed Cluster analysis, Latent Profile Class Analysis Fuzzy set Qualitative Comparative Analysis
<i>Follow up analysis</i>	Continuous variables created can be analysed using regression analysis, correlations, Structural Equation Modelling (SEM)	Probabilities of class membership can be analysed using ANOVA, (Wald) Chi-square test, Latent Mixture Models

of the items into variables explains the most of the variance of each subject.

A person-centred approach can be seen as the exact opposite. This approach assumes subjects to be heterogeneous, with underlying groups of subjects to be responsible for explaining the variance in the data. In other words, the data is explored on the existence of underlying typical groups of subjects existing of typical employees, teams and organisations. People, teams, projects or organisations are grouped on the basis of similarity, in the way the groups explain most of the variance in the data. Within these groups, the relations between all variables and indicators measured in the data is assumed to be the same. This approach has been used in various fields of research, more frequently in marketing (exploring consumers on specific consumption patterns) and in the medical sciences (exploring groups of symptoms by grouping patients into medical conditions).

Following the person-centred approach, the grouping is not based on variables but on subjects, which can be organisations and teams but are very often persons, hence the name. In other words, grouping individuals into unique and distinct profiles, for which the relations with other constructs and outcomes may differ, creates typologies. A wide variety of names are used for the groupings that are found using a person-centred approach, including typologies, clusters, types, classes, profiles, modes, and so forth.

An example of research on the leadership of innovation using a person-centred perspective is the identification of collaborative research and innovation clusters (Liyanage, 1995), and the exploration of modes of innovation, including the Science, Technology and Innovation (STI) mode versus the Doing, Using and Interacting (DUI) mode (Jensen, Johnson, Lorenz & Lundvall, 2007). The person-centred approach allows to explore complex interactions between individual characteristics, team specifics and organisational contexts which may be too complex to hypothesise using a variable-centred approach.

Dominance of the variable-centred approach

The two approaches are not only a specific type of analysis but are related closely to more general research approaches. By analysing data in a variable-centred approach, the aim is to find sub-groups of questions that measure a similar underlying constructs (factor analysis) which are then related to the other constructs in the data. This approach is grounded in a more confirmative research nature, in which variables are measured and effects between variables are tested. An explorative element in the

variable-centred approach lies only in the development of new measures or improvement of existing measures by exploring how items represent variables.

This approach seems to be dominant in the analysis of data in businesses, which may be explained by a number of reasons. When a positivistic epistemology is followed, research is often deductive and confirmatory in nature. For this type of research testing hypotheses follows a variable-centred approach to analysis, which is directed to be the appropriate analytical approach in business degrees. A person-centred approach to analysis can work for confirmatory types of research, however it may be problematic since it requires sufficient theoretical understanding of the complex interactions between the variables to develop hypotheses on which profiles are expected to be found. In other words, research following a positivistic confirmative hypothesis-testing approach is most likely to apply a variable-centred approach towards analysing data, regardless of where there is a clear understanding of the complex interactions between variables.

On the other hand, more constructivist and critical approaches are more likely to explore phenomena using qualitative methodologies following a person-centred approach. The person-centred approach is explorative by nature, analysis techniques following a person-centred approach explore data on the existence of underlying groups. This 'misfit' as well as a distance between quantitative and qualitative types of research together have led to only few studies that apply analysis technologies following a person-centred approach to analysing quantitative data.

Another reason why person-centred approaches are less popular may be the poor reputation of cluster analysis. This method has received substantial disapproval from researchers, due to considerable reliance on researcher judgement that is inherent in using cluster analysis (Ketchen & Shook, 1996). The researcher decides the number of clusters on the basis of the dendrogram, which may be interpreted in different ways, and is considered a highly subjective way of choosing a final cluster structure.

Difficulties with the variable-centred approach may occur when subjects are nested in specific contexts, for example with employees nested within teams that are nested within organisations. Multi-level issues appear when the variance in the data is not independent between subjects, but their grouping showing similar answer patterns rather than representing independent observations that show what influences subjects. Multi-level analysis techniques can provide insight into nested data using a variable-centred approach but only as long as: (1) this nesting

or grouping is known and measured, (2) situational or context variables are independent or interactions or buffering effects are 'simple', and (3) the differences between groups and interactions between climate effects are not of interest. In other words, if you are looking for overall trends and effects regardless of context, these effects can be 'controlled for' or statistically be held constant.

In only few research areas, both variable-centred and person-centred approaches are applied. These results in two separate streams of research providing insight into the same phenomenon, however the two streams find difficulty integrating. This is the case in commitment studies, particularly in research where commitment is measured in multiple types (affective, normative, continuance) and multiple targets of commitment (including: organisation, team, project, profession, industry, career, job, client). Commitment has been studied mainly using a variable-centred approach. In which items together represent the underlying latent construct of commitment, and this construct is related to antecedents and effects, for example, absenteeism, turnover and organisation citizenship behaviour. The person-centred approach has been used to explore commitment typologies which describe how people experience multiple (types or targets of) commitments represented in mindsets. The employees within one commitment profile show a similar level of commitment to a set of commitment targets, these being significantly different from levels of commitment in other profiles.

This person-centred approach towards the study of the multiple target of commitment, as opposed to a variable-centred approach, captures the complex interplay among multiple mind sets of commitment (Klein, et al., 2009; Meyer & Herscovitch, 2001). This seems a more appropriate approach for studying the multiple types and target of commitment, particularly because previous studies have found the direct effects of the multiple target of commitment to interact with one another (Morin et al., 2011). In the field of research on commitment, the person-centred approach is therefore encouraged (Klein et al., 2009), rather than the more traditional variable-centred view.

In relation to the use of the person-centred approach in HR research, Morin et al (2011, p. 61) make an important remark:

'The identification of [...] profiles would be an important improvement in the field of human resources management and organizational psychology. Indeed, results regarding employee profiles are easier to communicate to managers and make cognitively more sense than abstract results from variable-centred multivariate analyses.

Additionally, identifying Work Affective Commitment (WAC) profiles may serve as a first step in the development of differential strategies targeting specific profiles of employees.'

New data analysis techniques and research opportunities

Fortunately, the person-centred approach is no longer limited to cluster analysis. Several techniques allow for profiling and clustering, which can even be combined with other techniques such as regression analysis and structural equation modelling. The emerging mixture modelling methodologies (latent profile analysis, factor mixture analyses) are turning into highly promising advanced statistical methods for clustering cross-sectional data (Klein, Becker & Meyer, 2009). In addition to Morin et al.'s (2011) study of commitment profiles, research anchored in the person-centred approach using mixture modelling techniques has yielded interesting insights beyond the results from more classical variable-centred analyses (Marsh et al., 2009; Kam, Morin, Meyer, & Topolnytsky, 2013). Statistical improvements include: (a) more opportunities of exploring profiles in different ways (1-step, and 3-step), (b) development in various data types (binary, ordinal, categorical and continuous, even combined), (c) and opportunities of regressing profiles (including profiles in further models), (d) chances in profiles over time (Latent Growth and Latent transition analysis).

Implications for studying innovation

The development of techniques enabling the use of person-centred approaches is particularly important in the study of innovation. Innovation has been found to be highly circumstantial and context specific. Starting at the employee level, the foundation of all innovative improvements is ideas (Scott & Bruce, 1994) and it is argued that the person or individual develops, carries, reacts to, and modifies these ideas (Van de Ven, 1986). Development, reaction and modification can only take place in interaction with the organisational environment. Firstly, it is therefore vital to take into account the groupings and nesting of innovation which may not always be easy to identify. Secondly, variable-centred types of analysis are unable to take into account the complex interaction between the variety of aspects of the various environments of which we are currently not yet fully aware to affect innovative processes. Acknowledging employees as being part of particular research and development teams which are nested in organisations, (creative) industries, as well as personal networks providing access to particular information allows to explore potential interactions relevant to innovation.

The place or environment in which innovation takes place (geographical, industrial, organisational, and departmental) is considered to play a key role in simulating and allowing for innovative initiatives. An example of this type of research is how Frambach and Schillewaert (2002) identify the differences between individual level and organisational level decision-making processes which together influence how organisations adopt innovations. These environmentally specific effects and their interactions may be explored taking a person-centred approach, however this complexity is lost in variable-centred approaches, which assumed subjects to be homogeneous. The person-centred approach enables the exploration of groups of employees with different behavioural reactions to a variety of leadership styles. This would give insight into which leadership style is applicable in stimulating innovative behaviour specific to a group of employees who may have a common context, a nested structure or a set of individual preferences.

CIPD case: leadership of innovation through a person-centred view

This section will demonstrate the value of the person-centred approach in analysis of data concerning leadership of innovation. In 2013, the CIPD commissioned the Work and Employment Research Centre (WERC) from the University of Bath, School of Management, to produce a series of reports around the theme of innovation. The project partners directly involved were Professor Veronica Hope-Hailey, Professor Juani Swart, Professor Nick Kinnie, Dr John McGurk, Dr. Yvonne van Rosenberg and Nichola Peachey. The programme consisted of four research pieces including innovation in networked organisations, innovation in local government, innovative outputs and the role of HR in the innovation imperative. The results from these four research streams are available online to CIPD members.

The data we draw on consists of 766 responses to the Learning and Talent Development survey, which was sent out to CIPD members worldwide in 2012. The data was provided by HR managers (20%), heads of learning and development (15%), senior managers and directors (15%), line managers and organisational development managers (15%), consultants and advisors (12%) and owners/CEO (5%). The industries are also very diverse, with 14% in manufacturing and production, 44% in the private sector, 26% in the public sector, and 10% in voluntary, community and not-for-profit organisations. A large proportion of the data comes from organisations based in London (30%), elsewhere in

England (76%), and elsewhere in the UK (86%). However, respondents are also located in Europe (5%), the USA (5%) and other non-European countries (4%). Data has been collected from organisations varying significantly in size, from fewer than 10 employees (7%), and smaller organisations (33% of less than 250 employees), to also a fair proportion of very large organisations (24% of 5000 or more employees).

In the CIPD 2012 Learning and Talent Development survey, managers have answered a series of questions on their organisation concerning the management of personnel, learning and training as well as questions on innovation-related activities and strategies. Before this project started, the data from this survey has been collected and analysed by the CIPD, resulting in a report including on general trends in the data. For this particular research project, we set out to analyse this data again using a person-centred approach, exploring the data on patterns providing complementary insight into the management of innovation. For the following reasons a person-centred approach was deemed more suitable rather than a variable-centre approach towards the analysis of the data. Firstly, previous research and theoretical framework could not provide clear expectations on how training and learning would be related to innovation. This research was, therefore, explorative rather than confirmative, which suits a person-centred approach rather than a variable-centred approach. Secondly, the subjects in the sample include managers providing information about their organisation. These managers representing a wide variety of industries and organisations were not expected to be a homogenous group. The only common denominator between these respondents was their membership of the CIPD. Since homogeneity could not be assumed, general trends in the data would not be representative of the variety of subjects contained in the data. Hence the choice for an approach which allows for underlying sub-groups in the data. Thirdly, in the case of innovation strategies, we expected contextual, industry- and organisation-specific effects to interact. In other words, it may be the industry in relation to the type of organisation in relation to the particular learning and training strategy which together created a unique situation in which innovation takes place.

Methodology and analysis

A latent class analysis using the statistical package MPlus version 7 (Muthén & Muthén, 2013), was used to explore the data on underlying groups. This analysis uses the expectation-maximisation algorithm of the robust maximum likelihood estimator (MLR) to estimate mixture

model parameters (Muthén & Sedden, 1999). Similar data analysis could be performed using the statistical package LatentGold and other packages are available. The program assigns respondents into groups which in this case will be called profiles, but depending on the data analysis technique, research field and audience, these groupings are called also clusters, classes, configurations, bundles, collections or agglomerates.

In our case, HR managers provided information on a variety of questions related to the innovation strategy. The 13 questions on the basis of which the data is explored on profiles include questions concerning (1) the types of innovation strategy and approaches are used in the organisation, and (2) who in the organisation is involved in innovation and creativity. An example of a question is: 'Innovation is about specialist and technical product development over long timescales' and 'We employ technical specialists to deliver innovation'. The program starts an iterative process, applying a series of algorithms optimising the cluster or class solution on the basis of the answer patterns of the respondents on the 13 questions. The result is the grouping of respondents in such a way that the profiles represent most of the variance in the data. In other words, it maximises the similarity of answer patterns within the groups, and maximises the differences in the answer pattern between the groups.

In the Mplus programme there are several tests that can be performed to determine the optimum number of profiles in our data, representing groups of organisations with similar innovation strategies in UK. This is a comparison and test in the fit of the cluster solution with the fit of the cluster solution plus one more cluster (one profile versus two profiles, two profiles versus three profiles and so forth). Two tests are available including Likelihood Ratio Test and Bootstrap LRT, (Li & Nyholt, 2001; Muthén, 2004; Lubke & Muthén 2005). The choice for the optimal number of profiles can also be assessed by a number of other fit-indices, including log likelihood values (comparable to the dendrogram in a cluster analysis) and the lowest value in the three information criteria (AIC, BIC, and ABIC).

In our case, this indicated that the fit of the five profile solution was significantly better than the four profile solution. Fitting a six profile solution did not increase the explained variance of the data significantly more than the five profile solution. After finding this 'best clustering solution', more solutions with a higher number of profiles should be tried, to check if there is another, better solution. The five profile solution in our case showed the best indices, optimising the explained variance in the data. Analysis shows an overall of 92% of the

original grouped cases were correctly classified indicating differentiation between the profiles and acceptable levels of mis-specification of the developed groups.

Along with the cluster solution, the MPlus programme produces a diverse series of fit measures which indicate how well the solution represents the data. Entropy is a value indicating how well the class membership represents the data; entropy with values approaching 1 indicates clear delineation of classes (Celeux & Soromenho, 1996). The cut-off point of an entropy value of .8 is used for using class membership as a categorical variable in further analysis. In case values are below .8, further analysis is recommended to be conducted using factor mixture models, which represent the probability of class membership rather than final and fixed class membership (Muthén, 2004, Muthén & Muthén, 2013). The analysis finds the entropy for our five class solution to be .804, which is sufficient to consider the profile membership as a grouping variable in further analysis.

Results

The profiles are presented in order of how important innovation is to their organisation and their distinct features are presented in table 13. 2. The profiles of the organisations cannot be identified on the basis of other (known) variables in the data. In other words, these explored profiles are not representing organisations in, for example, five distinct types of industries. These profiles exist across industries and across organisational size, however profile 1 is found more often in the public sector and profile 5 consists of a large proportion of small and medium-sized organisations.

More interestingly, the membership of the five profiles has been linked empirically to training and skills development and learning and training activities. It is found these innovation profiles link to specific training and development activities, in the following way: The (1) *Cautious Innovators*, use more traditional and distant learning and training methods, including coaching by line managers, formal education courses and e-learning. The least talent management activities are undertaken. Also managers received the least skills development training on promotion. For the (2) *Distributed Innovators* innovation is also not very important for their organisation and innovation is concentrated around the exploration of new market opportunities. In these organisations, there is a bit more of a variety of learning and training activities compared to the cautious innovators, including audio-video resources and action learning sets.

Table 13.2 Profiles

Profile	Percentage	Innovation strategy?	Who is involved?
1 Cautious Innovators	23%	Innovation not viewed as important	Innovation concerns managers and key project teams
3 Distributed Innovators	27%	Innovation is used for new market opportunities	Basically all employees, through external ideas,
		Innovation is not used to increase efficiency to customers	Project teams and managers to encourage innovation
		Innovation focuses on project design and development	Specialists in specific departments to deliver innovation
2 Specialist Innovators	18%	Innovation is specialists and technical	Technical specialists are employed
4 Open Innovators	17%	Strongest focus on process innovation	Everybody in the organisation is involved
		Innovation for design, development and new markets	External collaboration and specialist consultants
5 Managerial Innovators	14%	Innovation is crucial for new market opportunities	Only managers are encouraged to innovate
			Employees are involved through suggestion schemes

For the (3) *Specialist Innovators* (18%) innovation is seen as a technical task focusing on which is undertaken by specialised teams designing and improving products. This highly specialist knowledge is developed through job rotation, secondment and job shadowing. Mentoring and buddying schemes are less common. Talent management activities are plentiful, however managers do not receive a very high level of training after promotion.

The (4) *Open Innovators* have the widest approach to innovation in such that innovation is important for processes, products, delivery and efficiency, and new market opportunity. Innovation involves the widest

variety of people in their innovation strategy, including managers, specialist teams and departments, technical specialists, all members of the organisation through suggestion schemes and external collaboration. Knowledge and training activities focus on informal learning by internal knowledge-sharing events and mentoring and buddying schemes. The organisations in this profile undertake the highest number of talent management activities as well as providing the highest levels of skills development training when managers are promoted.

For the (5) *Managerial Innovators* (14%) innovation is viewed most crucial to bring new markets and opportunities in comparison to the other profiles. Rather than a wide search for innovative applications, like the organisations in the open innovation profile, this profile focuses on market opportunities. Managers encouraged innovation and employees are asked to participate in the innovation process by suggestion schemes. This innovation strategy goes hand-in-hand with training based on actor learning sets and on-the-job training. This group of organisations does not use e-learning and formal courses. Although innovation is deemed critical, employee skills are not developed widely, and particular innovative skills training to improve business performance is not common.

Conclusion and discussion

Managers can benefit from the increasing variety of data analysis techniques available and computing capacity seems unlimited. It becomes, therefore, more critical to choose the right type and technique of analysis which fitting to your research question or managerial issue. Until recently, one family of data analysis techniques using the variable-centred approach 'covariance structure analysis', which also includes structural equation modelling (SEM), developed in isolation of other extended latent variable families following a person-centred approach, such as latent class analysis, latent class regression, and latent transition models (Kline, 2011).

Advances in data analysis techniques have opened up the possibility to test mixture models, and the program MPlus is indicated to be especially suitable in analysing a variety of latent variable models (Kline, 2011). Future empirical research may provide unique and (more) complete insight into innovation by juxtaposing empirical results using both variable-centred and person-centred approaches. The first empirical attempts of this type of empirical cross-fertilisation of the two research approaches show promising results (Marsh et al., 2009). This chapter

contributes to the encouragement of these opportunities making the point that, especially in the study of innovation and its leadership person-centred approaches, these are worth exploring.

The case material presented shows the potential for studies regarding leadership and innovation in following this promising path. Firstly, the case shows how the person-centred types of analysis are particularly relevant in relation to multi-level and other types of grouping structures. The variable-centred types of analysis, looking for overall trends, generalising organisations in the way they managed innovation, assumed that the underlying innovation profiles did not exist. Secondly, the explorative approach shows to be more relevant and able to provide insight into the complex processes and interactions central to innovation, in which context conditions interact as well as are nested within the (multi-level) groupings. Finally, the person-centred types of analysis has enabled the first step in the development of differential strategies, policies and management, targeting specific innovation profiles of organisations. Future studies on the management of innovation may explore the possibility of multi-level person-centred approaches, which may lead to differential strategies on managing people targeting specific embedded profiles of individuals, which may be embedded in the profiles of organisations.

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14

Leading the Diffusion of Intellectual Capital Management Practices in Science Parks

Ehsan Khavandkar, Nick Theodorakopoulos, Mark Hart and Jude Preston

Introduction

This chapter discusses how leadership interventions in science parks can promote the diffusion of intellectual capital management (ICM) practices. It focuses on how operationalisation of the different social interactions leads to the accommodation of suitable mechanisms for diffusion of those practices associated with ICM among tenants of science parks, under the theoretical notion of the ecosystem.

This issue is becoming important in small and medium sized enterprises (SMEs), as intellectual capital is likely to be the key source of competitive advantage (European Commission, 2006; Huggins & Weir, 2012). SMEs generally have advantages over established companies in terms of learning (Davenport, 2005; Lee et al., 2010). In order to prevent science parks from becoming just real estate brokerage entities, managers and policy makers need to undertake a range of boundary-spanning activities to optimise the mobility of intangible and tangible knowledge and resources. This notion reflects the fact that science park management could, and should, harness ideas for strategic change when they seek to unleash an SME's entrepreneurial potential. This chapter explores the ways in which leadership interventions in science park ecosystems may orchestrate tenants' management insight and strategic foresight. It also outlines their contributions to the development of ICM practices in SMEs by propagating co-specialisation opportunities whilst understanding the cognitive consonance of the various roles played by tenants and other stakeholders in the science park ecosystem, not simply by resource or geography.

This chapter is useful to the directors and CEOs of science parks for four primary reasons: first, to clarify the relationships between the science park and its key players; second, to build an understanding of the different social mechanisms for diffusion of intellectual capital management practices; third, to understand the cognitive patterns in possible adaptation preferences and conditions within SMEs; and fourth, to educate managers about the types and roles of external agents' involvements in the diffusion of ICM practices.

The science park: an ecosystem of ecosystems

One may doubt whether science parks qualify as ecosystems within the conventional sense and usage of the terms, such as 'business ecosystem' or 'knowledge ecosystem' or 'innovation ecosystem'. For example, in many cases the concept of the science park does not fit well into the context of a knowledge, innovation or business ecosystem. In other instances, the stated missions and objectives do not mirror the roles generally expected to be played by the management of such ecosystems, such as that of anchor tenant (Agrawal & Cockburn, 2003), ecosystem orchestrator (Dhanaraj & Parkhe, 2006) or keystone (Iansiti & Levien, 2004).

It is worth noting that while each of these exemplars differs in its initial growth impetus, frontier researchers have commonly drawn on the clustering and geographical agglomeration literature to describe and discuss their factors of success. While this has provided a simple and widely used analytical framework in which the topical and emergent issues of economic geography and the institutional aspects of science parks are addressed, it is limited in its usefulness for exploring the functional form of the science park. As a result, over-attributing the success of onsite firms only to the physical configuration of science parks, especially in the case of SMEs, rather than acknowledging the integrative leadership competency of science park management in brokering cooperative, collaborative and coepetitive interactions has caused much confusion. Further, by assuming a limited role of the management of science parks as a being just that of real estate agent, it then becomes the argument that the sole role of the management team is one of managing the relationships between investors, and whilst this is clearly not the case, this definition of the management team has sometimes resulted in tenant selection criteria being inappropriately relaxed, to create greater levels of income for the park (Westhead, 1997).

The reality is that the creation of an effective ecosystem within a science park is one of the critical challenges facing those who manage them, because to ensure the effectiveness of management initiatives

‘in the commercialisation process and the linking of science park firms with Higher Education Institutions, other tenants on the park, as well as firms located off-park, [the quality of managerial intermediaries] needs to be carefully monitored’ (Siegel et al., 2003: 181), since onsite firms may also ‘seek access to assets that are complementary to their human and social capital’ (Wright et al., 2008: 132).

Here we argue that the science park is more than just a geographical position of agglomerated firms. Drawing on the concept of the ecosystem and the ecology of strategic alliances (Iansiti & Levien, 2004; Zahra & Nambisan, 2012), we define the park ecosystem as a geographical concentration of knowledge-intensive firms from different sectors which exploit market opportunities based on innovation architectures provided by dominant firms in their parent ecosystems, or pursue new value-adding knowledge combinations in the interests of their own independent innovation architectures and in the meantime, may form a community of strategic interests, values and webs of relations with each other, or with other stakeholders in the science park ecosystem. The living life of the ecosystem also stimulates co-specialisation and co-evolution by supporting and facilitating the diffusion of knowledge, ideas, innovation, technologies, skills and management practices, and access to tangible and intangible resources.

The importance of intellectual capital for SMEs located in science parks ecosystems

The evolving role of science parks, as enablers in inter-organisational relationships, is evidenced in the findings of extant research into the dynamics of interactions between tenants (Corsaro et al., 2012; Löfsten & Lindelöf, 2003; Siegel et al., 2003; Westhead, 1997). In this sense, tenants and stakeholders may be seen as partners, customers and competitors who are cooperatively, collaboratively or competitively linked through a non-linear set of activities and interactions. Under such networked configurations, knowledge can be communicated, organised and conveyed, and the ecosystem facilitates both the creation of new knowledge and optimises the ways in which agents share and apply the knowledge generated. In SMEs, particularly high-tech SMEs located in science parks, the fundamental resources of the firm are its knowledge and technology base (Khavandkar et al., 2013). This thinking is in keeping with the traditional view that SMEs ‘benefit from collaborative knowledge-based activities within geographic regions, which is based on the presumption that it is easier to mobilise the complementary resources and capabilities embedded in localised networks’ (Davenport, 2005: 683).

It is generally argued that intellectual capital is likely to be the key source of sustainable competitive advantage for SMEs; a developed stock of intellectual capital enhances the ability of SMEs to apply existing and generate further knowledge for advancing and commercialising innovative technology (European Commission, 2006; Huggins & Weir, 2012). Intellectual capital management should therefore be regarded as an on-going and dynamic process, which constantly matches market demand. Considering the tacitness and spatial stickiness of managerial know-how, close proximity is necessary for knowledge flow between actors. Science parks by their very nature provide opportunities for local knowledge dissemination, and the networking opportunities they offer become critical sources for the development of shared 'know-how' and effective practice sharing between onsite SMEs. Therefore, science parks may promote co-specialisation between SMEs and other tenants, and consequently may also enhance the opportunities for improving intellectual capital management capabilities. In this way, science parks can be regarded as 'networks of opportunities', stimulating interconnectedness and co-evolution by facilitating the diffusion of knowledge, innovation and management practices.

Effective diffusion of novel practice is dependent on creating heterogeneity between the new practice and a potential adopter's current practice. Further, in any attempt to increase diffusion of ICM practice, demonstrating the compatibility between the new practices and the strategic, technical and cultural objectives of the organisation is paramount, as is the use of an interpretive approach to encourage imitative behaviour, and linking success stories and cultural discourse as forms of legitimisation of the new methods (Ansari et al., 2010).

Intellectual capital management practices

Intellectual capital is defined as the sum of all knowledge assets that firms utilise for creating competitive advantage (Subramaniam & Youndt, 2005; Youndt et al., 2004). The general classification of intellectual capital is based on three inter-related components: human capital (including knowledge, skills, and the experience embedded in employees), structural/organisational capital (including the capabilities, routines, methods, procedures and methodologies embedded in organisation) and relational capital (including the knowledge, capabilities, procedures and systems which are developed from relationships with external agents) (Edvinsson & Malone, 1997). As noted previously, intellectual capital typically represents a large majority of the market value of SMEs. Therefore, managing stocks of intellectual capital becomes more and more important for SMEs.

The four inter-related practices of intellectual capital management

Creating, shaping and updating the stock of intellectual capital requires the formulation of a strategic vision, which blends together all three dimensions of intellectual capital within the organisational context through exploration and exploitation, measurement and disclosure. The organisational value of intellectual capital is developed via an on-going and emergent process focused on the capability to leverage, develop and change the dimensions (Subramaniam & Youndt, 2005). Yet a research gap exists in this area requiring further studies that focus on managerial issues of intellectual capital in SMEs. We conceptualise the management of intellectual capital as occurring via a multiple stage process, governed by an evolutionary logic. In Figure 14.1 we illustrate ICM as a cycle of four inter-related sets of practices: strategic alignment, exploration and exploitation, measurement and reporting of intellectual capitals (Khavandkar et al., 2013):

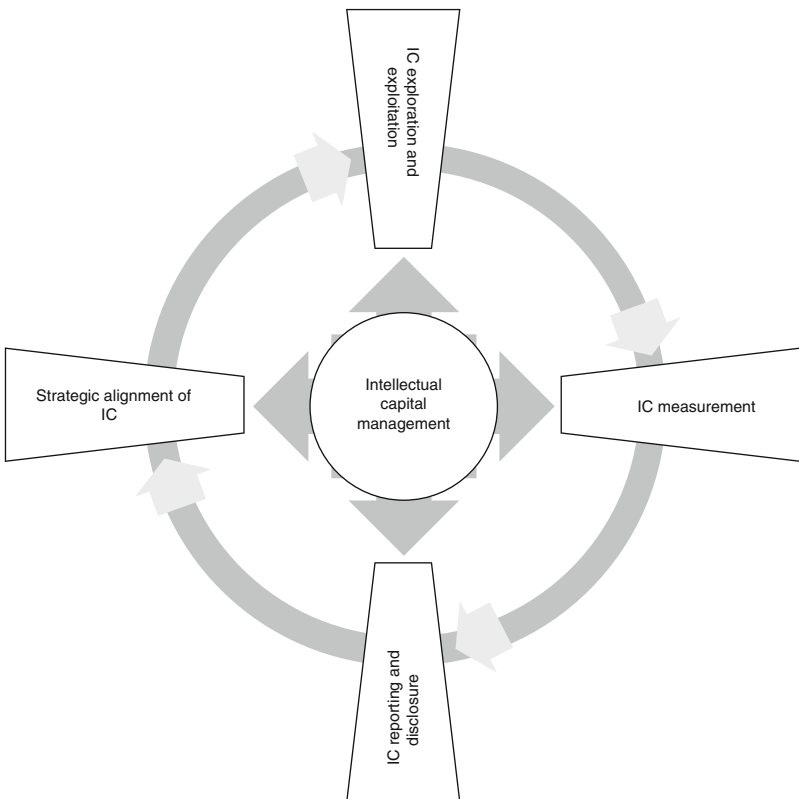


Figure 14.1 The general framework for intellectual capital management in SMEs

- Intellectual capital exploration and exploitation practices are defined as ‘the capabilities of SMEs required in order to effectively utilise their human, relational and structural capital, and efficiently exploit the relevant external sources of intellectual capital to create added value’.
- Intellectual capital measurement practices are defined as ‘managerial initiatives intended to translate an SME’s internal hidden values to sets of tangible indices and communicate non-financial and financial factors in order to make them understandable to the market’.
- Intellectual capital reporting and disclosure practices are defined as ‘managerial initiatives intended to bridge the common information asymmetries between main interest groups and SMEs about hidden values of intellectual capital, and can be tailored to satisfy various information needs’.
- Strategic alignment of intellectual capital practices are defined as ‘a set of practices by which an SME understands the value of its intellectual capital in both the industry and ecosystem context, defines its intellectual capital management vision and objectives, and communicates them at the strategy formulation level’ (Khavandkar et al., 2013; Khavandkar, 2013).

Science parks, leadership interventions and adaptation considerations in SMEs

Apart from general considerations, having foresight and being predictive about post-adoption patterns offer a considerable insight into making ICM practices meaningful and suitable for onsite SMEs in science parks. Ansari et al. (2010: 71) define the post-adoption considerations, or adaptation behaviours, as ‘the process by which an adopter strives to create a better fit between an external practice and the adopter’s particular needs to increase its zone of acceptance during implementation’. Therefore, the degrees of technical, cultural and strategic fit between an adopted practice and organisational pre-assumptions determine both the magnitude and fidelity of adoption in the implementation phase. Commonly, a set of adopted practices is not a ‘stand-alone’ solution in its initial configuration; rather, it depends on accompanying changes in the firm’s resources (both tangible and intangible), environment, and changes in their organisational, technological and strategic priorities to ensure performance benefits. Thus, the first critical consideration about the diffusion of ICM practices in science park ecosystems is the

degree of ‘transferability’ of these practices. Henderson and Clark (1990) identify two types of knowledge, with regard to the degree of tacitness and explicitness inherited with organisational routines, namely component and architectural knowledge. Tallman et al. (2004) refer to these types of knowledge in clusters. While some ICM practices are generally more transferable to the informed SMEs, or in other words belong to the category of component knowledge (e.g. ICM reporting and disclosure practices), others are highly organisation-specific and less transferable, and belong to the category of architectural knowledge (e.g. practices regarding the strategic alignment of intellectual capital).

Whilst understanding the concepts of component and architectural knowledge, it is also important to determine whether a set of diffusing practices is potentially includable within the component knowledge store of an SME, or whether it needs to be processed or wholly developed in-house and stored at architectural level. In general, based on various degrees of path dependency in different types of knowledge, it can be said that those practices related to the reporting competency of ICM belong to the category of component knowledge. On the other end of the continuum, those practices related to strategic alignment of ICM belong to the architectural knowledge domain (Figure 14.2).

The influencing shapers of intellectual capital management practice diffusion

As Haeussler et al. (2012: 219) argue, success in gaining knowledge usually ‘depends on the firm’s ability to identify and acquire knowledge from partners as well as understand and apply this knowledge for its own use’. Just as for the diffusion process for other practices, the necessity of adopting a set of intellectual capital management practices is always driven by either a growing pressure for social conformity, an imperative economic benefit, or both (Khavandkar, 2013). Greater intimacy with their external knowledge bases and their sources of diffusion is more commonly found in SMEs rather than their larger rivals. In order

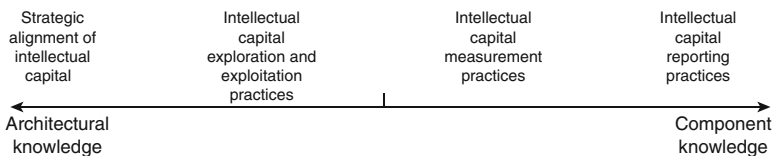


Figure 14.2 Intellectual capital management practices and the knowledge path-dependency continuum

for the adoption of diffusing practices to follow an incremental trajectory in SMEs there is an increased prerequisite for relational dependency in order for the necessary skills and capabilities to be developed, particularly in the face of the ambiguity and complexity inherent in the practices themselves and because of the scarcity of in-house managerial resources and competencies to identify and integrate the adopted practices. Therefore, apart from the endogenous factors, it is reasonable that variable exogenous agents and transmission mechanisms involved in the process also engender different fit-adjustment requirements.

The first step is to examine and analyse the repertoire of participation characteristics of different stakeholders, which can co-create these 'soft relational rents'. In general, there are five main exogenous agents: ownership and controlling agents, contributing agents (current or potential future contributors), knowledge-sharing agents (active or potential future knowledge sharers), participating agents (continuous or infrequent participants) and using agents (current or potential future users). These may all act directly or indirectly as driving forces for SMEs in the science park ecosystem. However, the objectives and impacts of each of these stakeholders may differ considerably, and the benefits to be gained from each type depends on the presence of these driving forces, which are in turn associated with types and the characteristics of a particular science park ecosystem. In general, the shape of the demanded ICM practices may be governed by the type of stakeholder in the process (Khavandkar et al., 2013), which might include governments, the managers, owners and shareholders in the science park itself, onsite incubators and innovation centres, knowledge stakeholders such as universities and research institutes, financial institutions and investors, intermediaries, suppliers and service providers in the supply chain. In terms of size, these may be multinationals and large companies, or SMEs and start-ups, as well as members of tenants' parent ecosystems, and organisational types might include alliances, customers, rivals or even the local community.

Different mechanisms may also provide onsite SMEs variation in access to a selection of ICM practice sources, leading to spontaneous or deliberate adoption, or indeed, rejection. Clearly, understanding these mechanisms of interaction would facilitate the rational development of new and more effective diffusion strategies in the science park ecosystem.

Channels of intellectual capital practice diffusion

Relational dependency may be vertical or horizontal, either up or downstream, shaping different types of cooperative, collaborative or

cooperative mechanisms in the science park ecosystem. The vertical upstream drivers of diffusing practices (i.e. where favoured practices diffuse downwards from those organisations upstream in the SME's value chain, such as government, financial institutions, universities) generally occur through formal social mechanisms and channels. When vertical upstream interactions do occur, they are usually cost-effective ways of attenuating the complexity and pressure towards social conformity that may emerge from a competitive environment. Within the science park ecosystem, SMEs exhibit a strong desire to appear legitimate in their practices and organisational arrangements, and to commit more time, resources and energy to learning. Consequently, this results in a higher degree of conformity to the original prototypical practices during the adaptation process. Therefore, once adequate information about the diffusing practices has been obtained from the upstream organisation, there is then a general tendency towards wishing to gain legitimacy, coupled with the social pressures brought to bear by the SME's stakeholders, and these stimulate the 'pious' implementation of diffusing practices with higher levels of fidelity and extensiveness (Ansari et al., 2010). The vertical upstream agents (either first or second order) – because of their abilities in generalising experiences are important sources for obtaining specialised knowledge (Haeussler et al., 2012), and 'are proactive in creating interest in, influencing the development of, and legitimising the effectiveness and retention of new management practices' (Birkinshaw et al., 2008: 832) such as how to prepare intellectual capital statements, how to communicate financial and non-financial measures.

Learning by the observation of external best practices can take place during collaborative interactions. In the context of science park ecosystem, this type of interaction usually includes relationships with multinationals and large established companies. In this case, adoption of the diffusing practices occurs generally when SMEs tend to obtain relevant experience from the established companies operating downstream to the SME in their value chain, or via some form of training. External experience, according to Mol and Birkinshaw, (2014: 1291–1292), 'could act both as a source of ideas, when internal change agents reapply practices they know from elsewhere'. For example, in the context of intellectual capital management practices in SMEs, this may include external experience on how to measure ICM, how to apply measurement models and which sets of measures to be used in order to improve the company's image more effectively for market entry or leverage. These capabilities are often costly to develop, and vertical downstream mechanisms

help SMEs to avoid making duplicative investments on in-house development of know-how that may not pay off.

A further type of interactions may be observed in the horizontal phenomenon of simultaneous cooperation and competition – ‘coopetition’, which may be between SMEs and other similar onsite firms, or in their parent ecosystems. Although these types of relationships between tenants may seem logical and obvious, the coopetition culture has still not received the required attention as a driving force for co-evolution of tenants in the science park ecosystem. Similarly, less attention has been paid to the role of coopetition in strengthening the innovation efforts and providing opportunities for diffusion of new and complementary knowledge in tenants, in particular SMEs. Consequently, the majority of the tenants’ distribution is usually concentrated at the competition end, rather than the mid-point of coopetition. There may be only handful of tenants observable as operating at the cooperation (mainly between alliances, if any) end, and when intensive interactions do occur between competing similar tenants through informal channels, the coopetition morphs into one of the main motives for the ‘competition for competence’.

When this happens, tenants may use this opportunity proactively to learn and expropriate as much as knowledge as possible in order to enhance their expertise. The externally sourced knowledge obtained in this way, as Mol and Birkinshaw (2014: 1291) argue, ‘either takes the form of outside examples that are partially transferable to an organisation, or of more abstract principles that are accepted by the organisation’. For example, in the case of ICM practices this might include knowledge about how to run a flexible human resource development programme, or how to acquire and leverage knowledge from internal and external sources and experiences, or how ownership of intellectual property rights can be proven, enforced and transferred by a firm and so on.

However, extremes of high and low extensiveness and fidelity in the adaptation of intellectual capital management are not a matter for concern; indeed, these extremes may ameliorate poor-fit disadvantages in SMEs. Nevertheless, identifying the association between the exogenous diffusion forces and the endogenous factors tied to the adapting nature of each set of intellectual capital management practices in the science park ecosystem, in the broader context, can advance the quality of leadership interventions in order to optimise both the success of diffusion, and the probability of adoption of intellectual capital management practices in SMEs located on science parks.

Diffusion of intellectual capital management practice in the science park ecosystem

Figure 14.3 suggests there is a predictable dimensional variability in the adaptation of ICM practices, driven by diffusion kinetics, in the science park ecosystem. The first dimension (X-axis), extensiveness, is the extent to which an adapted intellectual capital management practice

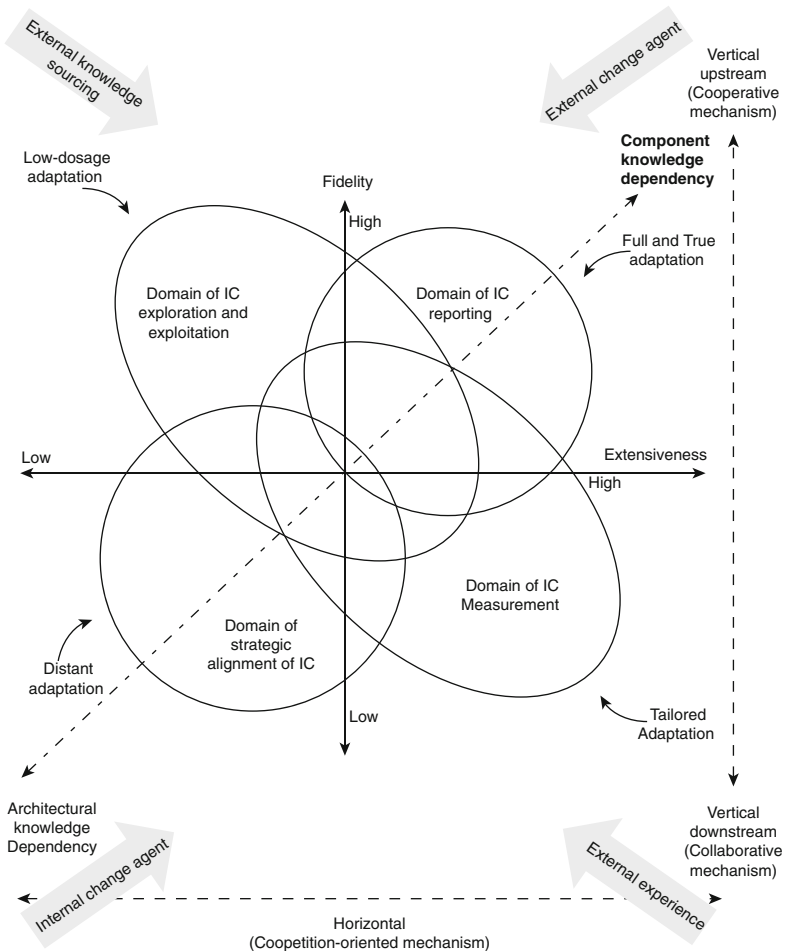


Figure 14.3 Dimensions of intellectual capital management practice variability and adaptation in onsite SMEs

Source: Based on Ansari et al. (2010).

may depart from the scale of the original diffusing practice. The second dimension (Y-axis), fidelity, shows the scope and the meaning of an adapted ICM practice compared to the scope of the original diffusing practice. The third dimension (Z-axis) represents the position of each set of practices on the knowledge continuum. These dimensions are important because they can describe the linkages between the inherent characteristics of intellectual capital management practices, and the effectiveness of possible leadership intervention modes.

Since volunteerism is part of every business ecosystem (Moore, 2006), the two dimensions of extensiveness and fidelity can be identified as being cognitive predictors for various scenarios of ICM practice adoption in onsite SMEs (Ansari et al., 2010), while the third dimension – as an indicator of diffusion efficiency – explains the path dependency of the four sets of practices.

Each exogenous factor has a unique mechanism of action in diffusion of ICM practices in the science park ecosystem. Therefore, in line with Ansari et al. (2010), we define four different cognitive patterns, each of which predicts an onsite SME's decisions in the adaption of different sets of ICM practices: full and true adaptation, tailored adaptation, low-dosage adaptation and distant adaptation.

Domain 1: Intellectual capital reporting practice and adoption considerations in SMEs

The domain of intellectual capital reporting practices in SMEs, placed on the top right corner (Figure 14.3), is characterised by high levels of practice fidelity and extensiveness. This is due to both the limited scope of current guidelines and the lack of managerial capacity in SMEs, which reduces the effectiveness of their adaptation strategies for these practices. As previously mentioned, the imperative to adopt intellectual capital reporting practices is always driven by either growing pressures for social conformity, economic benefits, or both. In SMEs, intellectual capital reporting practices are commonly only being adopted to comply with relevant governmental legislation and initiatives, or those set by accounting authorities. However, intellectual capital reports can also provide a key strategic instrument by which an SME is able to demonstrate its staying power to the stakeholder groups (European Commission, 2006). Consequently, intellectual capital reporting practices contain both implicit and explicit normative factors, which are designed to persuasively fulfil the divergent interests of upstream agents, thus highlighting the role of external change agents in vertical, upstream mechanisms.

Here, external change agents, for example, government and financial institutions, are characterised either as driving forces for the legitimisation of intellectual capital reporting, or in a more direct fashion; they may even become involved by setting benchmarks, rules and objectives. Therefore, issues of strategising and brokering relationships between different stakeholder groups open new avenues for initiating leadership interventions by the management of science parks; these interventions should focus on balancing interest groups' values through an integrated ICM platform.

There are, however, two major points to be made about the possible leadership interventions. The first point is about the establishment of the political standpoint of ICM within the organisation; when there is a high level of uncertainty surrounding a set of diffusing practices, widening the zone of acceptance becomes difficult. This leads to two possibilities: rejection, or full adaptation of the diffusing intellectual capital reporting practices. In order to optimise full adaptation, leadership interventions need to be accompanied by a measure of political campaigning and the use of potent cultural artefacts to promote acceptance (Moore, 2006). The second point is about the ability of the science park management to envision the ways in which passive external change agents can also create a crowding effect in order to provide greater acceptance of novel intellectual capital reporting practices among SMEs.

Of perhaps greater importance, this may also lead to the emergence of newer versions of reporting practice, which better accommodate various stakeholder and SMEs' interests, for example tailored intellectual capital reports and management commentary. Moreover, different forms of external involvement, through different social mechanisms, can mutually substitute to create interest and legitimise the adoption of intellectual capital reporting practices in the science park ecosystem. This can ease the emergence of alternative routes for both tailored and low-dosage adaptation in SMEs, although these modes may themselves impose both a technical and a cultural misfit on the organisations.

Adopting intellectual capital reporting practices, or even working with intellectual capital reports, not only develops awareness around intellectual capital but may also systematise ICM (European Commission, 2006). The two principal motives to promote the adoption of reporting practices in SMEs located on science parks are, first, resolving any uncertainty surrounding business plans, and second, tackling the issue of information asymmetry causing differences in perceivable and available stocks of intellectual capital. SMEs may not be able to comprehend the technical competencies needed to execute an in-house intellectual capital

reporting platform, but they may be able, by contextualisation, to mimic qualities that allow them to determine the required scope and scale of intellectual capital reports. Once intellectual capital reporting practices reach full maturity in the science park ecosystem, the complexity of the relevant practices decreases, thus allowing SMEs to more effectively focus on internal standards, to screen potential interest groups and explore their intellectual capital. Therefore, by supporting the development of park-level knowledge of intellectual capital reporting, the management of a science park can also further enhance the process of accessing, acquiring and assembling those capabilities required for mastering other ICM practices.

Domain 2: Intellectual capital measurement practice and adoption considerations in SMEs

The domain of intellectual capital measurement practices in SMEs, placed on the bottom right corner (Figure 14.3), is characterised by high level of extensiveness, but low fidelity in practice adaptation. In general, SMEs tend to adopt more informal approach in performance measurement, which is exacerbated by the fact that almost all intellectual capital measurement frameworks are based on large enterprise models, and the complexity of the measurement methods poses a significant risk of incompatibility between the cultural characteristics of the diffusing practice and those of the organisational culture of the SMEs. These challenges decrease the chance of successful adoption of intellectual capital measurement practices in horizontal mechanisms, where external knowledge is basically in abstract forms, and not fully transferable.

Coopetition-oriented interactions though may still provide some insights about the measurement processes in similar firms, but the limited scope and scale of current practices in SMEs increase the risk of misinterpretation. More importantly, external knowledge sourced through coopetition is devoid of any experimentation and legitimisation characters, which are critical for successful implementation of intellectual capital measurement practices in SMEs. On the other hand, both external change agents' involvement and external experience can positively affect the process of adaptation in SMEs. However, due to the lack of financial resources in SMEs, assumptions about the feasibility of such 'direct' involvements of external change agents seem to place unrealistic expectations on them. External change agents still impose coercive pressure on SMEs at this level, even if it is not possible for SMEs to purchase any services they might offer.

Adopting intellectual capital measurement practices is a necessary prerequisite for preparing intellectual capital reports. The process, though, also seems a popular vehicle for vertical downstream mechanisms; gaining access to the complementary capabilities through vertical downstream interactions in the science parks ecosystems is more doable, and experience gained through vertical downstream interactions, in particular with established external firms, can reduce SMEs' tendency to experiment with intellectual capital measurement practices, and later helps SME to achieve better contextualisation of the measurement requirements to its local needs. However, to avoid any ambiguity of the measurement objectives and interconnectedness among financial and non-financial measures, it is generally expected that SMEs will adapt those diffusing intellectual capital measurement practices with lower fidelity. Conversely, aggressive growth ambitions among SMEs push them towards more extensiveness adaptation of the practices.

Leadership interventions are associated with interconnectedness and co-evolution strategies; leadership initiatives are aimed at connecting different firms located within the science parks ecosystem and creating communal identity. As Tallman et al. (2004) argue, it is expected that the communal identity can also bring sustained competitive advantages to tenants, by restricting the movement of component knowledge out of the science park and providing a unique common base of know-how for the application of intellectual capital practices. In this sense, the management of science parks should place emphasis on reducing the transaction costs of knowledge interactions thus reducing the risk in appraising the reliability of potential collaborators. By providing more systemic intermediaries, which promote the perceptual usefulness of establishing and maintaining formal and informal inter-firm relationships between established firms and SMEs, the quality of the collaborative outcome of the diffusion of ICM practices can be better assured.

Domain 3: Intellectual capital exploration and exploitation practices and adoption considerations

Creating time for the diffusion of intellectual capital exploitation and exploration practice is another fundamental phase in development of ICM rationale for SMEs. The domain of intellectual capital exploration and exploitation practices in SMEs, placed on the top left corner (Figure 14.3), is characterised by the high level of fidelity, but low extensiveness. This is to be expected; the role of conformity pressure, as a driving force for adoption, is significant for both reporting and

measurement practices, while it is initially absent during the diffusion of exploration and exploitation practices in SMEs.

Moreover, different components of intellectual capital are utilised via different approaches in SMEs. Consequently intellectual capital exploration and exploitation practices, which are being put to work in order to organise stocks of intellectual capital, similarly vary. Furthermore, architectural knowledge as embodied in complex managerial practices and built on experience tends to be unique and difficult to imitate. These issues increase uncertainty surrounding the exploration and exploitation practices, and therefore force SMEs to adapt high-fidelity versions of exploration and exploitation practices.

Horizontal cooperative interactions between similar SMEs intensify the potential for 'first-mover advantage' among SMEs and motivate them to enrich their own knowledge from the competitive environment. The cooptation mechanisms provide a critical source for external knowledge sourcing when access to required expertise is otherwise limited through both vertical upstream and downstream. However, due to the fact that externally sourced knowledge is only partially transferable in cooperative interactions, SMEs tend to less extensive adaptation of diffusing practices. In the science park business ecosystem, where a majority of tenants are high-tech SMEs, the scope and scale of adopted practices are often highly similar. In general, the management of science parks can increase the identity connectedness and receptiveness to know-how of intellectual capital exploration and exploitation by acting as a conduit among tenants, in particular among SMEs, and by providing opportunities for informal contacts between them. There is also the possibility that later in the diffusion process, conformity pressures also arise, and that in response SMEs commonly adapt intellectual capital exploration and exploitation practices.

Domain 4: Strategic alignment of intellectual capital management practices

Between the four domains of ICM practices, the domain of strategic alignment is subject to greater deviation and variation from the original diffusing practices than the other three domains. This happens mainly because of the degree of organisational 'embeddedness' and path dependency of these practices in architectural knowledge. Strategic alignment practices in SMEs, placed on the bottom left corner (Figure 14.3), is characterised by high levels of fidelity and extensiveness; yet in order to attain performance benefits, performance

management initiatives should be aligned strategically with the organisational philosophy.

From the demand perspective, the availability of information about ICM practices in a science park ecosystem can act as a key mechanism, influencing strategic alignment of ICM efforts in SMEs. Higher degrees of awareness and specialisation in general ICM practices can act as a key organisational contingency that later influences the strategic alignment of intellectual capital measurement. The key challenge for SMEs, however, is to strike a balance between their organisational strategies and business objectives, and their intellectual reporting standards and targets. Moreover, given the rapid pace of change, these have to be continuously updated and recalibrated. Therefore, to attain maximum benefit from the adaptation of ICM practices in SMEs, these practices need to be designed, integrated and carried out in accordance with an SME's business strategy. There is no doubt that by creating strong linkages between a firm's strategy, resources, stakeholders and operational functions, implementation of their ICM strategy is expedited by the complementary and vibrant actions of internal agents. However, the external environment is generally accepted as the driver of, and provides the rationale for, ICM in SMEs.

Summary

Both endogenous and exogenous push factors are involved in the diffusion of ICM practices. Adaptation decisions are normal reactions to overcome possible technical, cultural or strategic incompatibilities between a set of adopted/intended practices and the characteristics of an adopting organisation. These may enforce different degrees of fidelity and/or extensiveness during the implementation of diffusing practices compared to their prototypical versions. Therefore, in order to make predictions about different adaptation patterns of intellectual capital management practices in onsite SMEs, or even building a persuasive desire for diffusing of these practices, it is necessary to understand not only the demand side of the diffusion process, but the supply side as well.

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15

Innovation, Leadership and Staff Engagement: Insights from CEOs

Johan Coetsee, Patrick C. Flood and Steven Kilroy

15.1 Introduction

Global competition, economic uncertainty and ongoing technical innovation and change are now a constant reality in organisational life (Coetsee and Flood, 2013). The ability of organisations to be creative and innovate has become a source of competitive advantage and performance. Organisations need not only be able to generate novel ideas (exploration) but be able to convert ideas into improved procedures, practices and products (exploitation). In this chapter, we regard management innovation as the generation and implementation of a management practice, process, structure or technique (Birkinshaw et al., 2008) and we address changes in what managers choose to innovate and how they do it (Hamel, 2006). The adoption of innovation and organisational change are closely linked, as change reflects differences in organisational conditions or behaviours. Change can therefore be viewed as a consequence of the adoption of innovation (Wischnevsky and Damanpour, 2006). Implementing successful innovation and change, whether at the level of the individual, team or organisation, requires effective leadership. This is especially important during innovation because leaders influence the introduction of new ideas, set goals, solicit resources and create a culture for innovation and acceptance of the change.

Specifically, while many forms of leadership bear relevance, we argue that the application of authentic leadership principles is imperative for successful organisational innovation and change. This style of leadership accommodates the emotions, values and creativity of followers and develops a climate for innovation. In this chapter, we explore insights from practice that can be used to lead organisational change more effectively during innovation. Real-world CEO experiences from leaders we

have interviewed are linked and integrated with current theoretical perspectives of managing change. It addresses an important question in leading change, that is, *how do I lead and implement change during stages of innovation in an authentic manner?* This chapter highlights six key personal building blocks of leading innovation and change that are especially relevant to medium-size businesses.

15.2 The personal building blocks of leading innovation and change

Authenticity, the idea of ‘being oneself’ or being ‘true to oneself’ has been described in many different ways. At present there is no agreed definition for authentic leadership. Kernis (2003, p. 13) describes authenticity as ‘the unobstructed operations of one’s true, or core self in one’s daily enterprise’ consisting of four components: awareness, unbiased processing, authentic action and relational authenticity. Luthans and Avolio (2003) define authentic leadership in organisations ‘as a process that draws from both positive psychological capacities and a highly developed organisational context, which results in both greater self-awareness and self-regulated positive behaviours on the part of leaders and associates, fostering positive self-development. The authentic leader is confident, hopeful, optimistic, resilient, transparent, moral/ethical future-oriented, and gives priority to developing associates into leaders themselves. The authentic leader does not try to coerce or even rationally persuade associates, but rather the leader’s authentic values, beliefs, and behaviours serve to act as a model for the development of associates’. A different perspective is provided by George et al. (2007) who regard authentic leaders as genuine people who are true to themselves and to what they believe in. They engender trust and develop genuine connections with others. Because people trust them, they are able to motivate others to high levels of performance. Rather than letting the expectations of other people guide them, they are prepared to be their own person and go their own way. As developing authentic leaders, they are more concerned about serving others than they are about their own success or recognition. Despite the different ways in which the concept is described, it is possible to identify themes from the literature i.e. authenticity is to be informed by the ‘true’ self, authentic leaders exhibit high levels of self-awareness and are transparent in their relationships and have clarity about personal values and convictions. The connection between authentic leadership and moral leadership, are highlighted (Ladkin and Taylor, 2010). Many lessons can

be learned from analysing the practical accounts of real-world CEOs in terms of their leadership experiences. Based on a review of a wide range of interviews we conducted among CEO's (Coetsee and Flood, 2013) the value of authentic leadership became apparent. The following important building blocks of innovation and change were revealed to us in these interviews:

Building block 1: Consistency exists between values and behaviours – leaders will say what they mean and mean what they say

Central to authentic leadership behaviour is an alignment or consistency between values and actions (Avolio & Luthans, 2006). Values direct individuals' attitudes, behaviours, and decisions in life in general (Allport, 1955) and authentic leaders are motivated from their values and convictions to act. They are not obsessed or driven by prestige, status and organisational position. They are clear on what is important to them, how they feel and what their needs are. Putting it differently, authentic leaders exhibit qualities such as honesty, integrity, credibility, they are straightforward and dependable and a CEO explains it as follows:

So I think for me, authentic leadership is about probably what comes from the heart, what you genuinely stand for and particularly when things are tough, whether you're true to everything you talk about and say is important to you. So I think it's very much about the emotions that you share, that you show, the vision that you have, the values that you have and then what people actually see you doing and then they will make judgements based on that.

Therefore, the core of authenticity can be regarded as 'to know, accept, and remain true to one self' (Avolio et al., 2004, p. 402) and authentic leaders are not only aware of their personal values but act accordingly. Having a clear understanding of what your values are all about and acting according to your values, provides you with guidelines on how to act and behave during organisational innovation and change. Being consistent and transparent in relationships creates trust and respect between the leader and follower, fostering teamwork and cooperation. This creates psychological safety (Rego et al., 2013) and encourages followers to feel more comfortable in taking risks, trying new things and exchanging and combining information and knowledge (Nahapiet and Ghoshal, 1998). Followers exhibit high levels of commitment when leaders demonstrate authentic behaviours, that is, openness, and leading in ways that are

consistent with their inner thoughts and feelings, acting with integrity and being aware of the impact of actions. A CEO explains:

So I suppose the old beliefs and behaviours thing – if your behaviours, as a leader, are in sync with you beliefs as a person, you're going to be authentic and you can see my behaviours because they're manifest, but you can't see my beliefs. So it follows: If my beliefs are somewhere else and my behaviours are still what they are today I am a fraud and you'll probably be able to detect that even though you don't know what my particular belief sets are, it will become very clear to you because human beings are not stupid, unless I am the world's greatest actor, that my behaviour is not a reflection of my true beliefs and in that sense I am inauthentic and as an inauthentic leader I don't command any respect because you can't identify with me as a human being, you can't identify with me as somebody who would be a role model, for you to follow. I don't set an example, you know I fail, on the rudimentary basics of being a leader.

It is not only important to be true to your core values but also to be resistant to social or situational pressures and not compromise your values. Some key lessons to consider from practice are:

- Act according to your own values system – irrespective of the circumstances
- Demonstrate your values through behaviours including commitment to innovation
- Understanding your own values takes a conscious effort on your part
- Do not be afraid to articulate your values as this will promote trustful relationships core to the creativity process
- Walk-the-talk: congruence between actions and words is crucial

Building block 2: Share emotions and understand the role of emotions in other people

The willingness to share emotions and the ability to understand and be sensitive to other people's emotions plays a central role in leading change effectively. High levels of emotional intelligence are needed i.e. the ability to perceive accurately, appraise and express emotion; the ability to access and/ or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge and the ability to regulate emotions to promote emotional and intellectual

growth (Mayer, Salovey & Caruso, 2004). Such leaders are better able to generate and maintain enthusiasm, confidence and optimism in employees (Goleman, 1998), enhance the leader's ability to deal with change (Huy, 1999) and manage stress (Cryer et al., 2003).

Followers experience different types of emotions during innovation and change, including despair. For a leader to be able to address employees' emotions, you need to understand and make sense of your own emotions. It is difficult to 'give what you haven't got'. You need to reflect on questions such as 'why am I feeling this way'; 'what influenced my emotions'; 'how am I going to deal with it'. Putting it differently, you need to be able to recognise and understand your own emotions and their impact on others. It also means you need to be perceptive of the emotions of your followers. If you really understand how they feel, you will be able to assist them in both positive emotion generation and negative emotion handling (Kaplan et al., 2014). Furthermore, leaders' everyday interactions with followers dictate followers' emotions and a CEO explains this as follows:

Try and show the emotion, show that you are perhaps upset about something but do it in a measured way. I think that's a real art and very difficult because we are human beings and we feel emotion and it can be quite difficult to get that measure of emotion right but I do, I do – I think because of our values I do try and be open and honest with how I'm feeling but I'm also aware that people are looking to me as a leader and therefore will look at the emotions that I'm showing.

Traditionally, it was frowned upon to express and demonstrate emotions in the workplace. An important component of organisational innovation and change is how employees experience it i.e. it is about feelings and emotions. In practice it means the leader needs to permit employees to speak about their anxieties and help them to deal with their fears and feelings. This means that leaders must pay close attention to employee's emotions – the ebb and flow of their feelings and moods – and work hard to create a receptive climate for innovation and change. Some key lessons to consider from practice are:

- Be willing to share your emotions
- Express emotions in an authentic manner
- Understand the impact of your emotions on others
- Provide opportunities for employees to share and discuss their feelings and emotions

- Interpret your own emotions and decide when is it appropriate to display your emotions
- Ask yourself what will be gained by showing your emotions
- Some emotions have to be managed privately

Building block 3: A high level of self-awareness leads to an understanding of personal biases and how they are perceived by others

This implies that a leader knows what he or she regards as important and authors such as Gardner et al. (2005, pp. 347–349) regard self-awareness as ‘an attention state where the individual directs his or her attention to some aspect of the self’ and is aligned with self-concept clarity and self-concept certainty. It refers to the extent to which a leader is aware of his or her strengths, limitations and the impact of the leader on others. Hannah, Lester and Vogelgesang (2005) suggest that heightened levels of self-awareness are achieved by reflection through introspection. It is through this conscious process of reflective introspection i.e. sense-making processes, that the leaders gain insight and understanding of their values, identity, emotions, desires, motives and self-relevant cognitions (Gardner et al., 2005; Kernis, 2003). A CEO explains this as follows:

Constantly saying ‘Hang on, is the change going in the right direction, let’s just reassess, let’s revalidate, let’s reflect, let’s bear in mind what’s going on outside ourselves and let’s bring that knowledge back in and inform our behaviour as leaders.

Self-awareness is not an end in itself but can be regarded as a developmental process ‘where one continually comes to understand his or her unique talents, strengths, sense of purpose, core values, beliefs and desires’ (Gardner et al., 2005, p. 324). Self-awareness does not take place in isolation but takes place in a social context in which communication and dialogue are regarded as key processes in making sense of the past and present and thereby becoming more aware of strengths and weaknesses. This implies a reflection on the past and present, making sense of and synthesising reflections. A Chief Executive Officer describes what he has learned as a result of using reflection and introspection processes as follows:

one can only look forward, that you cannot influence what went on behind you and you’ve just got to put that to bed and I think you’ve got to very clearly do that, so that when something’s happened, OK

that's fine, you learn from it and then you move on and the emphasis is on moving on.

The way we implement and lead innovation and change is influenced by our own biases and mental models. If we understand how our mental models influence our thoughts and behaviours we can be aware of how our own personal biases and mental models impact on our behaviours. This is also true for the way we interact with others. Understanding the impact we have on others will enable us to be sensitive to how people act and react in the innovation and change process. Some key lessons to consider from practice are:

- Self-awareness is making sense of past events and interpreting your circumstances
- Self-awareness is obtained through self-observation and reflection
- Self-awareness moves beyond surface level thinking

Building block 4: Openness to feedback and allows for openness and honesty in conversations

Being open to feedback and information sends a signal to followers that they can be open and honest in sharing their experiences; – it is allowed to take risks and experiment with new behaviours. It is especially important not to distort information – to be open and willing to share relevant information with your followers. This does not only relate to the change but also to feedback the leader may receive about his or her style of leading innovation. Authentic leaders use personal feedback as a mechanism by which to improve and develop themselves to become even better leaders. A CEO explains as follows:

I will always have brutal open dialogue with my people about my leadership style, how we're working together, areas where I can improve. Part of the job of being a leader is to be self-aware enough to know when something's not quite right and then to seek guidance and counsel as to what it is that may be wrong behaviourally and then to act on it. But you can't do it without dialogue, you've got to have the tough conversations, the open, honest, mutually respectful conversations with your people.

Feedback is not limited to the leaders' own development but he or she invites feedback to reach the best possible solution to organisational problems. Gathering input from employees is important as they are

often better positioned than the leader themselves to provide solutions in order to make innovation and change happen. This creates a climate where followers are encouraged to challenge the status quo and voice opinions aimed at improving the organisation. Innovation and employee voice and engagement are inextricably linked. This is explained by a CEO as follows:

I know the only way I know I'm going to do well is if I continue to seek out, listen and act on feedback about how I'm personally doing – albeit it can be at times challenging and uncomfortable. So I think it's something about attitude of mind and openness to receiving that sort of feedback but it's incredibly important. The danger with all of us as leaders, is that you only hear what you want to hear or people only tell you what they think you want to hear. So very quickly I think if you don't have the right approach to this you can lose touch with the reality and start to live in a bubble that isn't real.

Mechanisms to elicit feedback include asking employees for input into innovation, using 'barometer surveys' to gauge reactions; observation; and establishing 'ginger groups' to critique the change. Some key lessons to consider from practice are:

- Use measuring instruments to obtain feedback
- Engage in dialogue about your strengths and weaknesses
- Be open and honest in receiving feedback
- Create a supportive climate in which employees are willing to voice opinions and give feedback

Building block 5: Have confidence, believe in yourself and have an optimistic view of the future

Authentic leaders are posited to have high levels of psychological capital which is comprised of self-efficacy, hope, optimism and resilience. They, in turn, foster these desired states in their followers (Avolio and Gardner, 2005). These resources are particularly important in terms of employees' attitudes to innovation and change. By having and promoting these psychological capacities in followers, it means that they (1) have more confidence in their own abilities (self-efficacy) and invest effort to be successful to succeed in demanding tasks; (2) have positive expectations (optimism) about succeeding now and in the future; (3) persevere towards goal attainment and when needed, redirecting paths to goals in order to succeed (hope) and (4) when experiencing problems and

setbacks, bounce back (resilience) to achieve success (Luthans, et al., 2007, p. 3). Regarding having confidence in their own abilities, a CEO explains it as follows:

At the end of the day, if I'm talking to my Board and the majority of the Board don't want to do a deal that I'm putting on the table, if they don't want to do it and I really believe in doing it, I'll do it myself! I'm not short of confidence, as you can hear from my conversation, and my confidence obviously has grown over the years.

Authentic leaders' demonstration of hope and instilling this in followers is important because such leaders not only tend to have well formulated plans but are also able to generate alternative pathways so that, when faced with obstacles, they can revert to alternative courses of action (Luthans and Jensen, 2002). In this way, obstacles faced are seen as opportunities rather than threats by leaders and followers. Those who are more hopeful are also much more adaptable to change and more emotionally stable in such stressful situations (Gardner and Schermerhorn, 2004). Authentic leaders are also believed to have high levels of optimism which is critical in the context of change. As Luthans and Avolio (2003) assert, there is hardly an inspirational leader throughout history who made a positive difference in his or her organisation or community, who has not been labelled optimistic. Optimists associate their success with internal rather than external causes and are believed to enjoy more positive outcomes such as higher levels of motivation, perseverance and performance than their pessimistic counterparts. Kets de Vries and Engellau (2010, p. 11) put it like this 'True leaders are merchants of hope, speaking to the collective imagination of their followers, co-opting them to join them in a great adventure. More hopeful and confident employees would be more prone to experiment with new behaviours, not be afraid of possible failure and demonstrate more creative thinking (Avolio et al., 2004). Great leaders inspire people to move beyond personal, egoistic motives'. This is only possible if you are willing to tolerate disagreement, dealing constructively with criticism, consulting with colleagues and share decision-making.

Followers do not only need leaders they can trust, but also leaders who are able to show them the way forward. Being optimistic and hopeful creates energy and impetus for innovation and change. One CEO explains it as follows:

But the reason they can do that is because they understand the power of inspiration; make people feel great, make people understand what they can do to take ownership and accountability for themselves to make a success of whatever it is that they're being asked to do. Inspiration is not a long term programme, inspiration can be in the moment, typically it's one to one, typically it's personal and typically it's because you give time and because you're present and it's a great gift, it's a great gift and those who understand it and nurture it and value it can change people's lives.

Authentic leaders also possess high levels of resilience and instil this psychological capacity in their followers. The ability to bounce back and endure through adversity is critical for success. A CEO explains it as follows:

The measure of a man is how you deal with your major problems in life and how you come through that because it has to affect you in different ways and if you come through it and you rise above it all and you don't get bitter and twisted, you don't allow it to corrupt you inside and you keep thinking positive, then – and you need the strength, you need that inner strength, you need that focus, commitment, dedication, then people do respect it. People respect it even if they don't like you, they say 'well you've got to respect the man because you know, look what he's achieved, and look what he's been through'. But it takes time, young people have to understand it takes time, it takes commitment, it takes focus and it takes dedication and total commitment and if you're not prepared to do that, then you are not going to be very successful in whatever you do.

Some key lessons to consider from practice are:

- Act with passion
- Believe in yourself and your own abilities
- Inspire employees
- Make peace with your inner self
- Accept yourself with your strengths and weaknesses
- Do not be affected by setbacks.

Building block 6: Less ego – more humility

Humility is knowing you are smart, but not all-knowing. It is accepting that you have personal power, but are not omnipotent...inherent in humility resides an open and receptive mind...it leaves us more open

to learn from others and refrains from seeing issues and people only in black and white (Templeton, 1997, p. 162–163). People who demonstrate humility, display respectfulness, willingness to admit imperfections and have a lack of self-focus or self-serving bias (Peterson and Seligman, 2004). A difficult challenge for some leaders to overcome is to remain modest in light of the success that they have achieved. When leaders get caught up in their egos, it makes them less effective. The real power of leadership is making your subordinates powerful and the ability to demonstrate personal humility and exercising a strong professional will (Collins, 2001). Great leaders have the ability to foster success in others and enhance the decision-making capabilities of others (Mintzberg, 2004, p. 38). This is explained as follows by one of our CEO's:

My own philosophy is that the leader needs to be a servant and can be regarded as a good tenant farmer. Cultivating the ground etc. for the next person. It is very much a servant role – it is not about the person – it is about the organisation. The leader can extract a lot of energy of the organisation – serving the leader and not the organisation – this is a waste of resources.

This is also your role i.e. helping others to discover, explore, making sense and give meaning. Helping others to discover possibilities in themselves are only possible if we are able to transcend ourselves. The more one forgets himself – by giving himself to a cause to serve or another person to love – the more human he is and the more he actualises himself. Therefore, do not be afraid to ask for help and be honest about your own limitations. A CEO explains this as follows:

be prepared to self-disclose, be prepared to talk to people about your strengths, but absolutely in equal measure be very prepared to talk to people about your limitations and where you need their help because the more that you do that, as a leader, the more they will identify with you as a human being and the more they'll be likely to help you when they realise you're in trouble because you're in an area you know nothing about or that you're weak at.

Some key lessons to consider from practice are:

- Be human – humans are allowed to make mistakes, feeling uncertain and inadequate
- You do not need to have answers to all problems
- Do not be afraid to ask for help
- Be willing to take personal risks.

Leaders need to explore their inner world and must be able to look inside themselves. This is important as who we are (and what we understand about ourselves) determines how we lead. You cannot become authentic by imitating someone else – you have to be yourself. However, authenticity is not defined by you i.e. I am authentic, but it is defined by what other people see in you or putting it differently, *it is a quality that others must attribute to you*. This means that you can exercise control over expressing your authentic self. It is therefore a choice that you have to make (Goffee and Jones, 2005) and these authors ask a very pertinent question: Why should anyone want to be lead by you? What does it take to lead effectively, to engage people and revive their commitment to organisational goals? The starting point on the journey of becoming a great leader of innovation is the expression of the authentic self. Employees may exhibit high levels of commitment when leaders exhibit authentic behaviours i.e. openness, expressing themselves and leading in ways that are consistent with their inner thoughts and feelings, acting with integrity and being aware of the impact of their actions.

15.3 Conclusion

This chapter highlights six key personal building blocks of leading innovation and change. The importance of leading in an authentic manner was highlighted and the mantra ‘be true to yourself and understand who you are’ was emphasised. A successful leader of innovation and change requires moral character, a strong concern for self and others as well as ethical values. Why is this important? As a leader you need to influence employees and they will only follow you if they trust you. We argued that a clear understanding of your own values, motives and emotions and demonstrating it in practice, will enable you to create a context supportive of innovation and change: a context that is characterised by compassion, trust and openness. Being authentic is beneficial as it influences followers in a positive way. If the change leader establishes alignment between values and actions, he/she will ‘say what they mean and mean what they say’. Trustworthiness is therefore inferred by displaying characteristics such as fairness, dependability, integrity and honesty and this can affect work attitudes and behaviours. Authentic change leaders also exhibit patterns of openness and clarity in their behaviour toward others by (1) sharing information needed to make decisions, (2) accepting others’ input and providing constructive feedback to their followers.

Key to successfully leading innovation and change is the ability to form relationships, act on feedback, listen to people, not being overly sensitive to criticism and demonstrating empathy. Furthermore, you

need to commit to telling the truth, reward those who disagree with you, admit when you are wrong and create support for being open and authentic. Great leaders inspire people to move beyond personal, egoistic motives. To lead change effectively, you need to believe in your own abilities, be able to recover from setbacks, have a strong desire to succeed, focus on the change task despite environmental distractions, be able to cope with pressure and manage your own uncertainties and anxieties. In short, you need to be mentally tough to manage and lead innovation and change effectively. Having the confidence that you have what it takes will also allow you to take risks. Experiment with new behaviour and create a climate for your subordinates, that is supportive of trying out new things.

Leaders of innovation and change are open to feedback and encourage employees to share their own emotions and feelings. They are not afraid to deal with the emotional side and actively guide employees through personal transitions. They understand that innovation and change is not only about changing systems, processes and structures, but it is also about creating hope, optimism, self-efficacy and resilience in their followers. When implementing and leading innovation and change, it is important to (1) allow employee participation, (2) communicate effectively and (3) engage employees in the change process. Despite all our models, theories and approaches we use in managing people, we are still not able to get it right. Maybe the problem it is not 'them' i.e. the employees but 'us' or putting it differently, our inability to lead in an authentic manner. Leading in an authentic manner is a choice and it is in your power to make it happen.

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Part IV

The Bedrock for Innovation: Building Capability at the Individual Level

16

The Role of Career Adaptability and Flexible Expertise in Developing Individual Innovative Behaviour

Alan Brown

Introduction

Innovation has been examined at the level of the firm, nation-state and at the European level. However, innovation is also dependent on active participation in working and learning processes by workers, and work process knowledge and practices can play a key role in innovation. Jensen et al. (2007) have distinguished between two modes of innovation:

1. innovation strategies that emphasise Research & Development and facilitate access to explicit codified knowledge: the Science, Technology, and Innovation (STI) mode.
2. innovation strategies mainly based on learning by doing, using and interacting (DUI) mode.

Firms that combine strong versions of the two modes are more innovative than those who practise only one. How individuals perform their roles and tasks and learn to improve their performance is also important for the effectiveness of innovation. They reinforce the importance of looking at processes of learning and working at the workplace. The focus in this chapter is upon these processes from an individual perspective, examining:

- how workers develop the knowledge, skills and competences which increase their career adaptability
- their ability to apply their expertise flexibly and make them more likely to be proactive and participate in activities leading to innovation.

- how innovative capabilities are developed across multiple employment, training and education contexts, and
- how expertise, once developed, can be similarly deployed flexibly.

One reason for examining the development of innovative capabilities of individuals is to investigate the circumstances in which innovative capacity develops even in organisations and economies where other indicators are not helpful for innovative behaviour. For example, in organisations where there has been an increase in low-skilled work with limited discretion, can some individuals behave in ways that compensate for cultures which represent restrictive learning environments (Fuller & Unwin, 2006). For an understanding of how innovative ideas can affect organisational performance it is necessary to pay attention to how technically-based and experience-based learning develop and interact across the life-course, which can be represented as flexible expertise. It will also be useful to track how the skill and knowledge development of individuals across contexts and over time are important components of the overall innovation system.

This chapter examines how far individuals who have exhibited adaptability across their careers and who have applied their expertise flexibly also display innovative capabilities which can be deployed across multiple employment contexts. In a qualitative study of 64 workers in the UK and Norway¹ an investigation was made of career adaptability (Brown et al., 2012). Four key dimensions emerged relating to the role of learning in developing career adaptability: learning through challenging work; updating a substantive knowledge base; learning through (and beyond) interactions at work; and being self-directed and self-reflexive (Bimrose et al., 2011). The progress on each of these dimensions in the strategic career and learning biographies of individuals who have demonstrated career adaptability will be examined in turn to see if they might also play a role in developing innovative capabilities in individuals. Initially, however, it is important to provide a contrast in the typical forms of work organisation as, according to EWCS 2005 figures, discretionary learning is much more prevalent in Norway covering 55.6% of employees, as against 30.3% in the UK; lean production patterns are 28.2% and 33.3%, Taylorist forms are 6.0% and 16.7%, and traditional or simple forms of work organisation are 10.2% and 19.7% respectively (Holms et al., 2009).

For the purposes of this chapter, the strategic career biographies of those individuals most likely to have engaged in innovative behaviour were examined. Sixteen individuals from Norway and fifteen from the UK were chosen. The relevant Norwegian individuals had made the following major career changes:

- Technical post in maritime industry to self-employed software consultant
- Teacher to technical engineer in oil and gas projects
- Internal promotions, now project manager in the oil supply industry
- Development manager to specialist technical position in the oil and gas supply industry
- Internal promotion from coordinator (delivery manager) to project manager in an oil supply firm
- Variety of engineering jobs to senior technical manager involved in projects in oil and gas supply
- Variety of technical jobs to smaller oil industry supply company quality & safety manager
- Variety of hospital clinician and research roles to chief physician, epidemiologist, researcher
- Variety of nursing roles to psychiatric emergency head nurse
- Variety of clinical roles to special physical therapist in a pain clinic, possibly greater research and professional development roles in future
- Variety of clinical roles to division chief physician; operational head of six operating rooms at Hospital; Medical Ambulance; Private clinics. All in all spend a lot of time working
- Anaesthesia nurse to research coordinator
- Variety of offshore engineer roles around the world to head of drilling technology within the oil and gas exploration area
- Variety of engineering roles in engineering and construction group to building platforms abroad for an oil company
- Variety of ICT roles, including consultant to senior ICT engineer
- Variety of petroleum engineering roles, offshore and onshore, to country manager of a company within large oil industry group
- Variety of engineering roles, offshore and onshore, to senior technical professional (service coordinator) in specialist department in the oil industry.

Those members of the UK sample most likely to have developed some innovative capabilities included individuals who had made the following major career changes:

- environmental chemist in research & development to head of environment, health & safety
- variety of posts in learning and development to learning and life coach

- variety of posts in personnel and senior management to learning, executive and development coach
- variety of posts to engineering project manager in manufacturing
- background in law, finance and accountancy to Chief Executive UK Regulator role
- graduate traineeship with a management and technology consultancy to freelance assistant TV producer
- background in business management and higher education to self-employed management consultant
- variety of clinical roles to consultant in palliative medicine
- background in marketing and IT divisions in finance; retrained as a midwife, then became a programme manager, commissioning specialist children's services
- nurse specialist to lecturer in cancer nursing
- radiographer, specialist sonographer then HE lecturer for an ultrasound programme
- librarian, portfolio worker, health information specialist to consultant with responsibility for changing organisational cultures in a regional health service
- materials scientist, technical consultant to self-employed consultant specialising in innovation
- worked in quality control, systems design, research to professor in the field of technology-enhanced learning
- worked as head of HR for four banks with very different national cultures to running a company providing pension trustee services and with some consulting and leadership coaching.

The chosen individuals had all shown they could apply their expertise flexibly in a variety of contexts. Learning through challenging work, knowledge updating, learning through interactions at work and becoming more self-directed and self-reflexive were critical for developing their adaptability (Bimrose et al., 2011), but the key question in this context is: do these forms of development also underpin the development of innovative capabilities?

Possible role of learning through challenging work in developing innovative capabilities

The type of work in which the Norwegian and UK interviewees were engaged often had an imperative for learning and development because the field of work itself was changing rapidly (software development;

specialist technical posts in the oil and gas industry; clinical research roles; technology-enhanced learning; sonography) or there were considerable challenges intrinsic to the role (project management; psychiatric emergency head nurse; special physical therapist in a pain clinic: division chief physician; independent TV producer; consultants; researchers; coaches etc.). In such circumstances, many tasks are inherently complex and non-routine and there may be a variety of possible organisational solutions. Some approaches to problem-solving would be open-ended and even where there were procedural scripts for some tasks, there could still be discretion in how other tasks were approached, including the way in which individuals approached their own learning and development. Patterns of work organisation, based on discretionary learning, have much more scope for challenging work and the greater need for problem-solving and collaborative working are likely to be much more conducive to innovation than in lean production or traditional or simple forms of work organisation (Holms et al., 2009). One predictor of career adaptability is the propensity to learn and develop your competences and one of the most powerful ways individuals become engaged with learning and development pathways, involving up-skilling, re-skilling or perspective transformation, is through engagement with challenging work. Challenging work can lead to adaptability and the development of innovative capabilities in a number of ways and these processes were more fully explored by Brown (2015).

A woman from the UK sample exemplified how learning through challenging work can help build innovative capabilities, where it is possible to apply what has been learned in one field to another area of work. Her ten years working in safety critical (defence and engineering) environments produced a commitment to rigour and precision. In her next job, she introduced ways of working which were innovative for the civil service, but she had to be adept about how she introduced change. As well as mastering the practical and cognitive demands of her field of work, she needed to address the relational and emotional demands linked to her particular work role and work processes. She did this so well that she was used in a 'fire-fighting' role to sort out other projects which had run into trouble. This example highlights how developing a particular way of thinking and practising associated with a discipline may be transferred to other areas of work. Adaptable individuals have learned that mastery of a knowledge base (including appropriate ways of thinking and practising), which is itself a skill (or art), can be transferred and may be used as a basis for innovative practice in another area of work.

In the UK it is more common for lean production models than other forms of work organisation to make use of discretionary learning, although there are some institutional settings favourable to the adoption of discretionary learning (Arundel et al., 2006, p. 28). Hence it is important to look at the circumstances in which lean production could also foster innovative capabilities. In 'lean production' models, authority tends to be more decentralised than in traditional mass production and there is more lateral communication across functional boundaries with an emphasis upon dynamic processes of performance improvement and work process knowledge advances through the collective cognitive contributions of front line employees. 'But ultimately, it is the channeling of group interaction into disciplined processes of problem-solving – appealing to workers in their simplicity, their pragmatism and their effectiveness – that generates the improvement capabilities differentiating lean from mass production' (MacDuffie, 2003, p. 97).

Arundel et al. (2006, p. 2) argue that in countries, such as the UK, where in many jobs learning and problem-solving on the job are constrained, and little discretion is left to the employee, firms tend to engage in a supplier-dominated innovation strategy. The following example is one where an aircraft first tier supplier organised a supply chain network focused on performance improvement (Brown et al., 2004). In one small specialist supplier, lean techniques offered scope for considerable process improvement and the chief inspector was designated as a 'change agent coach' with responsibility for implementing continuous process improvement, supported by the supply chain network lead company. He had a deep understanding of work processes in both companies and he had to support others in learning and applying a whole range of techniques which were new to the company. Cascading the approach within the company meant that other workers developed their skill sets in applying their skills in a range of contexts in cross-disciplinary work teams. However, there were major constraints upon the extent of discretionary learning for anyone other than the change agent coach. Other individuals were developing their adaptability and their innovative capabilities within settings which favoured incremental innovation and experience-based learning, but which were restricted in terms of the types of techniques and approaches to be adopted. Those involved in such performance improvement activities could perhaps develop their innovative capabilities further if they moved into roles with greater task discretion and/or engaged with further technical learning (Brown et al., 2004).

Challenging work can itself be an immediate spur to innovation and this was demonstrated in both country contexts (Brown, 2015).

Engagement with challenging work would seem to lead to the development of individuals' innovative capabilities either directly, in that innovation is required to meet the challenges, or indirectly, as when experienced-based learning is coupled with mastery of new techniques or approaches to work which could be a platform to more innovative behaviour in future, if the pattern of work organisation allowed for greater discretionary learning.

Possible role of knowledge updating in developing innovative capabilities

Being able to engage with challenging work often depends upon having already mastered a substantive knowledge base. Most of the Norwegian and UK interviewees were graduates and/or had obtained other specialist professional qualifications at the start of their careers. Nearly all interviewees saw what they had learned in their initial studies as relevant to their current jobs, even when they were working in a different occupational field. Several interviewees pointed out that this was because they had learned particular ways of thinking and practising that stood them in good stead for the rest of their career. The actual knowledge base itself, however, often required considerable updating and many of the interviewees did this partly through work activities and partly through career development activities away from work. The knowledge updating processes often involved the melding of experience-based and technical learning (Brown, 2015).

Interviewees from both countries in fields such as health, engineering, IT and oil and gas drew attention to the need to keep up-to-date with developing knowledge bases, through experience-based professional updating and/or more substantive programmes of learning and development, which were regularly viewed by participants as taking their learning and development to a new level and creating a platform for future career development (Brown, 2015). Formal knowledge updating for participants working in technical positions was often linked to learning through challenging work (associated with project work, introduction of new techniques, products, technology or processes) and a range of more informal ways of knowledge development and utilisation. One interviewee highlighted how skills and knowledge were acquired in a variety of ways:

by working with colleagues with more professional knowledge and experience than me (through guidance and coaching) and 'learning

by doing' I have also gained professional knowledge by academically based practical learning.

The search for knowledge by individuals working in technical areas often went well beyond just the development of technical skills, incorporating technical know-how; know-what (where and when knowledge could be applied); know-who; and know-why (Lundvall, 2002). Individuals also often needed the ability to utilise different types of distributed knowledge available in texts, technologies, artefacts or organisational routines. Some engagement with higher levels of knowledge and understanding is clearly required to keep up-to-date with current ways of thinking and practising, but the level of engagement exhibited by many participants in both countries was driven by a desire for sense-making and their own personal learning and identity development.

Formal knowledge updating needs to be complemented with other forms of learning, if the development of innovative capabilities is to be translated into innovative behaviour, as this requires the integration of different types of knowledge, including the ability to understand the nature of the new situation, recognising which areas of knowledge are relevant to the new situation, focusing more precisely on what knowledge is needed for a particular decision or action, interpreting and/or transforming that knowledge to suit the new situation and context, and integrating the relevant aspects of knowledge prior to or during performance (Eraut, 2009). People learn most effectively when a virtuous circle of confidence, support and challenge is created, which facilitates the combination and integration (and development) of different types of knowledge.

However, once that knowledge updating and re-contextualisation is complete, individuals seem not only equipped to perform their existing role more effectively, but this also often gives them a platform to extend their role and deepen their expertise, for example, in being able to suggest improvements to existing ways of working. The knowledge updating process seems to get individuals thinking both explicitly and implicitly about what constitutes effective performance in a changing context and this can be a basis for innovative behaviour in the current work situation or for adaptability following a role change. The participants in the updating process could apply their skills, knowledge and understanding in a range of contexts, equipping them to look at current practices and processes in new ways. Individuals' potential innovative capabilities would appear enhanced, although whether this translates into innovative behaviour depends partly upon whether their work has the scope to make use of discretionary learning.

Possible role of interactions at work in developing innovative capabilities

Innovation strategies can be based on learning by doing, using and interacting and work relationships, interactions and learning can influence opportunities for the development of work-relevant skills, knowledge and understanding, in ways which may extend the innovative capabilities of individuals and groups. It is an open question whether interactions at work actually lead to substantive learning and development, but what is not in question is that rich interactions provide opportunities for substantive development. Many participants in both countries seemed well aware of the value of opportunities for 'learning by interacting' – they were seen as a key component of learning-rich jobs, where one can learn from interacting with patients, colleagues, customers, clients etc.:

The job at the cancer centre: chemotherapy and counselling patients and their families. You have to deal with many situations spontaneously and with the patients' emotions. To do this you have to have a good working environment and support of colleagues. There are a lot of opportunities to learn: besides tutoring and courses there is weekly interdisciplinary training.

The case above illustrates rich learning through interaction associated with challenging activities and how certain types of interactions, such as weekly or monthly case reviews, can support collective learning and development, including innovative thinking about how things could be approached differently. Indeed, participation in and learning through, interacting within communities and networks is a fundamental way for (re-)constructing a sense of the whole work process as well as a vehicle to develop expertise, including how to communicate effectively in different contexts. The interactions may be formalised, but interviewees also made use of more informal personal networks and relationships:

I have always had people around me who have given me support and I have always had good role models around me and never felt that I didn't get support.

Informally, I learn a lot from colleagues. I ask several people about how they solve the problem – and then I find a solution that suits me best.

My old job was very good in relation to getting contacts – provided me with business networking opportunities worldwide.

For workers engaged in a range of networks, learning by interacting often helped with their work-related learning and development. It may be that it is the social capital developed through participation in work-related networks which plays a role in facilitating individuals' adaptability, stimulates other ways of thinking and practising and thereby feeds into innovative thinking at work. 'Knowing who' in an organisation is useful to enable you to be effective is valuable and can help individuals learn situational awareness about 'organisational cultures and management of change' (Bimrose et al., 2011). A number of interviewees emphasised how important it was to have someone in the organisation who could help you identify the important processes and channels to use outside official pathways.

Some individuals were engaged in work that gave them opportunities for rich interactions across a range of contexts. This occurred because their work regularly took them to other workplaces, or they changed jobs or changed roles within an organisation, or they worked in a field with strong occupational networks. Personal networks were also utilised, drawing on, for example, support of people with whom they shared an educational background, or were former colleagues. These processes of learning through interaction and engagement with other people honed their skills in a number of respects, including the development of tacit skills associated with effective communication which could be applied in a range of contexts. In such circumstances, there could be complementarity in the informal learning of technical, social and networking skills which could facilitate new ways of thinking about work. Effective interaction across a range of contexts could prove particularly useful for developing innovative capability as individuals recontextualise their skills, knowledge and understanding in a range of settings, especially where they involve more challenging contexts.

Learning through meaningful interactions at work can be a powerful driver of adaptability and for building innovative capabilities, with the absence of such interactions an inhibitor of adaptive competence. There appears to be one particular type of interaction at work which stands out as helping in this respect and that is supporting the learning of others. Time and again, individuals identified certain individuals or groups as being particularly helpful in their learning and development. By the same token, some participants highlighted how much they learned themselves in supporting the learning of others, whether formally as a coach, mentor, tutor or manager, or informally as part of their duties within a team or project. Other cases highlight the importance of interdisciplinary learning, where experts in different fields give each other

an insight into alternative or complementary disciplinary perspectives or ways of working:

In our project teams there are lots of interdisciplinary exchanges and there is a lot of learning going on.

In knowledge-intensive settings involving complex teamwork, many organisations explicitly use a developmental view of expertise that goes beyond expecting technical proficiency and continuous improvement and focuses explicitly upon ensuring that their teams possess people able to support the learning of others. Organisations could create mechanisms to enhance peer support, mentoring and knowledge-sharing in order to develop a culture of support for learning and development. One consequence is often that those with responsibility for supporting the learning of others become more reflexive of their own learning and development, thereby also building their adaptability and innovative capabilities.

Overall, interactions at work could act as a driver of the development of innovative capabilities in four ways. First, there is development arising from work activities which are challenging in the demands they place upon individuals: for example, in activities in research and development, consultancy or complex project management settings, interactions can help individuals adapt through processes of experience, reflection and learning. These processes then provide a platform from which it would be possible to think about different ways of thinking, practising, reviewing and revising ways of working. Second, there are certain formal interactions such as weekly case reviews, mentoring and peer support which are expressly concerned with helping people think about learning, development and effective performance by reflecting upon their experience. Third, interactions associated with participation in broader communities and networks can help individuals make sense of work processes in a wider context, thereby facilitating innovative thinking. Fourth, interactions based around supporting the learning and development of others at work can help individuals to become more reflexive of their own learning and development and thereby strengthen their adaptability and innovative capabilities.

Possible role of becoming more self-directed and self-reflexive in developing innovative capabilities

Challenging work, knowledge development and interactions at work can all play a role in individuals developing their innovative capabilities, but

so can becoming more self-directed and self-reflexive about their own learning and development. Learning and development at work depends partly on whether work offers an expansive learning environment and employers can play an enabling role in this respect (Fuller & Unwin, 2006). However, it is also dependent upon individual actions. People vary in their self-awareness about their goals, aspirations, motivation, personality, inter-personal skills and resilience. They also differ in their appreciation of learning opportunities and contextual understanding, and their ability to develop relationships and networks to support their learning and development. Capabilities for critical analysis, critical reflection, visualisation and organisation and the ability to switch between context and generalisation all help individuals to make the most of their learning opportunities. These capabilities also act as useful building blocks in support of the development of innovative capabilities in individuals.

At work, being self-directed in taking advantage of learning opportunities is helpful for individual development and Eraut (2009) argues that it can involve willingness to engage in a wide range of activities such as asking questions; getting information; finding key people to support you; listening and observing; learning from mistakes; giving and receiving feedback; trying things out; independent study; and working for a qualification. The plural aspect of 'finding key people to support you' is important, as obtaining advice and support from a range of people could itself help lessen dependence on a single perspective – it could help the individual decide about the relative weight to be given to different forms of advice, as when an individual seeks feedback about his or her performance from a range of people.

Being self-reflexive, whereby you are able to identify your current skill set and how this might be enhanced, is also important. Those individuals who see that their skills can be transferred to other contexts have significant advantages in developing a deep mastery of their tasks and roles at work over those who define themselves almost exclusively by their occupational and organisational attachments. This advantage stems from the former having a dynamic sense of themselves as actively developing their own skills, whereas the latter are dependent upon organisational pathways. Being self-reflexive and self-directed in relation to learning and development can underpin a mastery of breadth and depth of high level vocational tasks, which can then provide a base for innovative thinking and practice. Being self-directed, however, does not mean working alone, and as mastery develops the value of the person supporting the learning of others becomes greater. The processes

of self-reflexiveness and supporting the reflexiveness of others are inter-dependent in the development of innovative capabilities.

One Norwegian engineering project manager exemplified a reflexive approach to her own development. She had engaged in self-directed professional updating and then took a mid-career Engineering Project Manager qualification. Her job in the oil industry was technologically challenging, but she was 'very good in adapting to what is required!' She is proactive in her own development and would recommend to others: 'Be open and flexible. Try new things. Just do it'. She is planful but willing to change plans; independent and aware of the need to be proactive in maximising opportunities; self-reflexive, placing a high value on learning both formally and informally; has well-developed relational skills, which support a collaborative, cooperative way of being and doing. She is also confident, based on the recognition that she does her job well, as she has a well-developed knowledge base, with strong organisational and relational skills. The projects she works on may have a strong STI component, but effective implementation requires innovation based on doing, using and interacting (DUI) in an innovative way.

Even in the absence of challenging work favourable to the development of innovative capabilities, being self-directed in taking advantage of opportunities for learning and development places an individual on a pathway where they are more likely eventually to be involved in such work. There is a psychological dimension to being self-directed and successful in your learning and development which reinforces your confidence so that you will be able to do develop further in future. In particular, those individuals who develop their skills in ways in which they see that they can be transferred to other contexts have significant advantages in changing career direction over those who define themselves almost exclusively by their current occupational and organisational attachments.

To be able to learn, people must be ready and able to mobilise their own resources: proactivity and a commitment to continuing learning can help sustain motivation over time. To become career adaptable, you would need to think routinely about your future; be prepared to engage in an on-going process of self-reflection; develop the skills, knowledge and understanding needed to cope with change; and be open-minded about opportunities that come along. Such processes, including self-directed learning, can support innovative capabilities through helping individuals learn about themselves through a reflexive process.

Reflexive thinking about learning and development is important but what should the thinking be about if it is to support the development

of innovative capabilities in individuals? Are there particular ways of thinking and knowledge development that are conducive to supporting innovation in organisations and, if so, how can these ways of thinking be supported? Imagination is one amplifier of learning and in relation to innovation the use of imagination to solve problems, imagine futures and see the perspective of others is a valuable asset. More disciplined enquiry is also important, comprising investigation, experimentation and critical reasoning. Another challenge is to combine the rational and empirical with the more emotional and intuitive.

The expertise necessary for underpinning innovation requires concentration, practice, organisation, focus and discipline as well as an immaterial component connected to feeling, sense-making and identity development, as well as requiring critical thinking and self-reflexivity. How far is it possible to develop particular sets of skills, knowledge, understanding and ways of thinking, being and doing, while at the same time developing dispositions which go beyond these particular developments in responding to new challenges: curiosity, resourcefulness (including learning from others), resilience, ability to support the learning of others, taking responsibility for self-development and reflexivity? This is the challenge. The cases presented in this paper, drawn from a study of career adaptability in Norway and the United Kingdom, show that the selected individuals' learning trajectories enhanced their innovative capabilities through a combination of working and learning across the life-course. However, such skills development often depended upon individual initiative and role change, and formal learning provision often addressed development of skills, knowledge and understanding which underpinned the development of innovative capabilities, rather than seeking to promote them in more systematic ways. Encouragement of self-reflexiveness in learning and development should perhaps be supported by explicit career reviews which could have the development of innovative capabilities as one area of possible development.

Conclusion

Arundel et al. (2006) argue that management techniques such as job rotation, team working and quality control may be part of the successful Japanese model for incremental innovation, but their data indicate 'that in Europe these forms do not necessarily stimulate endogenous innovation. It seems as if they need to be combined with some degree of discretion in order to do so' (p. 28). Therefore, one bottleneck to improving the innovative capabilities in the UK especially, but elsewhere in Europe

too, could be 'the widespread presence of working environments that are unable to provide a fertile environment for innovation. If this is the case, then the next step for European policy is to encourage the adoption of "pro-innovation" organisational practice, particularly in countries with poor innovative performance' (pp. 28 – 29). The example given earlier of the aircraft components supplier illustrates this point – performance improvement activities based on lean principles were implemented, but for all employees, apart from the change agent, experience of innovative practices was very restricted.

Where discretionary learning is the foremost development strategy then patterns of work can be organised around adhocracies, rather than upon hierarchical lines, with employees relying on mutual adjustment whereby they coordinate their own work by communicating informally with each other (Arundel et al., 2006, p. 4). Lam (2005, p. 128) has observed in her discussion of the operating adhocracy, how the mix of required skills and competences continuously evolves, and careers tend to be structured around a series of discrete projects rather than advancing within an intra-firm hierarchy. This pattern of work organisation based on discretionary learning is less common in the UK than in Norway, but it corresponds with what Fuller and Unwin (2006) describe as an expansive learning environment.

In both countries, individuals working in environments which encouraged discretionary learning developed their innovative capabilities in a number of ways. However, given that access to working in such learning-rich environments is so competitive, how can individuals develop their innovative capabilities outside such settings in order to increase their chances that at some point in their career they will be able to engage with such challenging and rewarding work? From a national skills supply perspective, as 'pro-innovation' working practices make greater demands upon workers' skill sets than lean, simple or traditional models of work organisation, it is important that there are sufficient individuals who have developed their innovative capabilities. The strategic career and learning biographies of the individuals considered in this chapter showed that it was possible to develop one's innovative capabilities through a combination of working and learning across the life-course in Norway and the United Kingdom.

The four key learning processes in developing career adaptability at work (learning through challenging work; updating a substantive knowledge base; learning through interactions at work; and being self-directed and self-reflexive) (Bimrose et al., 2011) were shown to be equally important in the development of individuals' innovative capabilities.

Engagement with challenging work could lead to the development of individuals' innovative capabilities directly or indirectly, where experience-based learning is coupled with mastery of new techniques or approaches. Those individuals who engaged productively with knowledge updating processes learned how to apply their skills, knowledge and understanding in a range of contexts, which provided a foundation for looking at current practices and processes in new ways.

Interactions at work could act as a driver of the development of innovative capabilities if the work activities were collaborative and challenging in ways which required individuals to adapt through processes of experience, reflection and learning and to think about different ways of thinking, practising, reviewing and revising ways of working. Facilitating reflexive thinking about one's own learning and development is important, but there are also other ways of thinking which are conducive to supporting innovation. Imagination is one amplifier of learning, more disciplined enquiry is also important as is a focus on sense-making and stimulating critical thinking and self-reflexivity.

Overall, the challenge in supporting the development of innovative capabilities is reconciling the development of particular sets of skills, knowledge, understanding and ways of thinking, being and doing, with developing dispositions which go beyond these particular developments in responding to new challenges: curiosity, resourcefulness (including learning from others), resilience, ability to support the learning of others, taking responsibility for self-development and reflexivity.

Note

1. The Norwegian interviews were conducted, transcribed and translated by Terje Gronning and colleagues from the University of Oslo.

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17

Practising Innovating through Learning-in-Crisis: Realising the Impact of Man-Agement in HRM Practice

Elena Antonacopoulou

17.1 Introduction

This chapter makes the case to turn our attention to innovation in Human Resource Management (HRM) as we explore the relationship between innovation and HRM. The focus on innovation in HRM is achieved through a reconceptualisation of the meaning of management (*man-agement*) in HRM as a practice of personal and collective growth. Reconceptualising HRM *practice*, through a more dynamic view, draws on and extends the notion of *practise* and *practising* developed by Antonacopoulou (2008) to explicate how *practising innovating* is a process embedded in practices such as HRM that support individual and organisational growth. This chapter then revisits the relationship between innovating, knowing and learning already attested to in the HRM debate (Scarborough, 2003; Alegre & Chiva, 2008) by proposing a new mode of learning that fosters practising innovating through *Learning in Crisis* (Antonacopoulou & Sheaffer, 2014) (LiC). LiC is conceptualised as that learning which acts as a foundation for practising in general and practising innovating more specifically.

17.2 The practise of HRM practice

Whilst the 'practice turn' (Schatzki et al. 2001) has influenced the reconceptualisation of a number of management and organisational phenomena *as* practices (e.g. strategy, leadership, knowing) the engagement with this theoretical lens is rather embryonic in the HRM debate (Vickers & Fox, 2010). A practice perspective towards HRM practice

would not treat practice as a metaphor. Previous engagements with a practice perspective in rethinking strategy *as* practice (Jarzabkowski, 2005), leadership *as* practice (Carroll et al. 2008), learning *as* practice (Nicolini et al. 2003) and other organisational and management practices vary in their focus on activities, what practitioners actually do, the modes of interaction among group members and modes of knowing, respectively. Unlike the collective reference to these studies as practice-based, focusing on reproduction and institutionalisation (Gherardi, 2006), the analysis in this chapter will adopt a *practise-centred view* which seeks to focus attention on the complexity and dynamic emergence of practices (Antonacopoulou, 2008; Vaara & Whittington, 2012).

The practise-centred view focuses on the powerful social forces that shape how practices are performed, whereby HRM practice cannot simply be understood as a set of activities, actions and modes of knowing without an appreciation of these aspects of practice interconnect. In seeking to understand the interconnectivity and interdependence of HRM management and organisational practices, we draw attention to the elasticity inherent in practices that underpin their ongoing reconstitution in the midst of everyday action. This reconstitution entails an inherent transformation of the way in which the intentions and the tensions practices entail, as competing priorities and interests are negotiated, becoming extensions in some cases beyond what may be deemed as being in line with institutional structures. Put differently, there is an inherent innovation within a practice in the way it is transformed every time it is performed. This is integral to the practise-centred view applied in this analysis as it promotes *practising* as a central aspect of management practice.

Practising is not merely the performance of a practice. Instead it is a *process*, explicating the way in which practices evolve and improve every time they are performed (and are in practise). Practising is a *practice* itself, because it entails *deliberate, habitual and spontaneous repetition* reflective of the dynamic process of rehearsing, reviewing, refining, and changing different aspects of one's practice and the relationships amongst them (Antonacopoulou, 2008). Practising therefore is a practice that helps us better understand how other management and organisational practices (e.g. learning, leading, strategising, innovating etc.) are continuously formed, performed and transformed (Antonacopoulou, 2006).

In short, HRM practice through a practise-centred view is defined as much by its structure and strategic orientation in supporting corporate goals, as it is shaped by the emergent, dynamic and innovative qualities it exhibits and also helps cultivate among those who give HRM practice

life through their performances. Practising HRM practice accounts for the centrality of practitioners (individually and in community) and their unique ways of performing different dimensions of the practice that define what HRM practice may be about and has the potential to become.

Hence, the practise of HRM practice reveals the scope for ongoing innovation as an inherent aspect of mobilising and reconnecting a whole variety of HRM sub-practices that are geared towards fostering the delicate balance between individual and collective growth. HRM practice through this perspective is best understood in the ways practising exposes the expectations formed, judgments made and actions taken by HRM practitioners, which also potentially define the nature of HRM practice in different contexts. To understand how practising innovating becomes especially critical as an integral aspect of HRM practice, we need to critically review what is deemed as innovation in HRM.

17.3 Practising Innovating through LiC

Over the years innovation in relation to HRM practice has been predominantly conceptualised and demonstrated either by promoting HRM practice as a contributor to innovation or through promoting specific HRM practices or initiatives as being innovative. Table 17.1 summarises

Table 17.1 The relationship between HRM and innovation

Innovations within the realm of HRM positioned as 'high performance work practices'; 'high involvement practices'; 'progressive practices'; 'mutual commitment practices'	Lawler, 1986; Richard & Johnson, 2004
Innovation practice in HRM by fostering organisational flexibility in a changing environment (e.g. flexible benefit plans)	Panayotopoulou & Papalexandris, 2004
HR as a bundle of practices (the bureaucratic bundle, the market bundle, the professional bundle and the flexibility bundle) integral within the framework of innovation management (e.g. HR's contribution in the innovation process through creative idea generation and implementation. Exploratory learning can make a difference in terms of product and technological innovation).	De Leede & Looise, 2005; Shipton et al., 2006

raises the main conceptualisations of the relationship between HRM and innovation.

The essence in the relationship between innovation and HRM practices boils down to the way in which people – human actors – develop and actively demonstrate the capability to be innovative, a perspective that finds support in the widely acknowledged adage that ‘people, not products are an innovative company’s major assets’ (Gupta & Singhal, 1993, p. 41). Given the organisation’s history, culture, governance structure and nature of business, among other considerations, formal and informal initiatives can be formed, fostering learning, knowledge-sharing and other opportunities for the ideas to be translated from concept to innovative outcomes in products, services etc. (Cooke & Saini, 2010).

In short, innovativeness starts within HRM practice through the ways in which HRM sub-practices are designed to support a positive predisposition towards learning to be innovative. At the same time, HRM practice can contribute to the creation of the conditions for innovative behaviour by individual employees. This implies a need to better understand on a micro-level what does innovativeness entail and how HRM practice can play a part in fostering it as a practice.

Innovativeness has been defined in different traditions as the openness to and adoption of new ideas and change (Rogers, 2003), information search, behavioural change and learning effort underpinning the degree of ‘newness’ of a new product (Langerak & Hultink, 2006), or as the unique inimitable resource and capability leading to new products, services or processes (Jin et al., 2004). The common denominator of innovativeness seems to be the capacity of people (individually or collectively) to develop, launch, replace or supplement old/existing products, services, processes and practices.

The orientation to engage in and support novel/new ideas through experimentation and creativity, opportunistic strategising and spontaneous adjustment are also characteristics that can be associated with improvisation as integral to innovativeness (Kamoche & Cunha, 2001). In this analysis, whilst improvisation is recognised as valuable in fostering innovation in HRM, it is deemed insufficient as it tends to be geared towards modes of learning that enable continuous adaptation based on what is known, which is contrary to the perspective on practising innovating adopted here.

Practising innovating generally, and in relation to HRM practice specifically, is more than just a matter of shaping and aligning flows of knowledge and people (Scarbrough, 2003). Innovation, as the culmination of the complex interplay between multiple – individual and

collective – learning processes aimed at finding new ways of solving problems, demands more than developing, distributing and using new knowledge. The orientation towards learning that governs social relations, the climate and culture, as well as, the centralisation and decentralisation of processes and practices, can have a direct bearing on the ways in which errors are tolerated, experimentation is encouraged and risk-taking is engaged in. And whilst it is possible that all these characteristics may reflect a degree of organisational learning/knowledge capacity/capability that can be associated with innovative performance (Alegre & Chiva, 2008), it does not fully account for the complex relationships among HRM practice, knowledge, learning and innovation.

It could be argued that hitherto research into innovation and HRM practice rightfully draws attention to a range of aspects that would underpin the approach of practising innovating we promote here. There is a certain amount of disagreement about the importance of empowerment, autonomy, employment security, task rotation, multi-skilled training, creativity-based performance appraisal, flexible working hours, variable pay/performance-related rewards and participative decision-making (Shipton et al., 2005). However, if we are to extend our understanding of practising innovating in relation to HRM practice we need modes of learning to be innovative and also engaging with the unknown and unknowable.

Antonacopoulou and Sheaffer (2014) advance Learning-in-Crisis as a mode of learning founded on the premise that the unknown and unknowable shape the way in which events (be they deemed as unusual, crisis or even innovations) are experienced. They make a compelling case for LiC as facilitating a fresh look at the strategic role of learning across levels and units of analysis especially during unusual conditions that may cause confusion, uncertainty and doubt over the suitability of existing practices. This mode of learning encourages individuals and organisations to exercise their judgments by questioning deeply held beliefs and deeply embedded norms, revamping in the process some of their core practices (including changing the learning practices) through practising. This perspective places experimentation as a critical platform for connecting exploratory and exploitative learning, a view that lies at the core of 'learning-in-practice' (Antonacopoulou, 2006).

LiC draws attention to the need to embrace the risks of learning and crisis to stretch the boundaries of current learning practices, positioning crisis as integral to the learning process itself, and is concerned with the learning practices and practical judgments (phronesis) that inform how such practices are performed. Thus, LiC incorporates experimentation

and improvisation to develop a wider repertoire of learning practices, because it reviews actions and underlying assumptions and renews the learning practices and practical judgments that guide them. LiC has been defined as the *ongoing practising in the midst of everyday action* and emphasises the ongoing practising that performing management and organisational practices entail, highlighting that what is known and the current approach towards learning may not suffice to engage the unknown and unknowable. Therefore, different learning practices would underpin the specific improvements that would allow a series of possibilities to be identified in the process of practising, using judgment to transform tensions into extensions.

Hence, LiC promotes learning practices that embrace tension and critique as key dimensions. Learning is not only an *emergence* emanating from repetition as a central aspect of practising, but it is also central to an *emergency* (crisis) when it engenders conditions in which judgments have to be made in response to the tensions experienced. Such tensions are frequently calls to one's accountability and responsibility in relation to the resulting decisions and actions. Tensions are often routed in competing priorities and interests can also be a source of confusion and engender a sense of loss amidst the complicated way in which experiences are engaged.

LiC aims to restore the *crisis in confidence* often at the core of choosing the most appropriate course of action. It mobilises engagement with complexity as a critique where natural curiosity is reignited in forming judgments that guide actions. LiC restores clarity amidst the confusion of a complex situation not by simplifying it but by creating a sense of *safety in vulnerability* (Antonacopoulou, 2014a). This crisis of confidence more clearly exposes the crisis in knowledge and learning and the struggle of learning itself. It is not uncommon for a whole range of reactions including egocentricity, posturing, superiority, arrogance and fantasies concerning power and overconfidence, to reflect the vulnerabilities that such a crisis in learning may expose. These vulnerabilities exacerbate the narcissistic behaviour among individuals and groups that can enhance crisis-prone behaviours in organisations (Weick & Sutcliffe, 2007).

LiC deals with these vulnerabilities by creating safety through the dynamics of reflexive practice in learning and changing individually and collectively. This means understanding that practical judgments in the course of everyday action are susceptible to blind spots like the inability to see the whole picture and stepping outside one's limited perspective to explore further connections. Instead, the tendency is to

act in a vacuum of ignorance informed only by what is known to have worked well previously, which is often replicated.

LiC encourages a systematic process of reflexive critique whereby long-held perceptions, beliefs and approaches that form the basis of interpretation of reality would be exposed and reassessed. Reflexive critique provides a platform of safety on which new connections are created and from which new possibilities could emerge (Antonacopoulou, 2010). LiC draws on existing capabilities to enhance the capacity to deal with the unknown by limiting the scope for cynicism, thus encouraging reflexivity to engage with critique. Figure 17.1 shows diagrammatically how LiC provides scope for restoring confidence when the unknown and unknowable create confusion and potential paralysis due to the complicatedness events that are unfamiliar can cause.

LiC transcends across units and levels of analysis and signals ways in which learning practices are performed as cognitive, emotional, social, psychological and political forces intervene. This multiplicity of conditions shaping learning practice is also the reason why LiC promotes a change in learning practices. By allowing an element of criticism to inform the often taken-for-granted ways of doing things, individuals' attributes and organisational culture are called into question. Practising generates a wider set of possibilities that disrupt the myth of the current reality. This is so because practising promotes LiC as a mode of learning where new ideas are generated by *re-cognising* opportunities in existing as

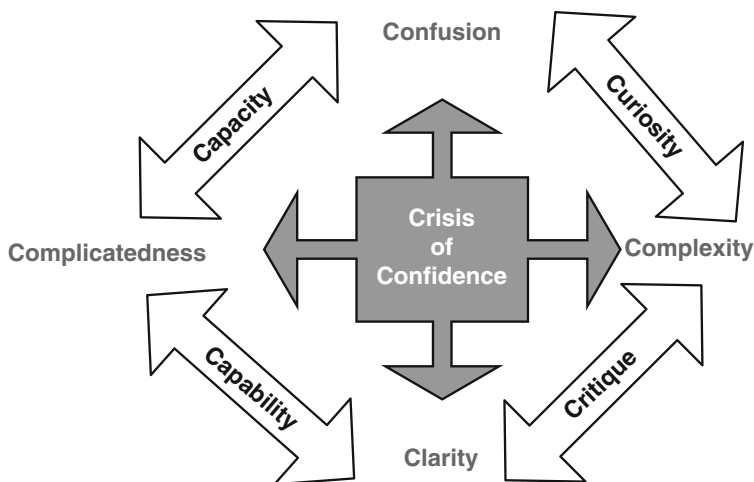


Figure 17.1 Learning-in-crisis – returning to reflexivity

well as in unfamiliar circumstances, even if such circumstances happen to be crisis events.

Practising innovating in engaging with the unknown and unknowable as a matter of course means enabling experimentation, improvisation, imagination and pragmatism to coalesce in everyday actions. This is ultimately how LiC would be manifested in practice, where action is founded on the choices made, having first recognised the judgments that underpin such choices. This is akin to what Aristotle referred to as *phronesis* or practical judgment (Eikeland, 2007), a relational mode of knowing predicated on virtues and standards of excellence pursued on the way to perfection. *Phronesis* is integral to the way in which intensions are formulated and the way in which learning enables the articulation, representation and enactment of these intensions through the chosen courses of action. *Phronesis* reflects the standards sought and the engagement with management practices geared towards enhancing performance. Yet, *phronesis* is not so much intentional as it is emergent in the praxis in which it is embedded and emanates from (Antonacopoulou, 2010). This is why *phronesis* is integral to critique, when reflexively frames of references, blind spots and the learning traps are reviewed, to expose the judgments made, and the choices and actions taken.

LiC may well be a promising possibility in fostering innovation in HRM. However, we cannot casually infer that learning is exclusively positive. The challenge of turning learning into a positive contributor to individual and organisational sustainability and future growth lies in the inherent crisis needed within learning itself. Learning is a recursive process that leads to a variety of unintended consequences. The element of surprise and difference are inherent in repetition and this amplifies the significance of learning as a crisis that opens up possibilities to do things differently. This is because LiC is not only about new visible behaviours and actions, but also critical judgments that reflect the emerging choices that actions seek to express.

Empirical research is currently underway to provide practical illustrations of the various ways in which LiC is manifested in practice. In a multi-professional study of practising innovating, we note that what doctor, performing artists, athletes, chefs and pilots have in common other than the discipline of practising their practice through regimes that demand them repeating the same tasks again and again. They also adopt to different degrees, due to their professional context, a focus and approach to their practising that is geared to enable them to attend to different issues. For example, they learn to perfect their technical mastery,

or they seek to attend to different individual strengths or weaknesses they recognise to improve their task performance. However, what they also do recognise is that their performance improvement also includes learning to use their judgment differently in different circumstances, not merely by adapting to the situation at hand, but by embracing the unknown as a condition of learning to work with uncertainty in order to innovate new solutions. This would mean that a doctor will explore a variety of different procedures to save a patient from dying, an athlete will transform their game as the competition demands, a chef will combine uniquely ingredients to challenge established tastes and eating habits, a pilot will fly an aircraft in changing weather conditions beyond merely following standard operating procedures. What they will all be doing consciously is embracing the tensions a situation presents between what they know and what they do not know as a way to *learn to do what to do differently in the midst of doing it*.

Essentially, practising innovating through LiC embraces emergence and emergency in learning to engage with the unknown on its own terms. Experimenting possible courses of action assessed in action, interaction and transaction, inter- and intra-organisationally reveals the unfolding complexity between action, choice, judgment and reactions as viable connections are made when practices are performed. This is not the same as trial and error, but instead attests to a process of *searching* and *re-searching* for connections that appear to be more viable given a set of constraints over which individually and collectively human actors have limited control. Trying things out is not a fool-proof option, but it is at least founded on judgments and actions where learning is engaged for the possibilities it affords in a crisis.

Practising innovating, therefore, acts as a useful basis for coordinating multiple practices that need to be juggled with simultaneously, reflexively critiquing one's learning practices and defensive mechanisms – emotional, cognitive, social, psychological or political – so that the multiplicity of possibilities for making a difference are realised. The next section demonstrates how this orientation can be employed in practising innovating HRM practice.

17.4 Innovation in HRM: realising the impact of man-agement in HRM

This analysis responds to recent calls to put back the human in HRM (Bolton & Houlihan, 2007) by demonstrating how practising innovating through LiC can provide a basis for reflexively re-engaging with

HRM practice. The reflexive critique that LiC would typically promote invites HRM practitioners to realise the impact of *management* in HRM. Antonacopoulou (2014b) argues, based on empirical findings, that there is scope for management practices to adopt an alternative orientation towards *man-agement*, which recasts the focus on individual and collective growth. This orientation towards growth celebrates the centrality of *hu-man* actors or social agents in management enabling us to realise *man-agement* and *man-aging* as practices for fostering the *process of coming of age* – ‘*agement*’/growth. This process of ‘coming of age’ (becoming/growth), be it individual or collective, is inherently emergent. It is not time- or space-bounded and focuses on the ongoing improvements actively made as individuals and the organisation perform their practices. In other words, it reflects the innovations integral to the ways individuals and organisations make a difference, in the unique ways they enact and embody their practices. These unique ways of performing work and the associated management and organisational innovations would be described as *impact*. Impact, as is the case of innovation more broadly, is not just a set of outcomes in relation to the social, political and economic standards that guide market dynamics. Impact, in this analysis, also accounts for the ways in which management practices can change the rules of the game intra- and inter-organisationally. The latter attests to innovations that stand to redefine the strategic direction of industries, not just that of organisations.

This innovative way of rethinking management in HRM, where the focus is in realising its impact on and for (management and organisational) innovation, provides a powerful new juncture at which to develop HRM practices on a strategic and operational level. To this end, we propose a mode of *coaching* (for individuals and the organisation, see Segers et al., 2011) as an HRM practice which could be mobilised, where the focus is to restore confidence in making a difference. In other words, the core of HRM practice and the way sub-practices are orchestrated is geared not only to evidence of impact on the bottom line (Becker & Gerhart 1996), but also to restoring the management in HRM practice so as to realise that impact is another critical priority. The focus on impact beyond profitability is a way of broadening the agenda beyond economic measures. Instead, impact accounts also for social, environmental, political and other effects, assuming that the underlying drive is the pursuit of the *common good*.

The pursuit of the common good is more than raising awareness of corporate social responsibility, as HRM sub-practices should be positively employed to support the process of individual and collective LiC. In this

respect, the notion of coaching that is proposed here is about mobilising reflexivity in relation to individual and collective judgments that guide practices and influence the mode of learning engaged in when dealing with the unknown. This mode of learning is illustrated diagrammatically in Figure 17.2.

Figure 17.2 explicates the way HRM practice and its impact in fostering practising innovating mobilises connections between HRM sub-practices (such as induction, training, performance appraisal, career development etc.) through reflexivity that engages in critique of judgment and the modes of learning and changing. For example, if the objective in practising innovating was on improving strategic decision-making across the organisation, then it would be possible to explore incidents in the organisation's history where individuals and the organisation recognise the process of 'coming of age', personally and collectively, in the variety of ways in which they have been managing growth within the firm. These incidents may be pertaining to evidence of crisis or major restructuring, significant transformation in management practices or even organisational innovations, all of which would be critical moments in the unfolding story of the lived experience of everyday work. The key priority would be to trace the way actions are taken and practices are performed (not only retrospectively or prospectively) on the basis of the learning that guides them. It may be possible to engage through reflexivity in a systematic critique of choices and judgments, resources

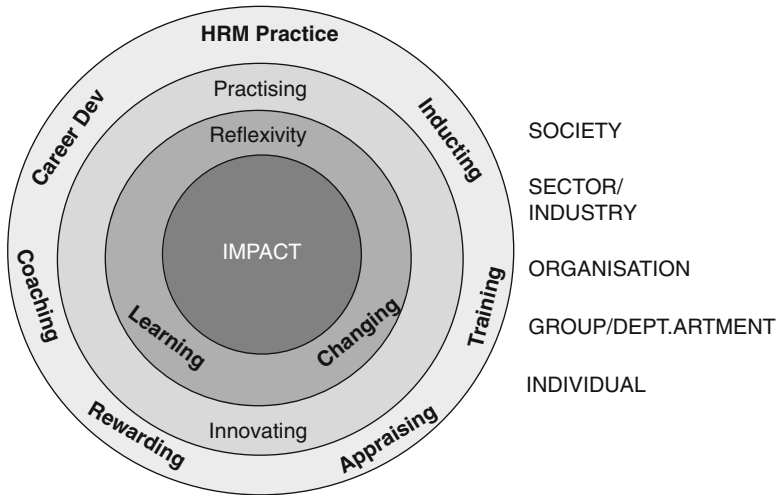


Figure 17.2 Practising innovating HRM practice

allocated and sources of information relied upon before questioning the underlying assumptions and political forces that defined what is deemed as the right/wrong course of action as a result of the choices and judgments made. By practising reviewing HRM practice in this way, the objective is to create safety in vulnerability to ask critical questions. In other words, the learning process underpinning the practising needs to be geared towards promoting more curiosity through critique and not more fear and resentment or – worse still – blame, cynicism or narcissism. These would be considered as central aspects of what it means to be practising innovating in everyday action.

In short, restoring the man-agement in HRM practice is one way – a different way – of promoting a relationship between HRM and innovation. It is a relationship founded on the embeddedness of innovation in HRM practice which arrests the centrality of practising innovating through LiC as a core of enabling HRM practice to realise its impact. HRM practice makes a difference to employees and the organisation, not merely through evidence of financial performance, but more so through restoring confidence in helping the organisation's human capital to realise its impact.

The impact that this analysis focuses on can be manifested through *improvements in actions* (Imp-Act) when practising innovating fosters personal and collective growth. The kind of growth, which this view of HRM practice gives voice to, is the belief in the possibility that there is room to make a difference by being different (both the individual and the organisation). In this regard, HRM practice is not only about designing the sub-practices that balance the strategic and operational priorities through formal and informal approaches, but the impact that these have in liberating human potential to grow. Herein lies innovativeness, when an organisation and its people grow to become more than they set out to become. This is not only in terms of perceived success defined in terms of some measure prescribed by the market and competitors. Instead, success is also about a version of becoming that seeks to release potential as long as there is the confidence to endure the crisis of learning to grow, discovering humanity in the process.

In short, growth in this analysis extends beyond delivering on economic goals through expansion and diversification strategies, common in organisations as they grow in size and complexity. It accounts for the process of 'coming of age' (man-agement, man-aging) that is inherently emergent in the process of becoming. Becoming focuses on the ongoing improvements actively made as individuals and the organisation perform their practices. It reflects the management and organisational innovations that

are integral to the ways individuals and the organisation make a difference in the unique ways in which they enact and embody their practices. These unique ways of performing work and the associated management innovations are described in this analysis as impact.

17.5 Conclusions

This chapter presented an analysis of HRM practice drawing on the practise-centred view which highlights practising as an integral process in the formation, performance and transformation of HRM practice. This dynamic and emergent perspective of HRM practice provides a useful basis for rethinking the nature of innovation practice in relation to HRM practice, as well as within HRM practice itself. The analysis shows how innovativeness can be reconceptualised – as practising innovating – in relation to the mode of learning – LiC – which balances emergence and emergency in dealing with the unknown. In practical terms, this means that HRM practice needs to be understood as an emergent process shaped by the actions, interactions and transactions of social actors and the structures they help create. At the same time, this dynamism that defines HRM practice and the ways in which sub-practices are engaged with, both in the ways they are enacted and embodied by social actors (across units and levels of analysis), reveals the scope for impact. This draws attention to the ongoing improvements actively made as individuals and the organisation grow.

Personal and collective growth, however, can be experienced as a crisis, particularly when it demands engagement with the unknown. This calls for reflexive critique that reviews the judgments that underpin the choices and actions taken. Put differently, this focus on critique instigates a mode of learning that is founded on repetition, searching and researching for connections and possibilities, not founded on what is already known but on what is unknown and unknowable. In this sense, practising innovating through LiC offers a fresh way of understanding the inherent innovation in HRM practice. This implies extending the focus beyond having a set of HRM sub-practices in place that can foster experimentation as a source of innovation to HRM practice designed to support individual and collective growth. Then the generation of new possibilities through practising innovating is underpinned by *reflexivity* in the way in which individuals and the organisation take stock of growth in terms of how they are changing and, yet, have to remain the same if they are to retain a sense of purpose and identity that lies at the core of their lived experiences.

In short, growth, like any process of innovation and improvement, exposes more prominently (akin to an emergency/crisis) the way tensions between competing priorities (the need for flexibility at the same time as there is a need for formalisation) create *conditions of uncertainty* that make the extensions that growth generates more painful because of the emergency to cope with the unknown.

Taking these issues together provides an opportunity to refresh the HRM debate and restore confidence in the power of HRM practice to make a difference to performance beyond the bottom line. The impact that HRM practice is uniquely placed to realise is helping redress the focus of management and managing as practices supporting personal and collective growth. If this were the case, drawing on the notion of man-agement and man-aging HRM, practitioners have a unique opportunity to join forces in collaborative modes that actively co-create the future growth of their organisations, communities, industries and societies. It is hoped that this chapter restores confidence in this wider agenda of collaborative LiC and the underlying reflexive critique to make a difference.

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18

Creativity at Work: The Role of Context

Jorge Gomes, Filipa Rodrigues and Ana Veloso

Introduction

Creativity has been at the core of much research in individual and organisational sciences. Whilst the first theories and models focused on the individual, more recent perspectives suggest that contextual factors play an important role in creativity and innovation (Shalley, Zhou & Oldham, 2004). In this new paradigm, creativity is as much the result of social interaction, as it is of individual action (Aggarwal & Bhatia, 2011).

The context of creativity is particularly relevant to organisations, as creativity feeds other key organisational capabilities, such as continuous improvement and innovation. It does not come as a surprise then, that research over the last decades has turned its attention to the environment in which creativity takes place. However, despite some progress, knowledge concerning the context of creativity is still surprisingly scarce and underdeveloped. The abovementioned authors provide some important insights into the interplay between creativity as an individual phenomenon and organisational settings. However, amongst others, they do not entirely address such questions as: what is the context of creativity, what context factors matter most?, or how do context factors affect the creative individual?

The purpose of this chapter is to put forward a set of integrative notions with regards to the context of creativity in the workplace, and to point to possible avenues for future research in this area.

From creativity *out* of context to creativity *in* context

Early interest in the scientific study of creativity focused on the measurement of individual attributes related to creativity, and most notably its

biological roots (Piirto, 2004). In this classical view, creative individuals are a rare species, rather unique amongst other humans, and who always aim for great achievements.

This lonely genius-centred vision shifted in the first quarter of the twentieth century, as a result of the study of authors such as Guilford and, especially, Stein (Ryhammar & Brolin, 1999; Glăveanu, 2010b). According to Runco and Jaeger (2012), it was Stein who unequivocally established in 1953 that which became known as the current standard definition of creativity (p. 311): ‘creative work is a novel work that is accepted as tenable or useful or satisfying by a group in some point in time’. He further avowed that when speaking of creativity, ‘it is necessary to distinguish between internal and external frames of reference’ (p. 312). The introduction of an external framework in the definition meant that creativity was no longer depending on the individual alone, but that rather it was a social phenomenon. Furthermore, in order to be judged as *creative*, the creative person or their output needs to be evaluated within a particular *external* context, and needs to show some usefulness to outsiders.

In the sequence, research in creativity after the 1950s shifted from individual genius realisations, to the *creativity of everyday life*, i.e., from a molecular to an ecological perspective (Glăveanu, 2010a). This does not mean that research on individual aspects of creativity was abandoned. In fact, recent empirical studies show that this vein of inquiry is still extremely active (see e.g. Chávez-Eakle, Eakle & Cruz-Fuentes, 2012).

Taking the context into account provides the concept of creativity with a linkage to the processes and structures surrounding a person (Glăveanu, 2013), and it offers a more comprehensive and systemic view of this phenomenon. Many recent definitions reflect this perspective: creativity can be seen as ‘A system composed of three elements: a culture that contains symbolic rules, a person who brings novelty into the domain, and a field of experts who recognize and validate the innovation’ (Csikszentmihalyi, 1997, p. 6). Similarly, Amabile (1996) suggests that there are several facets to understanding creativity, one of which – the social environment – includes all the factors in the environment that serve as obstacles or stimulants to creativity. Similarly to Csikszentmihalyi, Amabile (2012, p.2) defines creativity as the production of ideas or outcomes that are both novel and appropriate to some goal. Also, Sternberg and Lubart (1996, in Sternberg, 2012) defend a multifactor view of creativity, composed of various individual features (e.g., personality) which interact with their environment and context).

The above authors focus on creativity in an organisational context, but research in other areas confirms that other settings are also critical. First and foremost, the family, and especially parents, seems to affect in a decisive way the creative child and her/his creative capabilities and personality (Piiro, 2004). Sulloway's evolutionary model of personality, for example, defends that first-born children are less open to new experiences and less innovative-driven than their siblings (Sulloway, 1995, in Piiro, 2004), which is explained by differential parental investment in their children.

A second decisive influence factor is education. In his talk on TED in 2006, Robinson makes substantial criticisms of the formal education system, which, according to him, does not stimulate the children's creative potential and capabilities. Other leading authorities such as Sternberg (2012) are also strong critics of traditional education systems, and in fact, recent empirical studies by Chávez-Eakle and colleagues (2012), confirm that traditionally-oriented education does not favour creativity.

A third crucial component is the socio-cultural context. This has been extensively discussed by authors such as Csikszentmihalyi (1997) and Glăveanu (2013). For example, in Csikszentmihalyi's system view of creativity, the *domain* is a key element of the theory; it consists of a set of rules and symbolic procedures which are culturally and socially defined, and that not only sanctions creative outputs, but are also eventually changed by such outputs. For instance, national culture is a powerful factor which affects creativity, as it stimulates or restrains creativity, influences the number of creative activities and more or less pushes people towards the arts, amongst other impacts.

A fourth and final element is organisation, which is presented in the next section.

Creativity in an organisational context

The emergence of the social-psychological interactive approach

Organisations and industries have shown a great deal of interest in creativity over the recent decades, due to its impact on important outcomes, such as R&D, innovation, and intra- and entrepreneurship. This widespread interest meant that creativity then entered new scientific and research fields, and was no longer confined to psychology. Currently, the concept is discussed in various areas of management and business, such as strategy, innovation, technology and knowledge management;

moreover, it has led to the emergence of similar constructs, such as team creativity and organisational creativity.

As explained above, until the 1980s, research on creativity in organisations was essentially focused on the individual, but during the 1980s and the 1990s, theoretical developments nearly came to a halt, as authors started to realise that person-related factors did not suffice to explain such a complex phenomenon.

The social environment surrounding individuals caught scientists' attention, which led to the emergence of a social-psychological interactive approach to creativity. This approach emphasises the 'mechanisms that govern the interplay between experience, behaviour and the person's environment or situation' (Ryhammar & Brodin, 1999, p. 268). Creativity is therefore a phenomenon which cannot be understood outside a 'larger system of social networks, problem domains and fields of activity' (p. 268). What such a system, problem domains and fields of activity actually mean, however is, to a large extent, not yet entirely clear nor explicit in the literature, as shown below.

This new perspective was fuelled by the contributions of various studies. Ekvall's pioneering study of creative climates called attention to the organisational conditions that stimulate, or hamper creativity and innovation, and led this author to elaborate a creative climate questionnaire with ten dimensions (Ekvall, 1996, in Isaksen, Lauer, Ekvall & Britz, 2001), which were later refined to nine factors by Isaksen and colleagues: challenge and involvement, freedom, trust and openness, idea time, playfulness and humour, conflict, idea support, debate, and risk-taking.

Oldham and Cummings (1996) combined personal characteristics with organisational-context attributes in their study, and found that creative performance is enhanced when both types of factors are operating in work settings. In particular, they found that the relevant context variables include complex and challenging jobs, as well as supportive and non-controlling supervision. This was an important study, because it pointed to factors in the environment which may have a contrasting and opposing influence on creativity. In fact, if supportive supervision has a positive effect on employees' creativity, then a contrasting style – autocratic supervision – has a strong negative impact on the overall creative output of teams and individuals.

The extensive work of Amabile is perhaps among the most relevant in terms of promoting the context-view of creativity. Her componential theory (Amabile, 2012) links individual creativity with organisational innovation. In other words, the components of individual creativity

interact with the stages of the creative process, which, in turn, affect the stages and outputs of the entire innovation process. There are three components at the individual level: domain-related skills (which include knowledge, expertise, technical skills, intelligence, and talent); creativity-relevant processes (which include the cognitive style and personality characteristics which stimulate creativity); and task motivation (defined as a passion for carrying out work, i.e., intrinsically-lead actions rather than extrinsically-lead). The social environment completes Amabile's model, which includes 'all of the extrinsic motivators that have been shown to undermine intrinsic motivation, as well as a number of other factors in the environment that can serve as obstacles or as stimulants to intrinsic motivation and creativity' (Amabile, 2012, p. 4). Work environment factors are numerous, such as: organisational norms, political issues, top management attitudes, supervisors' attitudes, and the absence/existence of mechanisms for developing new ideas.

Another set of studies that influenced the social-psychological view are Csikszentmihalyi's writings (1997). As mentioned above, this author considers creativity to be a system, which includes three elements: (a) the creative person; (b) the domain that is hypothetically affected by the novelty; and, (c) the field, which is composed of individuals who act as gatekeepers for the domain, and therefore decide whether a new idea or product should enter and change the domain. Although much of Csikszentmihalyi's ideas are essentially about intrinsic motivation, positive psychology and the concept of flow, his conception of the environment brings additional elements to the question of what is context in creativity, as highlighted in the next sub-section.

The various meanings of 'context'

An important point should be stressed with regards to Amabile's task motivation concept. Although task motivation pertains to the individual level, as it refers to how individuals perceive their work characteristics, it can nevertheless be influenced by how the organisation designs and implements work activities and processes. Task motivation is therefore the link between individuals' inner attributes, and their external world. The way the organisation and its management design work, structures and processes are actively perceived and interpreted by employees whose motivation levels and behaviours consequently become affected. Task motivation encapsulates, thus, both an internal and a context element in its definition. This means that the notion of context in Amabile's model is, in fact, represented by task motivation and social environment: the former is concerned with a context that is

closer to the person, whereas the latter refers to a context that is more distant to the person.

This is corroborated for example by Alencar and colleagues (Alencar & Bruno-Faria, 1997) who show that there are ten stimulants for creativity, including challenging tasks or missions; freedom and autonomy (which would be included in the notion of task motivation, in Amabile's view); and organisational support and salaries and benefits (extrinsic motivators in the componential theory). Alencar's studies contribute to the discussion on the context of creativity in two further ways. Firstly, they pinpoint a second category of environmental factors, which were named 'obstacles to creativity in organisational settings', which include aspects such as a lack of training and personal relationships. Secondly, her studies were conducted mainly in Brazil, adding important insights related to cultural issues that influence the context of creativity. Culture may indeed influence creativity in many ways: Ferreira, Fischer, Porto, Pilati & Milfont (2012) explored the structure and function of *jeitinho*, which is an indigenous Brazilian construct which is associated with problem-solving tactics that results in people circumventing obstacles that confront them in their lives. The Brazilian *jeitinho* is related to creativity, flexibility and intuition, and it shares corruption-like features with the Mexican *mordida* (Yankelevich, 2012), on one hand, and with the spontaneous improvisation style of the Portuguese term *desenrascar* (Cunha, Clegg & Kamoche, 2006), on the other hand. Although these concepts largely point to the small 'c' of creativity, they nevertheless alert one to the need to take the cultural context into account, if one wishes to fully comprehend the complexity involved in creativity in context (Glăveanu, 2010a, 2010b).

Csikszentmihalyi's view of context adds other elements to the discussion. Firstly, context is both a set of symbolic rules and a group of observers or judges. Secondly, and related to the previous element, context exists at various levels of analysis and it establishes different interactions with a creative person. And thirdly, context is something that may be changed by the action of a creative person, but it is also a factor that authenticates whether or not a novelty is worth such a description.

Further to the above considerations, various contextual factors have been mentioned in the literature (e.g. Aggarwal & Bhatia, 2011, Alencar & Bruno-Faria, 1997, Dul, Ceylan & Jaspers, 2011, Shalley et al., 2004); Table 18.1 shows some of these factors and their respective definitions.

As the studies in the table illustrate, creativity seems to be affected by various work-related and organisation-related factors, which range from job characteristics to relationships with peers and supervisors,

Table 18.1 Context factors influencing creativity

Factor	Description
Work challenges and complexity	Work complexity and challenging tasks demand creative skills
Peer support	Positive relationships with peers
Autonomy	Autonomy to take decisions regarding how to conduct tasks and work activities
Organisation structure	Flexible rules; decentralisation of decision-making
Organisation support	Creative work is acknowledged and mechanisms are in place to support it
Physical settings	Furniture, colours, indoor physical climate, sounds and smells
Salaries, benefits and rewards	Salaries and rewards promote creative work
Supervisor's support	Supervisors provide feedback and encouragement for creative behaviour. Trust is also important
Technological and material resources	Available resources for stimulating new ideas
Training and development	Specific training on creative competencies
Time to think	There is no time pressure on thinking of new ideas
Organisational climate	Workers perceptions, emotions, dispositions and behaviours about what organisations inform as important (e.g. innovation)

Source: Aggarwal & Bhatia, 2011; Alencar & Bruno-Faria, 1997; Dul, Ceylan & Jaspers, 2011; Shalley et al., 2004.

through to organisation, culture and climate. In the innovation literature, the human resource management (HRM) function is regarded as an essential ingredient for fostering innovation (and creativity) at both individual and group levels (Escribá-Carda, Canet-Gine & Balbastre-Benavent, 2014). As HRM acts at various levels of the organisation, it has the potential to integrate various of the contextual factors shown in Table 18.1, and hence its extended impact on creativity (and innovation), both direct and indirect, is still needs to be understood in full.

Another implication that emerges from Table 18.1 is the following. Although the socio-psychological interactive perspective has conquered an important place in creativity research, one of its central tenets – the

concept of context – may mean different things to different authors and may play a distinct role according to the various perspectives. Furthermore, explanations concerning how contextual factors interact with the individual are largely absent in the literature. In the following section, the concept of context is examined further.

What is, and what is not, context

Creativity in context provides the concept with a new set of properties, which include: value, utility and a social string that connects the individual to its surroundings. The focus below will be on the various contextual elements that interact with the individual and thus can somehow affect a person's creative output.

The influence of surrounding and environmental variables has been at the core of several scientific areas for a long time. Anthropology, linguistics and sociology, are all fields that strongly rely on environmental attributes in order to generate and develop theory. In psychology, the individual has been the traditional unit of analysis, hence little or no attention has been paid to context until very recently. Lewin was perhaps one of the first psychologists to call attention to the role of context, with his force-field theory, but with regards to the concept of personality, for example, the heated debate between research streams that unfolded during the 1960s resulted in the emergence of new theories, of which Mischel's seminal view (1973) was an interesting case. Mischel challenged the dominant stream in personality theory, which defended that traits were the greatest influencing factors of human behaviour, as far as personality is concerned. Mischel recognised that some earlier writers had pointed to the importance of the 'S' part in the 'Person X Situation' classic equation, and further argued that, in fact, individuals actively engage in perceptual and cognitive processes to assess and evaluate situations. Final behaviours are a product of complex interactions between inner states, cognitive processes and situations. Mischel was, in this way, one of the pioneers of what would later be known as the 'constructivist' perspective in psychology.

Although context is currently part of most psychological research, a difficulty still remains in defining and delimiting it. Clitheroe, Stokols and Zmuidzinas (1998) distinguish between several notions with similar meanings: context, situation, environment and setting. All these concepts share some features, but they also refer to different things: environments include the relatively stable attributes of the physical and social surroundings of people and groups. Settings and situations denote

the dynamic interactions between individuals and their surroundings; settings are defined as being more structured and situations less structured in nature. Context is concerned with 'a particular kind of interdependence that exists between selected aspects of a given environment, setting, or situation' (p. 105). Context, therefore, is especially concerned with the interdependencies that certain surrounding aspects establish with certain focal (or target) variables. These focal variables directly affect final behaviours, and they can be of various types: independent, dependent, moderating and mediating. Clitheroe and colleagues' definition of context is a useful one, since, not only does it contribute to differentiating similar constructs, but it also emphasises the distinctive impacts that focal and contextual variables may establish between each other. Moreover, their conceptualisation reinforces the view stated by authors such as Bamberger (2008), who stated that recent advances in methodology and statistical analyses are helping researchers to design and test more complex models in creativity research.

Bamberger offered a different meaning of context, which was further developed by Glăveanu (2014). For these theorists, most descriptions of context stress an outside world that exists around individuals, which affects them in various and distinct ways. Referring to the works of Cole, Glăveanu asserts that such a perspective defends that context is a 'set of concentric circles revealing multiple, nested levels (...), that tells us little about dynamic relationships and continuities, and considers context as influence, a stimulus or cause'. (Cole, 1996, in Glăveanu, 2014, p. 386). In contrast, context should include two key dimensions in its definition, those of space and time. This spatio-temporal view defends that context and individuals are interlinked and are part of the same continuum as far as social-psychological phenomena are concerned. In other words, if one wishes to understand certain phenomena, then it is necessary to focus on what occurs between individuals and their environments, rather than on individuals or environments per se. As Glăveanu put it (2014, p. 385), 'context is not on the outside of the kind of functions and activities studied by psychologists, existing as a set of external variables that have the power to shape their manifestation, but it is integral to these phenomena'. Individuals construct reality, and both time and spatial elements (which include bodies, material objects, social relations, and institutional and cultural arrangements) are an integral part of such constructions. Following these ideas, Glăveanu proposes the reorganisation of Rhodes' (1961, in Glăveanu, 2013) four Ps of creativity (person, process, product and press) into a socio-cultural perspective with five As: actor, audience, action, affordances and artefacts (also Glăveanu,

2010b). Space and time are part of these five As, and provide the model with a more dynamical view of creativity in context.

A final word of caution should be spelt out with regards to the 'objective' versus 'subjective' status of context. According to Glăveanu (2014), context has an ontological existence, outside the perceiving mind of the beholders. In other words, space and time are not mere products of a player's daydreaming; rather, they are active elements in human and social construction processes.

Glăveanu's ideas are original and they bring an interesting and challengingly novel approach to creativity and its relationship with contextual factors. Combined with Bamberger's and Clitheroe and colleagues' conceptions, some further developments can be proposed to this research area. These are presented in the next section.

Toward a typology of contextual factors

Variation of contextual factors

As Table 1 showed, factors influencing creativity cover a wide range of aspects with which individual and groups engage. For example, they can refer to material subjects (e.g. physical settings), social relations (e.g. peers), or management practices (e.g. training and development). Authors have presented ways to organise such a variety of contextual factors. Aggarwal and Bhatia (2011) distinguish between internal and external factors, while Alencar and colleagues speak of stimulating and blocking factors. What these frameworks seem to be lacking, however, is a link with a more dynamical view of context, as presented in the section above.

In fact, as presented by Glăveanu, Bamberger, and Clitheroe and colleagues, if people actively perceive and interpret their context to generate meaning and to produce creative behaviour and products, then how a particular contextual factor is seen will depend on the perception of historical (time dimension) structural and social dynamics (spatial dimension). The following are some examples that help to explain these complex interactions between organisational actors and contexts.

In an experiment conducted in 2007, sponsored by the *Washington Post*, the world-famous violinist Joshua Bell performed for 43 minutes in a subway station at Washington DC (The Washington Post Experiment). He pretended to be just another busker, wearing jeans, a long-sleeved T-shirt and a baseball cap, even though he was also holding his \$3-million Stradivarius that was made by Stradivarius himself in 1713. Of the 1,097 people who passed by Bell that morning, only seven stopped to hang

around and listen to the violinist for at least one minute. He made \$32 during those three-quarters of an hour, in sharp contrast to the several thousand dollars that he usually makes for a large concert. Although this might not be taken as a purely representative example of creativity, it nevertheless shows how context does matter in relation to other human capacities and skills. When a world-famous virtuoso classical musician is placed outside his ordinary context, then the time and space conditions of the new context take over, and interactions between beholders and their context tend to follow the new, expected pattern. In this case, people rushing to work in a subway station would barely pay attention to 'just another' street artist.

In the literature on creativity, differences across empirical studies can also be partially explained by the aforementioned assertions. For instance, the physical environment in Alencar and Bruno-Faria's (1997) study was shown to be highly relevant, whereas in Dul et al.'s (2011) research, the physical environment only marginally affected creativity. It may be that the samples used in these two studies did not share the same historical, individual and social relations with their respective physical environments, thus creating dissimilar results for the two research experiments. Likewise, supervisors are often referred to as being critical to employees' creativity, but they can also be a neutral element amongst other, more essential, factors. Since supervisors can be conceived as the field element in Csikszentmihalyi's theory, then it is natural for many empirical studies to look at the role of direct supervisors on their employees' creative behaviours and outputs. In the sequence, some empirical works found different supervisors' attributes that affect creativity, such as personal attributes (e.g. supervisors' emotional intelligence, in Castro, Gomes & Sousa, 2012), or employee-supervisor relationships (e.g. supervisors' support, in Aggarwal & Bathia, 2011). In some other studies, though, supervisors are found to be a barrier to creativity (Liu et al., 2012).

In sum, contextual factors can be regarded in some cases as blockers of creativity, whereas in some other cases, they are passive promoters, and in some other occasions they are active promoters. Yet there are other instances where they are not part of the context as individually and socially constructed by individuals who form a particular group. How each one is conceived will probably depend on how individuals and groups engage with their unique set of contextual surroundings.

Types of contextual factors

Blocking factors are perceived and interpreted as producing obstacles and creating limitations to creative activity. They impede or actively

discourage creative flow in individuals and groups. For example, highly repetitive tasks and non-challenging jobs are usually perceived as being serious impediments to creativity and innovation.

Conversely, enabling factors are passive promoters of creativity. They are acknowledged by individuals and groups in a specific environment as facilitating and aiding creative activities and behaviours. These are factors that do not necessarily target creativity alone; they may be targeting other behaviour and work outcomes, such as commitment, absenteeism or productivity. Hygienic factors such as high salaries and rewards regularly fall in to this category.

Promoting factors are active supporters of creativity. These are perceived as stimulating and motivating elements, which directly target creativity, and hence are felt in a more powerful way than the previous ones. Specific supervisor support for creativity is frequently pointed out as being a strong incentive to creativity and innovation.

Finally, neutral factors have no impact on creativity, as individuals and groups are not even aware of their existence and/or do not take them into account in their particular view of a context.

Whether a particular factor is a blocker, an enabler, a stimulator, or has no effect, will partially depend, as previously mentioned, on the social-psychological interaction between actors and their contexts. Joshua Bell's Stradivarius violin is still the same violin, regardless of where it is played, whether it be in a subway station, or in the Boston Symphony Hall. Bell's talent and greatness is the same in both settings, and the musical pieces played that morning in the *Washington Post* experiment are some of the top classical works ever composed. These three elements – instrument, person and musical products – are key success factors if the performance takes place in a concert hall. However, in the context of a subway station, they seemed to mean little in terms of generating revenue. In other words, in a concert hall they are enablers or promoting factors, but in a subway station they appear to be neutral. The people who passed by Bell that morning were probably equivalent to those that would frequent a concert hall as, in fact, admitted by the newspaper: their experiment took place in L'Enfant Plaza station, which is situated in the heart of federal Washington, and passers-by were mostly business-related professionals and managers. The differences between the two contexts – one a subway station and the other a concert hall – are strong enough, however, to produce distinct individual and group behaviours. Accordingly, the two audiences engage in a different manner with their respective contexts, due certainly to several other factors, such as awareness of the artist, expected roles, and crowd behaviour.

Combining contextual factors

As explained above, the HRM function has the potential to influence creativity in organisations, as it can impact on jobs and functions, on individual perceptions and behaviours, on supervisors and management, on groups and teams, and on organisation-level components such as culture and climate. Joo, McLean and Yang (2013) stressed that the HR Development 'can play a pivotal role in enhancing employee creativity and in building a more appropriate contextual environment for creativity by providing employees with learning and development opportunities and by changing the organisational culture and practices' (p. 392). In other words, HRM has the potential to influence not only the process but also the outcome, which in turn means that creativity is probably managed in a much more complex way than previously thought.

How these various factors and processes are managed on their own is a challenge for HRM, however; an even more puzzling challenge is how to manage them in an integrative way. In a recent study, Rodrigues and Veloso (2013) found that the presence of promoting factors does not necessarily lead to creativity and innovation at work; some creativity-oriented practices for example, do not lead to creative outputs if they are misaligned with HR management actions. The authors suggest that promoting factors (e.g. communication support facilities, tolerance to error) need to be bundled, or combined with enabling factors (e.g. performance appraisal and team work), which influence individual and organisational creativity actively, rather than passively.

As shown by Rodrigues and Veloso (2013), the impact on creativity and innovation emerges from a combination of different factors, as actually anticipated by Glăveanu (2010b) in his five As framework. Table 18.2 shows how a combination of enablers and promoters may affect creativity distinctively (for simplicity reasons, the table omits neutral and blocking factors).

The strong/weak dichotomy has an illustrative purpose, as it denotes a stronger or weaker presence of enabling and promoting factors, and relates what happens when they are combined.

In summary, creativity in the workplace is the complex product of individuals and groups acting together with a set of contextual elements that have emerged through the organisation's history as being more or less relevant and influential to the specific organisational actors. Context is not a passive player, but it is rather an essential part of a whole pattern of organisation behaviour having creativity at its core.

Table 18.2 Combining, promoting and enabling context factors

		Promoters	
		Strong	Weak
Enablers	Strong	There is an overall alignment of organisational elements that promote creativity	Creativity is difficult. The conditions exist, but creativity is left to the informal initiative of some individuals/groups
	Weak	Creativity happens, but often it is lost, since there are no ways to capture it. May lack some structure	Creativity does not happen; when it occurs, its potential is often not recognised; innovation is an accidental output

Source: Rodrigues & Veloso (2013)

Conclusion

Viewing creativity in context stresses the need to explore how creativity is really defined by organisational actors engaged in creative processes, whether these be related to product innovation or other types of innovation. That which in some cases might be viewed as a powerful influencing context factor, may in other instances be seen as just another company practice. Likewise, differences across organic units within the same company are probably better examined by looking at the historical and spatial pattern developed over time between individual actors and groups, as well as their unique set of contextual factors. The same reasoning can be extended to an analysis of creativity in industries and in national cultures. Only by taking into account the actors' perspective of context, can researchers be permitted to fully comprehend the interplay between the creative person and his/her context.

Furthermore, the view exposed in this text also argued that management, especially the HRM function, has a key role in bundling the contextual elements into a single powerful tool to manage creativity in the workplace, which would not only stimulate individual creativity but also create a creative capital that becomes embedded in an organisation's capabilities and culture. This, of course, assumes that creativity is a strategic goal for an organisation; if it is not, then the HRM function should follow other directions where creativity is not central to the organisation's strategy.

Finally, an ideal research proposal would be to accompany a company start-up for some time, from its very inception throughout to a moment

when its first products or services are commercialised and the first results are generated. With such a longitudinal design, outside observers would be able to explore how creativity is *created* in context, i.e., how creativity contextual patterns emerge out of the interplay between the company's founders and its various surrounding conditions and factors, including supervision and top management involvement. It would then be possible to understand what leads some factors to become promoters, enablers or blockers.

To summarise, this chapter has addressed creativity in context, and offered some additional thoughts that may be used by researchers to continue to investigate the socio-psychological view of creativity.

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19

Creativity Training

Kamal Birdi

Of the many strategies that have been adopted by organisations to enhance their innovativeness, conducting creativity training for employees is one of the most widespread. Within this chapter, I will discuss how widespread the use of creativity training is, the main types of interventions used in organisations and review the literature for evidence of their effectiveness. Finally, integrating lessons from the literature with my own experience of developing and implementing a new innovation training model (CLEAR IDEAS) for organisations, the chapter will conclude with a set of practical guidelines on what makes for more effective creativity training interventions.

Definition of creativity training

Creativity training can be defined as instruction to develop an individual's capability to generate novel and potentially useful solutions to (often complex and ill-defined) problems (Scott, Leritz & Mumford, 2004a). The instruction can come in various forms, but the underlying aim of creativity training is to help participants generate more original ideas to deal with challenges they are facing. It is worth mentioning a conceptual difference between creativity training and innovation training. While definitions of creativity focus on the generation of new and useful ideas, innovation also includes the subsequent implementation of those ideas. Hence, innovation training can be considered a mix of both creativity and implementation skills (Fischer & Afifi, 2013). The extant literature is typically hazy when using these terms but the focus has tended to be on idea generation so this chapter will use the term 'creativity training' and point out where relevant the link to innovation training.

Prevalence of creativity training

Hequet (1992) summarised trends in creativity training in *Training Magazine's* U.S. Industry Report which found that 32% of organisations with more than 100 employees offered some form of creativity training in 1990, compared to 16% in 1986; however, this dropped back to 27% in 1991. This type of information was lacking in the U.K. hence my colleagues and I conducted a Learning Practices Survey in 2003 of 580 organisations based in the country. A telephone survey was conducted with one senior head of training and development (or similar position) in each organisation (see Birdi, Patterson & Wood 2007, for details). It was found that 19% of organisations provided some form of creativity or innovation training for their members and there was no significant difference in uptake between sectors. A survey of 850 UK chartered management professionals showed that one fifth reported that their organization had conducted creative problem-solving training (Patterson & Kerrin, 2009). The UK 2011 Workplace Employment Relations Study included interviews with 2680 managers and 1002 employee representatives (van Wanrooy, Bewley, Bryson, Forth, Freeth, Stokes & Wood, 2013) and showed that 19% of managers surveyed said problem-solving training was offered to their biggest occupational group and this was nearly identical to the 20% reported in 2004. The UK Innovation Survey 2013 collected data from over 14000 enterprises (Department for Business, Innovation and Skills, 2014) and 14% of the sample reported investing in training for innovative activities (compared to a figure of 12% in 2011). The proportion of expenditure on innovation for training rose from 2% in 2011 to 3% in 2013.

The support for creativity training appears to vary widely from country to country. A summary of the Community Innovation Surveys (CIS) conducted across 19 countries between 2004 and 2006 indicated that in Luxembourg and Portugal, more than 70% of innovative firms engaged in innovation-related training activities, while the share was less than 50% for other countries including Spain, Denmark and Italy (OECD, 2010). The average total was 57%. In summary, we can conclude that significant numbers of employees take part in some form of creativity training each year. Given this investment, what are people learning and is it having any effect? In the following sections, I shall describe the most common creative thinking interventions used in organisations and then discuss the research evidence of their impact.

Types of creativity training

There are four underlying principles of creativity training interventions. First, interventions attempt to reduce cognitive inhibition or fixedness

in thinking of ways in which to deal with a problem. Second, training programmes teach techniques to increase associative thinking in order to generate new ideas. The more remote the association between the original problem and new stimuli, the more original the idea will probably be. Third, courses can vary in their balance of divergent and convergent thinking. Divergent thinking is the capacity to generate multiple solutions or opportunities while convergent thinking involves critical capacities such as assessing the quality of ideas generated. Effective creativity is acknowledged to require both convergent and divergent thinking (Onarheim & Friis-Olivarius, 2013). Finally, there is the consideration of affective mechanisms whereby participants can develop both the motivation and self-efficacy to be creative through instruction and practice.

There is no consistent typology of creativity training. Bull, Montgomery and Baloché (1995) conducted a review of college-level creativity courses and identified some 70 techniques viewed as important components of instruction. The authors then categorised approaches to the development of creativity as including cognitive approaches, personality approaches, motivational approaches and social interactional approaches. An alternative perspective is to see creativity as a series of interconnected stages or processes. A review of process models identified eight core processing operations: (a) problem construction or problem-finding, (b) information gathering, (c) concept search and selection, (d) conceptual combination, (e) idea generation, (f) idea evaluation, (g) implementation planning, and (h) action monitoring (Scott, Leritz & Mumford, 2004a). Puccio, Cabra, Fox and Cahen (2010) provide a good overview of the different schools of creativity training and the following summary is partly based on their categorisation.

Brainstorming: When asked to describe creative thinking techniques, brainstorming is probably the approach that most people would mention (producing ideas in a group context where judgment of ideas is done separately from their generation). It was popularised by Osborn (1953). Unstructured brainstorming is not influenced by any guidelines while structured (classical) brainstorming typically is guided by four principles: criticism is not permitted; free-wheeling is encouraged to generate more wild and original ideas; the emphasis is on generating as many ideas as possible; and building on and modifying other members' ideas is encouraged (Proctor, 2010).

Synectics: The focus of this approach is to aid the generation of novel ideas by joining together apparently irrelevant elements through the use of analogies. William Gordon (1961) developed this approach following

research into notable historic discoveries that derived from the use of analogies with similar problems found in nature or elsewhere. For example, a sycamore leaf spiralling to the ground off a tree influenced the design of the helicopter blade. The process works as follows. First, a real-world problem is identified. Second, an analogy for the real-world problem is chosen. Third, time is spent understanding how the analogy deals with the problem or issue. Fourth, attempts are made to translate any solutions generated by the analogy to the domain of the real-world problem. The underlying cognitive principle here is to encourage remote associations between the problem and other stimuli to open creative new lines of thought (Onarheim & Friis-Olivarius, 2013).

Morphological Analysis: The progenitor of this approach was Fritz Zwicky, an astronomer who worked on redesign of jet engine technology (Zwicky, 1969). His initial task was to define the important parameters of the technology, which include fuel type, oxidizer and thrust mechanism. He continued, in turn, to break each of these technologies down into its component parts to examine whether any new ideas emerged from this more fine-grained analysis. Having exhausted the possibilities under each parameter heading, he then assembled the component parameters in all possible permutations: for example, a turbojet that used oxygen and a solid fuel. For some combinations, a jet engine system already existed but for others, no systems or products were available. These latter combinations thus provoked a stimulus for creativity and an investigation into whether they could be achieved. The breaking down of a problem into its component parts (such as steps in a process, parts of a product or actors involved in a situation) and the reconfiguration of those parts into unique combinations provides a means of promoting remote associations and therefore divergent thinking.

Lateral Thinking: Edward de Bono's seminal works on lateral thinking (de Bono, 1977, 1992) have proven to be very influential. He defines vertical thinking as that based on developing logical linkages while lateral thinking involves a complete shift in thinking or perception around a problem. In a nice analogy, de Bono (1992) declares that vertical thinking is about digging a hole deeper whereas lateral thinking is about digging the hole in different places. To aid these radical shifts in perception, a wide variety of techniques have been developed which can be broadly divided into three categories (Proctor, 2010). Awareness techniques help redefine and clarify current ideas (e.g. 'assumption smashing' involves taking away each assumption

then considering what would happen). Alternative techniques involve searching for as many different ways of looking at a problem as possible in order to provide different insights (e.g. 'rotation of attention' asks the problem-solver to move away from the core of the problem and focus on surrounding features). Provocative methods involve pushing for the generation of radical ideas by using a variety of techniques (e.g. 'reversal', involves taking the opposite view of a situation or parameter).

Theory of Inventive Problem-Solving (TRIZ): This approach was developed by Genrich Altshuller from the 1940s with the intention of creatively invigorating the engineering design and problem-solving domain, by testing the view that many engineering problems and solutions were due to a smaller set of underlying of core principles. He therefore set out to analyse thousands of patents to identify the most common problems addressed with their most common solutions (Altshuller & Altov, 1996). This led to the core '40 inventive principles' used to drive idea generation in TRIZ. For example, 'segmentation' asks problem-solvers to consider taking a step in a process and breaking it down into smaller components. Since its inception TRIZ has been continuously developed and more tools have been added for generating innovative ideas and solutions for problem-solving (Wang, Chang, & Kao, 2010; Birdi, Leach & Magadley, 2012).

Creative Problem Solving (CPS): This approach is based on the work of Osborn and Parnes (Osborn, 1953; Noller and Parnes, 1972) with subsequent development over the years (see Puccio et al., 2010 for details). The underlying approach to CPS involves a series of processes or stages described as mess-finding, problem-finding, information-finding, idea-finding, solution-finding and acceptance-finding. These can also be subsumed under the three broader operations of problem understanding/clarification, idea generation/transformation and action-planning/implementation. A key principle of CPS is that a balance of divergent and convergent thinking is used. Participants are trained in the skills required for each process, which means that not only are more divergent and convergent thinking developed but there is also a focus on the other skills needed to implement ideas.

Evidence of the impact of creativity training

Torrance (1972) conducted a review of 142 studies of creativity training for children, mostly (103) using the Torrance Tests of Creative Thinking (TTCT) to evaluate creative outcomes (fluency, flexibility, originality

and elaboration). Creative thinking interventions were categorised into nine types (e.g. Creative Problem-solving programmes, motivation and reward mechanisms, media and reading programmes). Programmes involving the creative arts, complex combinations involving packages of materials (e.g. the Purdue Creative Thinking Program), media and reading programmes and motivational interventions were found to be reasonably successful. Torrance concluded 'The most successful approaches seem to be those that involve both cognitive and emotional functioning, provide adequate structure and motivation and give opportunities for involvement, practice and interaction with teachers and other children' (p. 203).

A more critical, qualitative review of the literature by Mansfield, Busse and Krepelka (1978) outlined the methodological shortcomings of past studies and they examined five programmes that had been evaluated in several studies (e.g. CPS training), mainly with children and a small number with college students. They concluded that there was mixed evidence for the effectiveness of creativity training programmes and again methodological and conceptual limitations to studies were raised. Although there was some support for the view divergent thinking could be improved, it was questioned whether this would translate into real-life changes in the creative performance of adults. Rose and Lin (1984) tackled some of the methodological variations in the literature by using meta-analytic techniques to gauge the impact of creativity training. Their overall conclusion was that training does affect creativity but the impact can be moderated by the type of creativity being assessed and the intervention used. Again, it should be borne in mind that the large majority of studies included here used children as participants.

A more comprehensive review of creativity training was undertaken by Scott, Leritz and Mumford (2004a). Their meta-analysis included studies in the previous reviews and 70 studies were finally included in the analysis. Creativity criteria were more wide-ranging than the previous reviews with outcomes including divergent thinking, problem-solving, performance (generation of creative products) and attitudes/behaviour. The overall mean effect size (Cohen's delta) was 0.68, with a good 0.75 for divergent thinking and 0.84 for problem-solving. However, the effect sizes were weaker for performance ($ES = 0.35$) and attitude/behaviour ($ES = 0.24$). Much more detailed analyses were performed than previously to investigate the factors influencing the effectiveness of creativity training. First, in breaking down the different aspects of divergent thinking, the biggest effect was found on originality (0.81), followed by flexibility (0.75), fluency (0.67), and elaboration (0.54). Second, the

sample was split into younger (<14yrs) and older (>14yrs) subjects and no meaningful differences were found. Third, the effect size for academic samples was actually less than for organisational samples (although it should be noted that there were three organisational studies compared to 67 academic ones). Fourth, in analysing content of interventions, the most successful ones were based on a cognitive framework as opposed to social, personality or motivational approaches. Fifth, when looking at different delivery methods, more positive training effects were found where: there was more practice and a longer training time; a model was used to underpin the training as opposed to an ad hoc grouping of techniques; realistic, domain-specific exercises were used; component skills were developed systematically rather than an holistic approach used; where instructional media that encouraged knowledge application were used, more specifically social modelling, co-operative learning and case-based learning (it should be noted that lectures also came out reasonably positively); and domain-based performance/production exercises were used. Scott et al. (2004a) concluded that 'creativity training works' (p. 382) with interventions providing a cognitive, systematic basis that cover problem-finding, conceptual combination and idea generation proving to be most effective. The view was expanded by an additional meta-analysis from the same authors (Scott, Leritz and Mumford, 2004b). This undertook a content analysis of 156 studies in order to identify the major types of creativity training conducted according to cognitive processes, training techniques, media and types of practice exercises. Cluster analysis produced 11 categories of creativity training where Creative/Critical Thinking (ES= 1.31) and Creative Process training (ES = 1.08) demonstrated the strongest effects. This shows the importance of enhancing both divergent and convergent thinking skills that are required across different stages of the creative process.

Ma (2006) conducted a more focused meta-analysis, looking at a different categorisation of techniques, including only creativity training studies with experimental and control groups. Creativity training programmes were classified into ten basic types (including simple ideation training, brainstorming, morphological analysis, synectics) plus another five composite types which used a mix of techniques (CPS, Purdue Creative Thinking Program). Dependent variables were attitude, ideation without evaluation and ideation with evaluation (problem-solving). A final sample of 34 studies with 268 effect sizes were chosen for analysis. An overall mean effect size of 0.77 was found, which was statistically significant at $p < .001$. There was no significant difference in terms of the creativity criteria used (although the strongest effect on

divergent thinking was for originality and for problem-solving on flexibility); interestingly, attitude showed the strongest effect size (1.34) which is much higher than in the Scott et al., (2004a) study. A good point about this study was that age was split into five groups (kindergarten, elementary school pupils, high school students, college students, adults) and it was found that there were stronger training effects for adults as compared to students and children. The effect sizes for the different programmes ranged from a low of 0.2 (for incubation) to a high of 1.46 for attitude training with CPS coming in at 0.82. Duration of training had no effect.

As the reviews above concerned mainly studies using children, Tsai (2013) chose studies (1980–2012) using adults as participants for meta-analysis. The criteria for inclusion were only studies conducted in formal learning settings whose participants were graduate students or subjects with a mean age of greater than 25 and where a control group was used. Studies in organisational settings were not considered and a resulting 11 studies were chosen for analyses. The average weighted effect size (Cohen's d) for all studies was 0.81 and indicating the effect size of creativity training was reasonably strong. A significant impact was shown on four out of five dimensions of creativity (flexibility ($d = 1.42$), fluency ($d = 1.29$), originality ($d = 0.95$) and attitude ($d = 0.57$)) but not elaboration ($d = 0.03$). It should be noted that both the Ma (2006) and Tsai (2013) studies used a single rater to code the studies, hence there is a greater margin for rater error compared to the Scott et al. (2004a, b) meta-analyses.

Finally, the most recent meta-analysis by Yasin and Yunus (2014) covers studies in engineering and technology educational contexts. Criteria for inclusion included studies published between 2000 and 2012, where contexts were engineering or technology teaching and experimental methods were used with control groups. Sixteen studies with 42 effect sizes were included and samples included both school and university students. The overall mean effect size was 1.02. The studies were categorised into seven types of creativity training interventions and the strongest general effects across studies were shown by CPS ($ES = 1.41$) and TRIZ ($ES = 1.05$) training approaches. Summary analyses showed that the mean effect size was good for pre-school (1.53), school (1.08) and university samples (1.15). The effect sizes for creativity training in this meta-analysis were again stronger than in Scott et al. (2004a) but the authors do caution that the study was based on a small sample of articles.

Summarising the above meta-analyses, creativity training does have an effect on improving effective thinking (particularly in the realm of

originality), with effect sizes increasing to greater levels as more rigorous experimental criteria are adopted in studies. Given the limited data, the effects seem stronger for adults than for children. It is also clear that certain types of intervention that combine divergent with convergent thinking and address different parts of the creative process seem to be more effective. In particular, the Creative Problem- Solving training approach appeared to have the most positive consistent effect out of the different activities studied.

However, it should be clear from the above discussion that studies of creativity training have been dominated by educational contexts, whether at school or college/University level. Investigations in organizational contexts have been relatively and unfortunately rare. For example, out of the 70 studies included in the Scott et al. (2004a) meta-analysis, only three were conducted in occupational settings. Furthermore, an early study by Rickards (1975) failed to find a notable impact of training in brainstorming techniques on managers' generation of ideas. More successful is Basadur, Graen and Green's (1982) study of creative problem-solving training for engineers, where improvements in problem-finding and problem-solving were produced. However, the emphasis in that study was on the generation of ideas and did not examine the extent to which the ideas were put into practice. Taking a broader focus, Rickards and De Cock (1994) described the evaluation of the creativity training programme run by their business school. It was found that the workshops improved participants' attitudes towards creativity and over half the respondents mentioned that the training had a subsequent impact on their work. Wang and Horng (2002) conducted a long-term evaluation of creative problem-solving training for R&D personnel and found that certain aspects of creative ability and work performance improved after training. Puccio et al. (2006) provided a useful narrative review of CPS training effectiveness conducted in the workplace. They concluded that positive impacts had been demonstrated in terms of participant attitudes (e.g. preference for active divergent thinking), behaviour (e.g. generating more original solutions to problems and better accuracy in evaluating ideas) and they give a number of useful examples of organizational impact.

The lack of organisational studies evaluating creativity training has been a driver for my own research. In one study (Birdi, 2005), I evaluated three different creativity training workshops (de Bono's Lateral Thinking and Six Thinking Hats and a new approach called Business Beyond The Box (O'Keeffe, 1998)) conducted in a UK government department. Trainees in the workshops reported significant but

moderate improvements in their creativity knowledge, creative motivation and subsequent idea generation and implementation back at work. Trainees undertaking more than one type of workshop reported bigger impacts compared to those just taking one type and improvements in idea implementation at work were significantly influenced by the amount of social support for innovation. A second study by Birdi, Leach and Magadley (2012) evaluated a TRIZ training course for design engineers in a multinational company. Over the longer term, analysis of self-reported impacts of training and comparison between trainees and non-trainees indicated that TRIZ trainees had better levels of idea generation at work. There was less support for changes in idea implementation, with only self-reported impact indicating a significant improvement after training. Still, a notable sub-sample of trainees were able to give examples of where the training had been applied and meaningful impacts on organisational performance were reported. In both studies, improvements in idea generation back in the workplace were due to both increases in creative knowledge/skills and motivation from the training.

The research conducted by myself and others over the years therefore demonstrated that creativity training was able to improve individuals' idea generation at work but other factors more strongly affected whether those ideas were actually put into practice. This led me in 2005 to develop a new innovation training intervention which covered the skills required to both generate and then implement those ideas. The CLEAR IDEAS (CI) model (see Figure 19.1) was based on reviewing the research evidence into what makes for effective creativity and innovation in organisations. The IDEAS part (Illuminate, Diagnose, Erupt, Assess, Select) helps participants learn how to define opportunities for innovation, generate many creative new ideas to meet the opportunity and select the best ones. This first part integrates research findings on creative thinking and problem-solving techniques and therefore introduces both divergent and convergent thinking skills. The CLEAR part of the model (Commit, Lead, Engage, Align, Review) outlines five major aspects consistently identified in the literature that need to be addressed for successful implementation of new ideas (e.g. Anderson, Potočník and Zhou, 2014). The ten years of experience I have gained in conducting CI innovation training workshops for hundreds of participants from private, public and third sector organisations has provided me with some valuable insights into the practicalities of introducing these types of intervention and these will be highlighted in the final recommendations section.

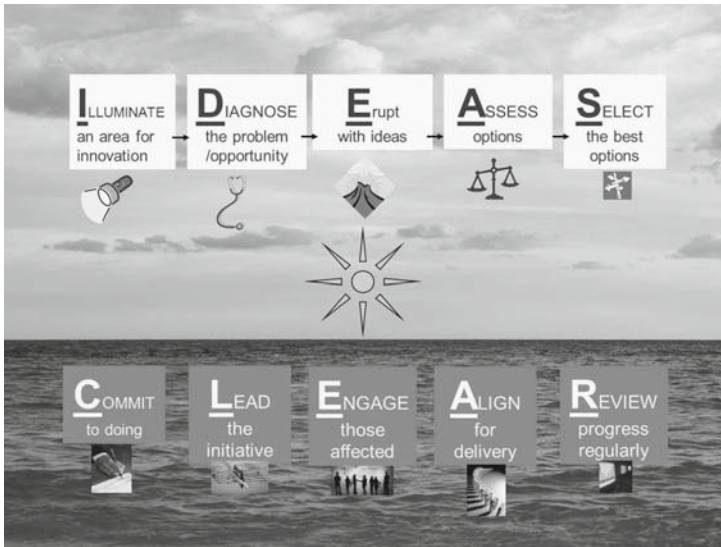


Figure 19.1 The principal steps of the CLEAR IDEAS innovation development model
Source: (Birdi, 2005).

Guidelines for introducing effective creativity training interventions

This part of the chapter incorporates findings from the literature (particularly Scott et al., 2004a and my own experiences) to offer some practical guidelines for developing more effective creativity training interventions.

The training should be based on a robust, valid model of the cognitive activities underlying different stages of the innovation process from problem identification and analysis to idea generation and evaluation to implementation. CPS seems to be the best approach from the literature as it covers the range of these processes while CLEAR IDEAS attempts to provide more detail on the implementation aspects. Make sure you create or utilise a model that is easy to understand or use for non-academics. The language and nature of the CI model has gone through a number of amendments over the years based on user feedback so that it is now relatively easy to communicate the principles to a wide range of audiences.

Before running creativity training workshops:

- Have *meetings with senior management* in order to assess whether a training intervention is appropriate, decide the types of issues to be addressed in workshops and who should attend. Ensure strategies

are in place to allow people to apply their new learning back in the workplace.

- *Contact participants beforehand* to get them to think of a work-related problem they want to work on during the workshop. Evidence from the learning strategies literature shows that when trainees are able to think more deeply and relate the learning during a course to their own circumstances, knowledge and skills are retained longer compared to simply rote memorisation (Warr, Allan & Birdi, 1999).

During the training workshops:

- Training courses should be *lengthy and relatively challenging*, each set of specific cognitive skills being described with respect to their influence on creative efforts. These explanations should be accompanied by illustrations and examples of how they would be applied in real-world cases, including the organisational context in which participants work.
- There should be plenty of opportunity for trainees to *practice applying these cognitive skills* as this is useful for embedding the learning and building participants' self-confidence in using the skills post-workshop.
- In the CI workshops, if possible, *get participants to work on their own-real life challenges* quite early on as this is a good strategy for building motivation as they can quickly start making connections between the training and how it could contribute back at work.
- *Collaborative problem-solving in groups is exciting and useful* but it is important to get the mix of people right. This means having enough variety of perspectives to shed useful light on a problem and also ensuring that participants contribute constructively at each stage.
- *Offer a toolbox approach*. Different people show a preference for certain thinking techniques so I try and make sure a variety of creative and analytical thinking techniques are presented.
- Get trainees to *set goals* at the end of the course to help them promote transfer of learning back at the workplace

After the creativity training:

- Build in *follow-up activities* from the workshops in order to boost application of creativity knowledge and skills. Otherwise these will decline in the longer term if participants are not encouraged to try out their learning. Some useful activities include having follow-up sessions and setting trainees assignments for applying their learning.

- *Support from management, colleagues and others is vital* for encouraging transfer so ensure strategies are in place to enable this. One useful approach is to train senior managers first before sending through their subordinates. This means that management will have a better understanding of the environmental support needed.
- Impact can take months or even years to emerge so it is important to *keep in contact and maintain relationships with trainees*. The CI impact example of a council launching a redesigned social care service took two years to reach full implementation after conducting a CI workshop to tackle the problem.

In conclusion, I hope this chapter has provided useful insights into the research into creativity training and its translation into organisational practice. It has been shown that significant numbers of employees each year are engaging in creativity training. Research into the effectiveness of such interventions has tended to be dominated by educational contexts but meta-analytic studies have shown that training does have a positive effect in improving creative thinking (particularly in the realm of originality). Those interventions, such as Creative Problem-Solving, that combine divergent with convergent thinking and address different parts of the creative process seem to be the most effective. Studies in the organisational context have highlighted the issue that although creativity training can improve idea generation at work, other factors such as management support and autonomy can more strongly influence whether those ideas are put into practice. Based on the research and my own experience, I would recommend an innovation training approach to be adopted in organisations where the skills for both idea generation and implementation are covered and the environment assessed for the readiness to adopt a different way of thinking.

With the right approach in the right context and with the right support, creativity training has the capability to make major contributions to organisations. Our study evaluating TRIZ training in an engineering company (Birdi et al., 2012) unearthed one example where the workshop led to the redesign of a new engine brake part that saved the company £120 million!

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20

Making Creativity an Attractive Option

Qin Zhou and Helen Shipton

Introduction

Creativity in organisations is defined as the generation of new and useful ideas regarding products/services, process and problem-solving activities (Amabile, 1996; George & Zhou, 2001; Oldham & Cummings, 1996). As employee creativity has been seen as a critical impetus for organisational innovation and effectiveness and success, it is unsurprising that much research has been done to identify contextual and personal factors that may foster or hinder creativity (see Shalley, Zhou, & Oldham, 2004; Zhou & Shalley, 2003). Despite these efforts the creativity research so far has adopted a generic approach assuming creativity will unfold more or less similarly across various contexts regardless whether creativity is overtly required or not. More specifically, little is known about why employees choose to engage in creative activities in a general work environment where creativity is seen as extra-role behaviour (i.e. going beyond the existing role expectations) (Van Dyne, Cummings, & Parks, 1995) and an alternative option to routine performance (Ford, 1996). Drawing on the reasoned action theory, this chapter aims to discuss employee creativity as an option in a general work environment.

There is a consensus among researchers who investigate creativity in the organisational context that creativity performance is not limited to a select few and individuals with normal cognitive abilities can, to some extent, produce creative work (Amabile, 1983; Oldham & Cummings, 1996). Furthermore, creativity can be represented as incremental improvements in a general work environment as well as radical breakthroughs in research and development (R & D) teams (Mumford & Gustafson, 1988). In the former context where creativity may not be explicitly required, people have the choice to be creative or not (Ford, 1996).

In the following sections, we first review the literature on creativity, specifically focusing on the impact of the social context on employee creativity. We then propose that, in a general work environment, creativity may represent a riskier option than a habitual behaviour. Applying reasoned action theory, we propose a framework explaining what makes creativity an attractive option in a general work environment. Finally we discuss the practical implications for human resource management.

The impact of social context on creativity

The study of creativity can be traced back to the 19th century when creativity was primarily seen as a personal trait. Creative individuals were believed to possess certain unique characteristics contributing to their creativity. The aim of research therefore was to identify these characteristics. Contemporary creativity researchers, however, have noted that personal factors alone 'cannot reliably and potentially predict actual creative performance across situations in the workplace' (Zhou & Shalley, 2003, p. 203). Consequently, although personal factors have remained important in understanding creativity in organisations (Shalley et al., 2004), it has become increasingly obvious that one needs to go beyond 'creative individuals' to investigate 'the social and environmental situations that can positively or negatively influence the creativity of most individuals' (Amabile, 1983, p. 5). Two important theoretical frameworks have been dominant in studying the influence of social-contextual factors on creativity: the social psychology of creativity (Amabile, 1983); and the interactionist perspective (Woodman, Sawyer & Griffin, 1993). Studies based on these two theories have significantly contributed to our understanding of the social and contextual influence on employees' creative performance at work. The impact of social context reflects in two ways: a creativity-conducive social context will have a direct impact on employee creativity by fostering employee task motivation, creativity-relevant skills and domain-relevant knowledge and creative process engagement. On the other hand, the social context may influence creativity by strengthening or weakening the influence of personal factors (e.g. personalities, cognitive styles) on creativity. However, prior research has been relatively quiet about the operation of conscious volition on the part of employees as enactors of creative behaviour. As Drazin, Kazanjian and Glynn (2008, p. 270) alluded, the above theoretical frameworks assume that '...individuals are acted upon rather than being actors'.

The assumption that employee creativity will increase if the organisation implements certain effective creativity-conducive interventions has important influence among practitioners. One of the most popular practices in facilitating employee creativity in a general work environment is employee suggestion systems (ESS), which are implemented to motivate employees to submit their ideas and reward employees for their creative efforts (Leach, Stride & Wood, 2006). However, research on ESS has suggested that, despite such initiatives, employees do not submit all their ideas to the systems (Frese, Teng & Wijnen, 1999). It seems that employees do not automatically respond to the management's call for creative ideas and may choose to withhold their ideas. In the next session, we are going to explore the discretionary aspect of creativity.

Creativity as a choice

Given the complexity of the work environment, employees may be subject to the influences of multiple sources, such as peers' and supervisors' behaviours, organisational policies, and task requirements posing varied pressures on employees in relation to being creative at work. In many cases, employees are bound to evaluate the context and their experience in such contexts so as to determine whether it makes sense to engage in creative activities or not. Such a discretionary decision-making and sense-making process has not gone unnoticed among creativity theorists. For instance, Runco, Johnson and Gaynor (1999) proposed that people engage in creative activities as a kind of investment, the decision on which is based on one's judgement of the risks and the expected outcomes. From a sense-making perspective, Ford (1996) suggests that employees may choose habitual behaviours over creative behaviours if they perceived creative ideas are less expected or unfavourably received, or when they experience negative emotions such as anxiety and disinterest in creative activities. The sense-making perspective is premised on the notion that individuals are actors in their environment who interpret and shape their own environment (Weick, 1979). Both the investment theory of creativity and the sense-making perspective point to the reasoning and intentional aspects of creativity, which gain further advocacy from Drazin et al. (2008, p. 268), who claimed that 'creativity is a choice to engage in the cognitive and behavioural aspects of producing ideas'. If creativity is truly in part determined by employees' choices, it is imperative to understand how employees decide whether or not to engage in creative activities. A general work environment where creativity is not overtly required

represents an invaluable context to understand how the choice of creativity is made.

When confronted with the choice to be creative or not in a general work environment, it is fair to say that creativity may not constitute a natural choice. Indeed, scholars have noted that the resistance to creativity in organisations is paramount (Staw, 1995) and people tend to be biased against creativity in order to avoid uncertainty (Mueller, Melwani & Goncalo, 2011). Reasoned behaviour theory has been developed to provide a general framework to 'predict and explain various kinds of behaviours in different domains' (Fishbein & Ajzen, 2010, p. 27). In applying this framework, we propose the critical factors that may influence employees' choice to be creative when creativity is an option rather than an expectation.

What makes creativity an attractive option?

According to the reasoned action theory, intention or a readiness to perform the behaviour is the proximal predictor of behaviour (Fishbein & Ajzen, 1975; 2010). Fishbein and Ajzen (1975; 2010) further proposed that intention is a product of an evaluative process where one refers to his or her beliefs associated with the behaviour in question. The reasoned action model has been primarily employed to study relatively easy-to-execute behaviours, such as voting, going on a diet, and largely in political, social and health studies. Its application in the organisational behaviour domain has covered more deliberated and complex behaviours, such as employee participation in training programmes and self-development activities, employee turnover, commitment in organisational change, and entrepreneurship (Fishbein & Ajzen, 2010).

A number of studies have applied the reasoned action theory in understanding creativity in organisations. For example, Basadur and his co-authors (Basadur, Graen & Green, 1982) found that attitudes towards divergent/convergent processes were significantly related to a person's creativity performance. While preference for divergent processes enhanced creative performance, preference for convergent processes hindered creative performance. Furthermore, attitudes towards divergent/convergent processes can be effectively changed via training. In a longitudinal study with a university student sample, Choi (2004) found that the intention to be creative mediated the influences of individual (e.g. intrinsic vs. extrinsic motivation) and contextual factors (e.g. supervisor support and open group climate) on creativity. In line with the reasoned action theory, we propose that

the intention to be creative is a proximal precursor to creativity. The determinants of the intention to be creative are attitude towards creativity (behavioural belief), perceived norms for creativity (normative beliefs) and perceived abilities and opportunities for creativity (behavioural control beliefs).

Intention to be creative

The common definition of intention in dictionaries is a determination to act in a certain way. Intention has appeared in several theoretical frameworks and has been seen to be a viable and reliable predictor of behaviour. For instance, Triandis (1972) includes intentions as one of the key predictors in predicting behaviours in interpersonal interactions in a cross-cultural context. Locke, Byan and Kendall (1968, p. 106) see intentions as 'the end results or culmination of...complex intervening mental processes...and the most direct determinants of actual performance'. Accordingly, the intention to be creative is defined as one's conscious plan to exert effort in dealing with creative endeavours, to provide new ideas, new solutions and new ways of doing things in the workplace.

Individuals who are high, as opposed to low, in their intention to be creative will be more creative at work for two reasons. First, from a motivational perspective, they are more likely to be driven by greater willingness to invest creative efforts. Second, from a cognitive perspective, they are also more likely to consciously draw up plans for a course of action in order to tackle demands and challenges arising from creative activities. While the former will help employees to be persistent in creative endeavours, the latter formulates concrete and strategic steps for identifying creativity opportunities and finding creative solutions. Both are believed to be critical precursors of creativity (Amabile, 1983; 1996).

The positive relationship between intention and behaviour has received general support across various studies in diverse domains (Fishbein & Ajzen, 2010). Choi (2004) tested the link between the intention to be creative and creative performance with a sample of 386 university students, and observed that the intention to be creative was positively related to the creative performance of students as rated by course instructors. So far, however, research has yet to examine the intention to be creative and its impact on creativity in the organisational context. In the following paragraphs we discuss key factors that influence the intention to be creative.

Attitude towards creativity

Attitude reflects a person's evaluation of a particular entity or behaviour with some degree of favour or disfavour. For decades, researchers have studied attitude and its links to behaviours and interventions that may change one's attitude in various fields, e.g. politics, health and marketing. Its presence in organisational research has also gained momentum since the 1980s which witnessed an explosion of studies of job satisfaction (attitudes toward the job) (e.g., Brief & Roberson, 1989). The studies of attitude in the organisational context have extended gradually from factors such as job, organisation (organisational commitment) and company policies to specific behaviours such as participating in development and training activities and entrepreneurial behaviour. In line with prior research attitude towards creativity is defined as one's evaluation of creativity-related activities that may be regarded with favour or disfavour.

According to the reasoned behaviour model (Fishbein & Ajzen, 1975), people draw the evaluation of a behaviour based on two elements: instrumental belief and experiential belief. Instrumental belief refers to people's belief in the positive versus negative consequences of the behaviour in question. By contrast, experiential belief focuses on one's emotional and affective experience when enacting the behaviour. When individuals believe that engaging in the behaviour in question will lead to a desirable outcome (instrumental belief, e.g. being creative at work will benefit performance), they are likely to develop a positive attitude towards this behaviour leading to behavioural intention. Similarly, when individuals perceive that engaging in the behaviour in question brings about positive emotions and affects (experiential belief, e.g. coming up with a creative idea is exciting), they are likely to value this behaviour positively and are ready to engage in such behaviour. On the contrary, if individuals perceived undesirable outcomes or negative emotions related to the behaviour, they are likely to develop a negative attitude towards the behaviour in question and the intention to engage in such behaviour will therefore be diminished.

So far, there has been no explicit discussion on how instrumental and experiential beliefs affect attitude towards creativity hence influencing subsequent intention to be creative and creativity. However, Ford (1996) addressed experiential belief regarding creativity in his theoretical framework of creative action by positing that whether one will engage in creative behaviour rather than habitual behaviour may depend on the emotions entailed by the behaviour in question. If a creative behaviour leads to such positive emotions as interest, excitement or enjoyment, a person will opt for this behaviour rather than for the habitual one. In contrast, if one experiences nervousness, anxiety and boredom, he or

she is likely to withdraw from creative behaviour and resort to habitual behaviour. The impact of positive experiential belief was also supported by the positive relationship between intrinsic motivation and creativity documented in Tierney, Farmer and Graen (1999). Using a 5-item scale to measure intrinsic motivation, Tierney et al. (1999) used 'I enjoy' to lead the statement of each item. For instance, one item reads 'I enjoy engaging in analytical thinking'. This construct, in essence, reflects one's affective/emotional response to creative activities. In line with reasoned action theory, it is likely that positive experiential belief, as manifested in intrinsic motivation, influences creativity via its impact on attitude towards creativity and the intention to be creative.

By comparison, instrumental belief associated with creativity has received relatively less attention in the literature. This perhaps has been due to the notion that individuals' intrinsic interests in the task primarily contribute to creative performance (Amabile, 1983), one that has been dominant in the creativity literature in the last three decades. Factors other than the task itself have been believed to distract individuals' attention from their work and are thus detrimental to creativity. However, a recent study by Yuan and Woodman (2010) has provided promising supportive evidence for instrumental belief regarding creativity. In a study of 216 employees from different job functions across several industries, the authors found that expected positive performance outcomes via creativity (e.g. coming up with creative ideas will help one do well on the job) were positively related to creativity. Arguably, these outcome expectations are instrumental in nature. It is plausible that employees are more likely to develop a positive attitude towards creativity and intention to be creative when they perceive that being creative will benefit performance. Interestingly, in the same study Yuan and Woodman (2010) observed that expected positive performance outcomes influenced creativity with intrinsic motivation being controlled for. This may indicate that instrumental and experiential beliefs additively promote positive attitude towards creativity, leading to intention to be creative and creativity. However, it is also possible that instrumental beliefs serve as a precursor of experiential beliefs (e.g. Choi, Sung, Lee & Cho, 2011). Future research needs to investigate further the dynamics between instrumental and experiential beliefs associated with creativity, as well as their respective main effects on attitude towards creativity.

Perceived norms for creativity

Scholars have long agreed that behaviour is a function of the environment as well as the individual. While one's attitude towards creativity

may influence one's intention to engage in creative activities, the environment, the group or the organisation may, at the same time, shape the same intention via social norms. As social norms prescribe what acceptable or permissible behaviours are, individuals conform to the norms expecting to be accepted or not to be punished. According to reasoned action theory, there are two types of beliefs influencing one's normative beliefs – injunctive and descriptive beliefs. Injunctive belief refers to one's perception that significant others think he or she should or should not act in a particular way. Descriptive norm is concerned about whether the significant others will or will not act according to the behaviour in question (Fishbein & Ajzen, 2010). In the context of creativity, perceived norms for creativity and the influence of injunctive and descriptive beliefs have yet to be tested. However, a number of findings in the creativity literature can be used to highlight the importance of normative beliefs on creativity. For instance, in two field studies, Zhou (2003) reported that employees were more likely to demonstrate creative behaviours when there was a high presence of creative co-workers accompanied by a less controlling or more developmental supervisor. It is possible that creative co-workers help one form the prescriptive belief regarding creativity while low-controlling or developmental supervisors lead to one's injunctive belief that creativity is encouraged. Jointly, these two beliefs promote employees' intention to be creative in order to be accepted among peers and supervisors.

The injunctive belief regarding creativity can probably be more relevant in explaining the influences of transformational leadership on creativity. Supervisors, as probably the most important significant other in the work environment, are likely to elicit the belief that creativity is encouraged and expected when demonstrating transformational leadership behaviours such as inspirational motivation and intellectual stimulation (Rafferty & Griffin, 2004). Other significant others, such as family and friends, support for creativity may also work in the same way. For example, Madjar, Oldham and Pratt (2002) observed that both work and non-work (family and friends) support for creativity led to increased creative performance. The influence of norms on creativity can also manifest as a cross-level phenomenon. Studies have shown that the group climate for creativity predicts employee creativity (West, 2002). It is plausible that group climate fosters a norm for creativity among group members facilitating their intention to be creative and subsequently creative performance. Future research needs to identify social and contextual factors that are likely to shape one's normative beliefs associated with creativity, as well as the individual and joint effects of one's normative beliefs and attitude towards creativity on intention to be creative.

Perceived behavioural control for creativity

Intention is not only influenced by one's attitude and normative beliefs associated with a given behaviour but also via a general sense of capability or control over performing this behaviour. One's evaluation of his or her own ability to execute the behaviour in question, i.e. self-efficacy (Bandura, 1982), and the opportunities provided in the work environment form the basis for perceived behavioural control. Thus, perceived behavioural control for creativity consists of two elements. One is the belief in his or her ability (having skills or knowledge) to be creative, i.e. creative self-efficacy (Tierney & Farmer, 2002). The other element is the perceived opportunity for creativity, which may be influenced by the characteristics of one's job (e.g. Unsworth, Wall & Carter, 2005; Zhou, Hirst & Shipton, 2012) or organisational impediments such as a rigid organisational structure, controlling management style and/or office politics (Amabile, 1996).

The influences of perceived behavioural control on behavioural intention and behavioural outcomes may be more complicated than those of attitudinal and normative beliefs. While the direct impact of behavioural control on behavioural outcomes has remained equivocal, researchers are more interested in the moderating impact of perceived behavioural control on the relationship between intention and behaviour (Fishbein & Azjen, 2010). Specifically, individuals' intention to display a given behaviour may not be sufficient to lead to the behaviour (Eagly & Chaiken, 1993). The actor's capabilities, or the context in which the person is acting, may prevent the actor from carrying out his or her intention. For instance, the intention to be creative may not predict creativity if individuals perceive no opportunities in which to be creative in the work context or perceive a low level of confidence in creativity-related activities (creative self-efficacy). The moderating effects of perceived behavioural control on the relationship between intention and behaviour can also find support in Bandura (1982), who suggests that people are more likely to be persistent in their intended behaviour when they perceive high levels of self-efficacy. In a laboratory study, Cervone (1989) observed that individuals in high self-efficacy conditions spent longer on problem-solving activities than those low in self-efficacy conditions. Therefore, for individuals with an intention to be creative, high levels of creative self-efficacy are likely to enhance their creative performance. Similarly, the intention to be creative is likely to lead to creative performance when there are more opportunities and fewer impediments for creativity in the work environment.

According to Fishbein and Ajzen (2010), whether perceived behavioural control will enhance the link between intention and behaviour is dependent on the levels of volition of a given behaviour. When the behaviour is completely under the volition of the doer, the enhancing function of perceived behavioural control is negligible. In contrast, when the behaviour is not completely volitional, perceived behavioural control will make a meaningful contribution to the intention-behaviour link. During the creative process, individuals engage in a strenuous, risky and time-consuming process of problem-finding, information-seeking and problem-solving, making creativity arguably low volition behaviour. That is the results of the creative process are not fully under the control of the doer. Thus, the link between the intention to be creative and creative behaviour is contingent upon the levels of perceived behavioural control for creativity. So far, although the impact of creative self-efficacy on creativity has been well-documented in the literature (e.g. Tierney & Farmer, 2002; 2011), research has yet to test whether feeling confident about one's creative capabilities or having opportunities to be creative will enhance one's intention to be creative or will strengthen the link between intention to be creative and creative performance.

Implications for human resource management

Being creative in the workplace involves risks and obstacles. New ideas or new ways of doing things may be viewed as threats to established routines and therefore met with resistance from peers. Such risks and obstacles may be more salient in a work environment where creativity is not formally required. It is natural for employees to assess the gains and losses related to creativity, the work environment and their own ability to form their intention to engage in creative activities or not (Drazin et al., 2008; Ford, 1996). Based on the discussion above, we conclude that human resource policies and practices need to focus on employees' behavioural control beliefs as well as their attitudinal and normative beliefs associated with creativity if organisations and their managers are to promote creative behaviour among their employees.

Reward: The relationship between reward and creativity has been inconclusive in the extant literature. While some researchers have suggested that reward serves as an extrinsic motivation and is thus detrimental to employee creativity (Amabile, 1983; 1996), others have reported that reward can serve as reinforcement, thus effectively promoting

creativity (Eisenberger & Rhoades, 2001). Despite the theoretical differences between these two camps, it has been noted that reward is likely to lead to creativity when reward is saliently tied to creative performance, i.e. a reward for creativity. From a reasoned action perspective, this paper argues that linking reward with creative behaviour is likely to foster an instrumental belief regarding creativity and positive attitude towards creativity. Rewarding creativity also serves to promote normative belief among employees suggesting that creativity is encouraged. These practices will eventually lead to increased levels of intention to be creative among employees.

Performance appraisal. Performance appraisal is employed to encourage desirable behaviour and discourage undesirable behaviour. By providing feedback on employees' current performance, supervisors are able to reinforce positive behaviours and identify areas for improvement. By integrating creative performance into performance systems, supervisors can effectively promote positive attitudes towards creativity and instill normative beliefs and behavioural control beliefs associated with creativity. For example, employees are likely to develop a positive attitude towards creativity if managers' feedback highlights the link between being creative and work performance. Receiving positive feedback on their creative performance, employees are likely to feel encouraged and confident in their creativity ability. All these practices will contribute to their enhanced intention to be creative and consequently their creative efforts. Supervisors can also use performance appraisal to identify learning and training needs and opportunities that will enhance employees' creative abilities and ultimately their confidence in creative performance.

Work design. For employees working in non-R & D teams, their task characteristics may be one of the most important factors that inhibit their creative performance. It is natural for employees to perceive few opportunities to be creative if they work on repetitive tasks and are on the receiving end of instructions regarding how to carry out their job. The research on job enrichment and employee empowerment however has highlighted, from a motivational perspective, the importance of redesigning the job in such a way so as to promote employee motivation and job satisfaction (Hackman & Oldham, 1980). From the reasoned action model perspective, this paper proposes that work design is related to employees' perceived behavioural control of creativity. Employees are more likely to perceive opportunity for creativity if their job is characterised by problem-solving demands and they are given autonomy in deciding how to do their job. On the other hand,

rigid job structure and unsupportive social context are likely to inhibit the perception of opportunities for creativity and subsequently reduce employees' intention to be creative.

Learning and training. Being creative at work requires necessary knowledge and skills, without which individuals are unlikely to possess a sense of capability in their creative endeavours. In particular, Amabile (1983) suggested that in addition to task motivation, individuals need to have domain-related knowledge and creativity-related cognitive skills in order to achieve high levels of creativity. Thus, the learning and training programmes in organisations need not only help employees acquire necessary task-related knowledge but also divergent cognitive skills that enhance their beliefs in their creative ability. Such training and learning experience will, in turn, enhance employees' creative self-efficacy, leading to heightened intention to be creative and creativity.

Conclusion

This chapter sets out to understand what make creativity an attractive option in a general work environment. From a reasoned action theory perspective, we argue creativity in such a context is an option depending on employees' evaluation of the social context, the task, themselves and the creative behaviour itself. By reviewing extant literature, we identify areas for future research, such as investigating the links between intention to be creative and creative outcomes in the organisational context, the impact of attitude towards creativity and normative belief on intention to be creative and creativity, and the moderating influence of perceived behavioural control on the link between intention to be creative and creativity. We also propose that to make creativity an attractive option, human resource managers need to adjust reward, performance appraisal, work design and learning and training practices to enhance one's positive attitude towards creativity and perception of creative social norms, to build one's confidence in creativity and to provide opportunities to be creative. These, in turn, will lead employees' intention to be creative and consequent creative performance. As employee creativity has been recognised to be the driving force for organisational effectiveness and success, it is our hope that this chapter will help highlight the importance of employees' beliefs associated with creativity and encourage future research to investigate the discretionary aspect of employee creativity.

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Conclusion: On Multiple Levels of Analysis, Context, Contingency and Capital

Paul Sparrow, Helen Shipton, Pawan Budhwar and Alan Brown

Introduction

In this concluding chapter, we bring together the threads and reflections on the chapters contained in this text and show how they relate to multi-level issues. The book has focused on the world of Human Resource Management (HRM) and the systems and practices it must put in place to foster innovation. Many of the contributions argue that in order to bring innovation about, organisations have to think carefully about the way in which they will integrate what is, in practice, organisationally relevant – but socially distributed – knowledge. They need to build a series of knowledge-intensive activities and networks, both within their own boundaries and across other important external inter-relationships. In so doing, they help to co-ordinate important information structures. They have, in effect, to find ways of enabling people to collaborate with each other at lower cost, by reducing both the costs of their co-ordination and the levels of unproductive search activity. They have to engineer these behaviours by reducing the risks for people that might be associated with incorrect ideas and help individuals, teams and business units to advance incomplete ideas that are so often difficult to codify. In short, a range of intangible assets must flow more rapidly throughout the organisation and an appropriate balance must be found between the rewards and incentives associated with creativity, novelty and innovation, versus the risks that innovation may also bring.

In examining the ways in which HRM is linked to innovation, we believe that researchers and practitioners alike should focus their attention on four levels of analysis:

- the organisational form used to structure the innovative parts of the work process
- the psychological processes that generate innovative employee behaviour within this framework
- the impact of leadership as a facilitator of the innovation process, and
- the learning models and processes that help to develop innovation and the institutional processes to embed such models.

In the following sections, we summarise what contributors see as the most important issues and questions at each level of analysis, and the directions for future research that these suggest.

The organisational form used to structure innovative parts of the work process

The first level of analysis is the organisational form used to structure the innovative parts of the work process. The organisational form is the way in which organisations choose to combine strategy, structure and the internal control and co-ordination systems in order to provide the appropriate operating logics, rules of resource allocation and mechanisms of corporate governance. In Chapter 2, Sparrow argues that this is the most appropriate level of analysis from which HRM functions should start their analysis of the strategies needed to foster innovation for the following reasons. At the micro-level, even within one organisation, there are seven broad but also markedly different organisational forms that might be adopted: building units that are specialised to the creative portion of the innovation problem; using fluid, lateral and team modes of co-ordination with joint decision-making rights; external or internal venture capital models; internal professional service models; networks or project-based sets of partner SMEs; or open, dynamic, virtual and networked spaces. Each form brings its own organisational development issues. The different options establish the organisational design, the paths through which organisational aims get disseminated and resources allocated, and how duties, rights, functions and roles will be governed. They shape the way in which knowledge will be managed and brokered and intellectual capital will be leveraged. They help foster

a 'cognitive' infrastructure within the organisation, thereby shaping the way in which decisions are made. They create a market for information and shape the networks that will follow.

By focusing on the organisational form(s) to be adopted, it becomes evident why we must adopt a multi-level understanding of HRM. The reason why the design of this form and structure is so important is because it shapes and conditions the types of operational processes that come into play, the way that people, teams and organisational units select ideas and evaluate capability and the extent to which other parts of the organisation can be aligned in support of the innovation, and the subsequent decision-making quality around the exploration and exploitation of that innovation. The organisational form and structure also influences many aspects of the knowledge management process, and the opportunity (or not) for such knowledge to be converted into more durable organisational learning. The organisational form adopted has a pervasive impact in other ways too. Each form tends to require a specific management style and leadership model in order for the form to work in the way that is intended. Not only does it shape the necessary leadership style, but it often also impacts upon the qualities and capabilities that must be resourced, the ways in which employees can be motivated and rewarded, the ways in which a team climate can be engendered, and the level of innovative behaviours that ensue.

This first level of analysis reminds us that we should not rely on theories and discourses that have served the general HR community well, such as debates about generic high-performance work practices, because these will not help to address the complex organisational problems associated with innovation. We need to use much more contingent thinking in our research. From some of the earliest attention given by HR academics to the business outcomes of innovation, it was evident that, in order to deliver on the value offered by innovation, organisations have to put in place a combination of philosophies (an identification of the things that must be held in regard, the role they play and how they are managed), policies (explicit guidelines for action), programmes (a range of co-ordinated efforts concerning people management), practices (activities and functions carried out), and processes (detailed procedures and methods). Both in isolation and combination, these can help shape individual, team and business unit behaviours. It is the combination of these into an over-arching and coherent – but contingent – system or architecture that becomes important, as well as the effective and authentic implementation of this architecture, ensuring that those aspects of innovation that lend themselves to purposeful management may be managed

effectively (there are some aspects of innovation that by their nature can never be managed overtly). It is also evident that things done in the name of any one performance outcome – such as innovation – will always be in tension with the HRM architecture put in place to manage equally necessary outcomes such as efficiency and effectiveness, productivity, or customer centricity, to name a few.

Psychological processes that generate innovative employee behaviour

This moves us to our second level of analysis at which the HRM issues are best understood, and this is *the psychological processes that generate innovative employee behaviour*. While innovative employee behaviour is desirable for organisations, there are several barriers that discourage employees from becoming engaged in innovative behaviour. Moreover, innovative behaviour requires time spent away from an employee's formal duties, potentially reducing short-term productivity or increasing risk. Not surprisingly, managers may be ambivalent in supporting innovative behaviour. This level of analysis was employed directly in two chapters of the book. In Chapter 3, Sanders and Lin addressed the question of why and under what circumstances employees express innovative behaviour within their organisation? The task here is narrower than the broad concerns addressed by the organisation form, and so it is easier to show the links between bundles of HR practices that specifically create higher levels of commitment and more innovative behaviour. However, they argue that in addition to thinking about the appropriate content of HR practices, we must also consider the psychological process through which employees end up attaching meaning to HRM and how this sense of meaning creates a connection in the minds of employees between the nature of their HRM and their individual innovative performances. In short, they show that the causal mechanism that links HRM to innovative behaviour is still little understood. For Sanders and Lin, we need to focus our analysis of innovation at the level of psychological processes, especially those that create a learning orientation aimed at the regeneration of products, processes, services and strategies. By learning orientation, they mean the activities through and in which employees acquire knowledge and skills directly, interact with others, share knowledge, ideas and materials and ask for feedback. This results not from a collection of general high commitment work practices, but more from the relationship the employee has with his or her leader, and the way this shapes the perception of, and satisfaction with, important HRM practices as a

result. Employees need to understand HRM in the way it was intended by management – to make sense of why the HRM is as it is. Whilst this sense-making is the best way to generate entrepreneurial (or innovative) behaviour, it focuses attention on two important processes. First, those aspects of HRM that become important for innovative behaviour, such as the way it relates to both formal and informal learning, and to individual and collaborative learning. Second, the way in which it highlights how these relationships are socially embedded. There is a history (a ‘shadow of the past’) and an expected future (‘shadow of the future’) associated with any relationships which shapes perceptions of risk and trust. The number and quality of employees’ relationships shapes the rewards associated with innovative behaviour. And these workplace interactions may be institutionally embedded, or not. Therefore, in addition to being able to understand how the learning orientation of an organisation leads to the possession of relevant technical and market knowledge, a key to understanding innovative behaviour is also to understand how HRM can create social interactions and build the necessary social capital – the extent to which entrepreneurial employees are known by others throughout the firm and may be trusted, respected and influential.

Chapter 4 builds on the above discussion of innovative behaviour. Loewenberger develops a holistic, theoretical approach to the way that HRM contributes to sustainable innovation and performance. She prefers the concept of human resource development (HRD) – the series of interventions in organisational and individual learning used to support behavioural change – and draws links between this and the promotion of creativity and innovation. In addition to thinking about innovative behaviour, an HRD perspective requires us to consider how individual learning is fostered and creative thinking skills developed, as well as the social and organisational factors that inhibit creative and innovative behaviour and learning and the need to overcome social and organisational barriers in the work environment. A useful way to capture all of these is through the idea of climate – which is defined as the aggregate of individual psychological perceptions of organisational policies, practices and procedures that influence behaviour. However, she argues, we should not assume a one-size-fits-all climate. For example, while organisational level support is necessary for most individuals, for more highly creative individuals, work group support and challenging work may be the main contributors. The link between a supportive climate for innovation and the needs of individuals for the development of their creative thinking skills is both complex and dynamic. Moreover, this link is only effective if HRD is embedded into the organisation, through

training programmes and leadership development, to the extent that it becomes part of the repertoire of skills that lead to the generation of creative ideas. The chapter by Loewenberger reinforces the points made by Sanders and Lin about the importance of sense-making. There needs to be an understanding, shared meaning and vision about what creativity and innovation mean in practice, and what this means for a supportive work environment. Organisations have to translate their aspirations for creativity and innovation into a coherent set of HR policies.

Focusing on the psychological processes that generate innovative employee behaviour as a level of analysis suggests another useful way forward for research. This would be to link previously isolated and unconnected research into innovative behaviour and entrepreneurial behaviour in a single research stream. Much HRM research is underwritten by theories and ideas of social exchange and reciprocity, which link HRM to employee outcomes such as organisational commitment, job satisfaction, turnover and performance. Yet, as was seen in Chapter 3, these ideas cannot easily be generalised to cover innovative behaviour, which is also shaped by assumptions of economic exchange, the management of risk and uncertainty, autonomy and the devolution of power, and the bringing together and sharing of more and different forms of knowledge.

The future challenge then is to understand *how* HR practices and systems can build an environment that is supportive of organisational learning. The underlying assumptions driving such analysis mean that we need to build models about how specific HR practices impact upon innovative employee behaviours, the ways in which employees can perceive, interpret and make sense of these assumptions, and how they can see the connections between the nature of their organisation's HRM, the possession of relevant technical and market knowledge and the fostering of social and learning interactions that build the necessary capital within them.

Adopting a social embeddedness perspective and explaining the role of interactive and informal leadership and learning activities offer a potentially fruitful way forward in explaining the relationship between HRM and innovative behaviour. We turn now to these two connecting levels of analysis: leadership models and learning models.

The impact of leadership as a facilitator of the innovation process

The second level of analysis just outlined – the psychological processes that generate innovative employee behaviour – is dependent on the

role that HRM plays in helping to engender these processes. In investigating this issue, several chapters focus on a third and connecting level of analysis, which is the ways in which *the leadership process facilitates innovation*. The interplay between organisational and job factors created by the HRM process is clearly mediated by the nature of leadership – be it strategic or supervisory leadership. Arguably, then, it is the leadership, not just the HRM, that stimulates the innovation process.

We need a deeper understanding of the mechanisms and foundations for individual innovation outcomes. The leadership agenda is linked to the process of implementation by both Černe, Hernaus, Dysvik and Škerlavaj in Chapter 11 and Coetsee, Flood and Kilroy in Chapter 15. The first set of authors note that creativity – and all individual psychological processes – represent necessary, but insufficient antecedents of innovation. Whether or not individual creativity is activated, exercised and channelled into the final products or services depends on the work environment. Within this work environment, if we also focus on the level of analysis of leadership, then we can better understand how they, through their actions, manage the interplay between organisational and job factors in stimulating the innovation process and create perceptions of and satisfy three important psychological states and needs: competence (i.e. the need to feel like you are able to perform the task at hand successfully), relatedness (i.e. the need to feel belongingness and connectedness with others) and autonomy (i.e. possessing opportunities to choose). Leadership is then both an important contingency factor – and it serves to moderate individual-level innovative behaviour. In particular, at the level of first-line leadership, Černe, Hernaus, Dysvik and Škerlavaj draw attention to the importance of the interpersonal style of first-line leadership and the ways in which this provides necessary levels of instrumental and socio-emotional support to concert creativity into more sustainable innovation.

In Chapter 15 Coetsee, Flood and Kilroy point out that implementing successful innovation and change, requires effective leadership, whether at the level of the individual, team or organisation. This style has to be authentic – something that applies to any sort of change management, but is particularly key to the forming of relationships central to leading innovation. They identify the personal building blocks that enable this to happen, which are consistency between values and behaviour, the willingness to share and be sensitive to others' emotions, self-awareness, openness to feedback, high levels of psychological capital comprising self-efficacy, hope, optimism and resilience and humility.

Leadership styles and behaviours clearly serve as a linking mechanism across many of our levels of analysis – they play a cross-level role. For example, in Chapter 12, Sheehan demonstrates the role of leaders in facilitating knowledge management and employee sharing. Leadership styles – particularly transformational leadership and pro-knowledge sharing leader behaviours – help shape the development of relational capital inside the organisation. These leadership processes contribute to macro-level innovation outcomes. The longitudinal testing model raises some important possible implications for how the link between employee knowledge-sharing behaviour, leadership style and behaviours, and unit-level innovation might work. She suggests that a short-run approach to evaluating leaders' performance may be very detrimental to medium and longer term aspects of performance, such as innovation performance. The conclusion that leadership style and behaviours do not directly impact on innovation probabilities, but rather serve to create the necessary condition of employee knowledge-sharing helps position leadership as an indirect and contingent contributor to innovative behaviour.

Van Rossenberg in Chapter 13 also points to the role of leaders as sense-makers for their subordinates. This issue of sense-making is also discussed by Sanders and Lin in Chapter 3. However, for van Rossenberg leaders have to find a balance between making optimal use of new data opportunities, and they have to operate at the limits of organisational processing capacity. But to be able to first make sense themselves (before they attempt to sense-give to others) they can adopt different models (whether they know they are doing this or not). They have to find a balance between a variable-centred approach (assuming that employees, teams and facets of the organisation all contribute to innovation and all react in the same way, i.e. there is a one-size-fits-all recipe) and a person-centred one (which assumes that patterns are different from one segment to another, and you only know what the pattern is and which to apply through intimate knowledge of each segment). In the latter approach, favoured by van Rossenberg, context is everything. Innovation is highly circumstantial and context-specific, and it is the ability of managers to make these sophisticated judgements that might become increasingly important.

Chapter 14, by Khavandkar, Theodorakopoulos, Hart, Preston, in effect adopts a similar perspective, but shows that the diffusion and sharing of intellectual capital across organisations linked somehow together in a broader innovation network might be just as important as the sharing at the level of individual employees. They focus on the boundary-spanning

activities that optimise the mobility of intangible and tangible knowledge and resources. We can just as well think about the need for an integrative leadership competency (he uses the context of science park management) to broker interactions that are cooperative, collaborative and competitive. The chapter introduces ideas about the creation of knowledge, innovation or business eco-systems, the ecology of strategic alliances and the opportunities that the institution of a business park can create. Leadership, then, can operate through networked configurations of SMEs, in which knowledge can be communicated, organised and conveyed. Leadership can also operate across an ecosystem to facilitate both the creation of new knowledge and optimises the ways in which leaders-as-agents share and apply the knowledge generated. There is the possibility for leadership interventions through the strategising and brokering of relationships between different stakeholder groups, where in effect, the management of science parks can help its constituents make sense of the connectivity between member organisations.

Looking across the various chapters that examine the third level of analysis, clearly, the ways in which HRM enables appropriate first-line and strategic leadership models is important. It also seems clear that focusing on the leadership process requires that we draw upon a broader set of theories to model how leadership action shapes individual-level innovation behaviour. For Černe, Hernaus, Dysvik and Škerlavaj, self-determination theory is a useful avenue to show how the leadership level of analysis bears an impact, with this impact seen to operate primarily through perceived supervisor support for transforming creative ideas into implemented innovations at the organisational and managerial level and provision of decision autonomy at the job or employee level. For Theodorakopoulos in Chapter 14 there is value in co-opting ideas about clustering and geographical agglomeration from the economic geography and institutional literature, to describe and discuss their factors of success.

In fact, Chapter 14 by Khavandkar, Theodorakopoulos, Hart, Preston and Chapter 2 by Sparrow remind us that having identified and managed the many components of an HR strategy within their own organisation, organisations also need to develop leadership and HR strategies to manage the broader innovation network. HR academics and professionals face the challenge of having to consider human resources not only inside their own organisations, but also how they manage those resources that are embedded both within broad innovation networks that extend well beyond the organisation, across multiple agents and into distributed and self-organising communities. As innovation networks become more open,

more dependent on connections and allegiances that occur outside, as well as within, an organisation's boundaries, research at the level of the HRM system needs, of course, to continue to develop our understanding of how organisations can align their internal management system, structure and culture towards innovation within their own jurisdiction. There must also be an understanding of how single organisations and collectives of organisations can create the network-wide capabilities needed to ensure the effectiveness of the broader innovation system.

Learning models and processes that develop innovation and the institutional processes that embed them

Our fourth and final level of analysis is the *learning models that help develop innovation and institutional processes to embed the model*. In Chapter 5 Fuller and Unwin take up the discourse about the knowledge economy and knowledge workers head-on, along with calls for greater occupational boundary-crossing and multi-disciplinary and multi-skilling approaches to work, by showing that the assumption that employees enter the workforce fully formed is naïve. They present apprenticeships, not just as an institutional arrangement between the state, employers and trades unions, or as a system of skills, novice-master relationships and guilds to control entry to a craft, but as a model of learning necessary for the structuring of the development and formation of experts. They draw upon established notions of communities of practice and occupational identities to remind us that, even in a modern employment context, innovation is still dependent upon models of learning that support and develop both individual and collective expertise, and that this expertise has to mature if it is to be of value. Apprenticeships involve a learning model based on trust in the expertise of employees and discretion to make judgements and to conceive, implement and evaluate work tasks. These processes are picked up by the literature on team climate and psychological safety alluded to previously by Loewenberger. Fuller and Unwin link the design and conduct of apprenticeships, which may be run in an expansive or a restrictive way, to these learning processes, the former being a more effective way of developing a shared understanding between the employer and line managers about the necessary and complex learning pathways, and the explicit and structured support needed, to build strong occupational identities, which are, in turn, an important ingredient in sustaining innovative behaviour. In Chapter 6, Gambin and Hogarth move the focus away from the learning model implicit in the HRD practice of apprenticeships and towards some of the

broader institutional and organisational actions necessary to ensure the quality and quantity of skills, the continued attractiveness of the apprenticeship learning model, and how to embed these facilitating practices. At its heart this chapter examines how HRM processes, important to the fostering of learning, can become embedded and in so doing it draws attention to the need to instil employer ownership, a fair distribution of investment costs, develop the return-on-investment argument for both learner and employer, and signal future learning pathways.

Chapters 5 and 6, in looking at aspects of apprenticeships, are to an extent looking at the importance of the reproduction and institutionalisation of learning. The importance of understanding individual learning processes in creativity is picked up again by Brown in Chapter 16 and Birdi in Chapter 19. Birdi examines the challenge of developing an individual's capability to generate novel and potentially useful ideas and solutions, and reviews the evidence on the importance of creativity training. The evidence is broadly supportive of this sort of intervention, and demonstrates the importance of four enabling processes: reductions in cognitive inhibition or fixed thinking in ways of dealing with a problem; increasing the level of associative thinking in the generation of new ideas; enabling the right balance between divergent and convergent thinking; and managing the emotional and affective mechanisms that build the motivation and self-efficacy to be creative.

Brown also looks at how individuals at work can develop and actively demonstrate the capability to be innovative by focusing on the processes of individual learning that foster innovative capabilities, but not through external interventions such as creativity training, but through processes of knowledge updating, and also re-contextualisation, whereby technically-based and experience-based learning can develop and interact across an individual's life-course. These enabling capabilities can be generalised across multiple employment, training and educational contexts. Important questions arise as to how an organisation might develop 'pro-innovation' organisational practices. To unravel this, we need to understand how individuals build up their learning capabilities so as to contribute to innovation. To understand these innovative capabilities, we need to appreciate how individuals actively participate in working and learning processes, perform roles and tasks, and learn to improve their performance. He examines how they develop knowledge about work processes, skills and competences, especially those that increases individuals' career adaptability. The required knowledge can include technical know-how, along with the ability to capture different types of knowledge which is distributed across several contexts. But

innovative capabilities also enable the development of know-what (where and when knowledge can be applied), know-who, and know-why. These all combine to form a type of adaptive competence.

In Chapter 17, Antonacopoulou builds on the role of learning in the development of innovative capabilities, and the processes whereby people learn to become innovative, by examining one last dimension, which is the role of personal and collective growth. Practices evolve and improve every time they are performed, and whether we are examining processes of learning, leading, strategising, or innovating – insight is to be gained by understanding how practices are formed, performed and transformed. Seeking contexts where experimentation, improvisation, imagination and pragmatism coalesce in everyday actions, she chooses a context or mode of learning – that of learning in crisis – to examine the relationship between innovating, knowing and learning. The role of HRM, when innovation is seen in this light, is one of mobilising and reconnecting a range of its own sub-practices that foster the delicate balance between the individual and collective growth.

All of the contributors who focus on the learning models and processes that develop innovation and the institutional processes needed in turn to embed the learning models, raise a number of important areas for future research. We need to understand how organisations can use their HRM architectures to foster dynamic capabilities – the mechanisms, skills, processes, procedures, organisational structures, decision rules and disciplines – that enable learning and innovation to take place at the organisational level. These dynamic capabilities must also be underpinned by models of learning that support and develop both individual and collective expertise, and that enable this expertise to mature. We also need to find out what sorts of capabilities – such as critical analysis, critical reflection and visualisation – assist the ability to switch between context and generalisation? Does, for example, the social capital developed through participation in work-related networks feed into innovative thinking at work, help facilitate an individuals' adaptability, and stimulate other ways of thinking and practising? What can be done to enable learners to become more self-directed and reflexive? How can such networks be managed to provide meaningful interactions?

Understanding the contextual contingencies and opportunities for theoretical enrichment

One of the major contributions of this book, then, is to outline four important levels of analysis through which we should investigate

the issue of innovation, and some of the connections between these levels of analysis. However, another important contribution is that it develops a range of important *contextual contingencies* that bear upon innovation at the organisational level. The reason why it is important to understand the specificities and peculiarities of these often understudied contexts, often missing from the academic discussion, is that it reminds us to avoid prescriptions about practice, or accepted academic wisdoms that may be based on too narrow a view of the innovation phenomenon.

A number of contributions examine the specific organisational practices important for innovation in as yet under-researched contexts, such as developing economies, high-growth medium-sized businesses, HR professionals managing e-HR, professional service firms and business parks. Many of the chapters in this book argue that we should be less concerned about identifying new and important levels of analysis to investigate, but rather challenge the extent to which we can assume theoretical generalisation across contexts. At the same time, whilst we need a more contingent research approach, there may still be some unifying ideas and ways of comparing innovation across them. For example, one of these unifying concepts in some of the chapters that stress the importance of understanding specific contexts is the idea of life cycles. We see this in Chapter 8, which argues that given the importance of 'tipping points' at which medium-sized businesses make step changes in the provision of their HRM, the application of life cycle or organisation transition models to the likely efficiency and effectiveness of specific HRM philosophies, policies, programmes, practices and processes might be of value. Similarly, in Chapter 14, which explores the context of science parks, the management of the intellectual capital that underpins innovation is seen as occurring via a multiple stage process, governed by an evolutionary logic over time.

Finally, by exploring some new contexts for innovation, the book suggests some new and important research avenues that arise from the theoretical enrichment. In addressing a range of levels of analysis and under-researched contexts and contingencies, the book draws attention to the current need to unravel how some of our key analytical tools operate in practice and relate to each other. We need now to unravel how important concepts – such as ambidexterity – can be applied to a wider set of innovative contexts. We need to understand how the different aspects of people-related capital – be they human, social, intellectual, reputational or political – must themselves be combined and transformed.

For example, in Chapter 7, Nair, Pillai, Hirekhan and Budhwar recap the key assumptions in the strategic HRM literature deemed to be important for innovation – the development of strategically relevant characteristics such as uniqueness, non-depletion and the use of free will, through which HR practices enhance employees' competencies, skills, behaviours, and motivation to contribute towards organisational innovation. They stress the importance of attitudes like risk-seeking, tolerance to ambiguity, personal initiative/drive and openness to change. But by focusing on the practice of Indian firms, they show us that the ecosystem that surrounds innovation at organisational level also needs itself to be attuned to cultural and business model realities of the community it serves. In India, firms pursue a more frugal form of innovation, a low-resource model characterised by creative improvisation. This national innovation model in part reflects institutional realities – weak institutional environments that limit the availability of finances, weak intellectual property regimes, a shortage of skilled and professional workforce, educational weaknesses, high attrition rates and a handful of dominant sectors capable of attracting the best talent.

In Chapter 8, Jorgenssen focuses on another organisational segment – that of high-growth medium-sized businesses. It becomes evident that we simply do not know the boundary conditions under which many of the assumed HRM to innovation relationships apply to this population. Although we noted earlier the importance of understanding the psychological processes that generate innovative employee behaviour, this sort of organisation often lacks the infrastructures for managing a rapidly and consistently growing workforce, which adversely impacts the psychological dynamics. Moreover, the heavier administration and bureaucracy often associated with more formalised HRM systems might hinder entrepreneurial growth and innovation in small firms. The most important role of HRM in such contexts appears to be ensuring employee engagement in and commitment to innovative behaviour. However, as Jorgenssen notes, we do not know how high-commitment HRM systems impact differentially on multiple commitment targets (the more individualised and politicised reality of a medium-sized business) and how the existence of multiple commitment targets in turn influences innovative behaviours.

In Chapter 9, Tansley and Kirk pick up on the points made by Jorgenssen about our lack of understanding of the dynamics of ambidexterity in different contexts. They examine the context of e-HR professionals, where the tension is between acquiring and exploiting existing HR knowledge assets (exploitation), and the generation, transfer

and integration of new knowledge assets from both inside and outside the organisation (exploration) to provide exceptional HR service to all stakeholders. HR specialists have to both enact their own practice efficiently and gain an appreciation of innovatory practice by drawing upon and juggling their intellectual capital resources i.e. their organisational capital, human capital and social capital. Again, we see the use of case-study research to unearth important but little understood relationships. They argue that a useful avenue for future research would be to demonstrate how the intellectual capital of learners (and the resources this capital affords) can be used to develop ambidexterity. They support the view that particular importance should be given to social capital, a point also made by Sanders and Lin in Chapter 3.

The need to unravel the linkage between different forms of capital and innovation – and, in particular, the balance between exploration and exploitation – is also the subject of Chapter 10 by Swart and Kinnie. By focusing on professional service firms, they identify an additional form of capital (beyond intellectual capital resources) which they term ‘client capital’. This is a relational resource – arguably a specific derivation of social capital – embedded in complex sets of external stakeholder relationships – which enables, or constrains, innovation. They identify four innovation orientations – regeneration, refreshment, re-invention and re-use – each underpinned by specific configurations of human capital and client relationships – and in turn linked to innovative processes of either refinement or exploration. Their key observation is that it is the configurations of human and client capital that underpin innovation, thereby demonstrating different and contingent roles played by HRM in generating competitive advantage.

This theme is also picked up again in Chapter 14 by Theodorakopoulos, who by looking at the context of business parks, argues that we need to understand the inter-relatedness of three forms of capital: human capital (including knowledge, skills, and the experience embedded in employees), structural/organisational capital (including the capabilities, routines, methods, procedures and methodologies embedded in organisation) and relational capital (including the knowledge, capabilities, procedures and systems which are developed from relationships with external agents).

In Chapter 18, Gomes, Rodriques and Veloso challenge our notions about individual creativity, arguing that creativity is as much the result of social interaction as it is of individual action. Researchers need to understand the interplay between creativity as an individual phenomenon, and the processes and structures that surround the individual.

They argue that to fully comprehend the complexity involved in creativity, we need to take the cultural context into account, and also other key organisational capabilities, such as continuous improvement and innovation.

This theme is reinforced by Zhou and Shipton in Chapter 20, who point out that we often wrongly assume that creativity unfolds in a similar way across various contexts, regardless of whether creativity is overtly required or not. There is an assumption that employee creativity increases if organisations implement established creativity-conducive interventions. However, given that creativity is a choice, we also need to understand the role played by social context. In the same way that leaders play an important role in sense-making, as noted earlier, employees exert their own discretionary decision-making and sense-making process. The social context – and the norms it creates – is extremely important in determining two things. First, how we move beyond just developing creative individuals by also understanding how we can leverage creativity through situations that positively (or negatively) influence such creativity. Second, understanding why employees choose to engage in creative activities in a general work environment, in which creativity might be seen as extra-role behaviour. They also argue for theoretical innovation, and a move beyond some of the traditional theoretical frameworks, such as the social psychology of creativity or the inter-actionist perspective towards the application of reasoned action theory to understand why employees choose to engage in creative activities, the role of attitudes towards creativity and the contribution that core HRM practices make towards shaping employee beliefs and behaviours.

We said at the beginning of the book that our central goal has been to bring centre stage the people involved and the complexities of managing human resources in organisations. We set out to shed new light on the antecedents and enablers of innovation but also asked that level of analysis issues should permeate reflections. The book has analysed the key considerations that must be borne in mind when attempting to foster innovation and has attempted to position these considerations across multiple levels of analysis and action. This collection of contributions from some of the leading scholars in the field has revealed, in one way or another, the complexities of managing the human resources of an organisation in ways that foster creativity and innovation. We hope we have achieved our aim, and have signposted some of the ways in which our work will now develop. In responding to the agenda set for this book, our contributors have outlined an exciting research agenda ahead for HRM academics and an absorbing future role for HRM practitioners.

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