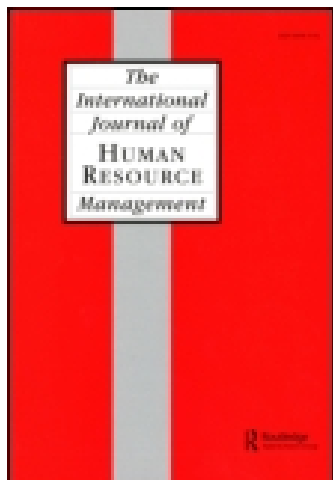


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Is there a global model of learning organizations? An empirical, cross-nation study[†]

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Is there a global model of learning organizations? An empirical, cross-nation study[†]

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This paper develops and tests a learning organization model derived from HRM and dynamic capability literatures in order to ascertain the model's applicability across divergent global contexts. We define a learning organization as one capable of achieving on-going strategic renewal, arguing based on dynamic capability theory that the model has three necessary antecedents: HRM focus, developmental orientation and customer-facing remit. Drawing on a sample comprising nearly 6000 organizations across 15 countries, we show that learning organizations exhibit higher performance than their less learning-inclined counterparts. We also demonstrate that innovation fully mediates the relationship between our conceptualization of the learning organization and organizational performance in 11 of the 15 countries we examined. It is the first time in our knowledge that these questions have been tested in a major, cross-global study, and our work contributes to both HRM and dynamic capability literatures, especially where the focus is the applicability of best practice parameters across national boundaries.

Keywords: dynamic capabilities; HRM; innovation; learning organization

Introduction

Although there is growing understanding of the characteristics of learning organizations in western contexts, it is less clear whether this model is applicable elsewhere on the globe, given diverse institutional and cultural contexts. Furthermore, existing measures of learning organizations have focused on internal variables, although insights from dynamic capability literatures (e.g. Teece 2007) suggest that alignment with external stakeholders, particularly customers, is important for businesses that aspire towards being learning organizations. In this paper, we make two contributions. First, we define a learning organization following Pedler, Burgoyne and Boydell (1999) as one that draws on the insights of internal and external stakeholders in order to build the capability required to achieve strategic renewal. Our model adds to extant literature by capturing the extent to which learning organizations engage with key stakeholders – their customers – as well as internal parties.

Our second contribution is to ascertain the model's applicability across divergent national contexts. In a major international survey, we assess our model's impact on organizational innovation and performance across 15 countries, drawing on survey data

[†]The first two authors worked on this paper during a visit to the University of Twente (November 2008). Versions of this paper were presented at the European Academy of Management and Academy of Management Conferences (2009).

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from nearly 6000 organizations. Conceptualizing the learning organization in a more complete way, and testing the model in a major international study, we not only contribute to theory surrounding learning organizations but also provide concrete evidence as to the impact that the model might have on performance outcomes at the level of the organization. There have been wide calls for more supporting evidence (Friedman, Lipshitz and Popper 2005; Spicer and Sadler-Smith 2006; Goh, Elliott and Quon 2012).

Defining the learning organization

In recent years, the learning organization has become a widely researched topic for organizational scholars (Ellinger, Ellinger, Yang and Howton 2002; Garvin, Edmondson and Gino 2008; Weldy 2009). Amongst the reasons for this interest are the demands of a turbulent and dynamic external environment, together with a perceived need for innovation (Laursen and Foss 2003). Literature is often focused on western ideas around self-development and improvement, with learning organizations being presented as visionary ideals, where learning behaviour improves as a result of proactive and empowering intervention by senior management (Sicilia and Lytras 2005). Senge, for example defined learning organizations as places ‘... where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free’ (1990, p. 3). To achieve this, organizations should adopt flat, decentralized organizational structures that facilitate open communication and dialogue (Garvin 1993). Team working facilitates individual growth and empowerment, and therefore presents the ideal structural arrangement for organizations concerned to promote an environment conducive to learning (Leonard-Barton 1998). Other HR systems should be developed in line with this aspiration; for example, individuals should have opportunities to participate in organizational decision-making and reward systems should be designed to recognize the achievement of learning goals (Armstrong and Foley 2003; Wang and Ahmed 2003).

When these ideas are tested in practice, learning is often measured by reference to a single-scale capturing attribute such as the extent of strategic integration and the extent to which employees are encouraged to pursue learning-related priorities (Ellinger et al. 2002; Garvin et al. 2008; Chiva and Alegre 2009). Although these factors have a role, we propose following Pedler et al. (1999) that learning organizations are ones that engage effectively with external stakeholders, especially customers, while simultaneously building internal capabilities (Teece 2007). Defined in this way, the learning organization embraces not only whether there is commitment to learning and questioning behaviours (e.g. expressed in policy statements). It also captures whether there is the opportunity for learning and questioning activities to be appropriately directed, taking account of customer needs. Following this logic, we suggest that learning organizations emerge following close attention to three factors: customer-facing remit, developmental orientation and HRM focus. As such, the model represents an intangible (and unobservable) strategic ‘second order’ resource (Hult, Ketchen and Nichols 2002).

International comparative perspectives and the learning organization

Although there are few if any published studies (of which we are aware) that have looked at whether the learning organization model is applicable across national boundaries, the way in which HRM practices might or might not influence performance given differing

cultural and institutional contexts has been the subject of protracted academic inquiry (e.g. Budhwar and Sparrow 2002; Budhwar and Debra 2009). It is outside the scope of this paper to rehearse arguments comprehensively covered elsewhere except to say that there are valid reasons why western-oriented models may not achieve expected outcomes in other areas of the world (see Sheehan and Sparrow 2012 for an overview). The institutional and cultural environment is made up of rules and nationally devised ways of working that form the backdrop for work activity, often outside of conscious intent (Budhwar and Debrah 2009). Cultural factors also play a role (Aycan 2005). In short, one might expect that the inspirational ideals associated with the learning organization have stronger bearing on perceptions and outcomes in some national contexts rather than others.

A related literature on knowledge creation and innovation suggests that talent management and developmental practices are significantly and positively related to performance, in areas of the world as disparate as India, Spain, Taiwan and the UK (Chiva and Alegre 2009; Raduan, Kumar and Ong-Gua 2009; Hung, Lien, Yang, Wu and Kuo 2011). Also taking a global perspective, Horwitz (2011) has identified that opportunities for growth and talent development, as well as consistent and fair HR practices are important means of drawing talented people into organizations *across cultures*, rather than just in western paradigms. These insights echo those of Deloitte Touche Tohmatsu in conjunction with the Economist Intelligence Unit (EIU 2008) who in a global study of 531 HR and non-HR executives found that there was growing interest in leadership development and learning and development focused on high potential employees. Research on transitional economies suggests that such employees are looking for challenging work, career development opportunities and cultures that build trust and collaboration (Horwitz et al. 2006). Taken together, these various studies are suggestive of 'cross-vergence' at least for professionals and knowledge workers (Horwitz 2011). Based on this evidence, we suggest that, applied with sensitivity, the learning organization model outlined here should promote desirable outcomes even given substantial differences in national contexts.

Theoretical framework

In developing our conceptual framework, the following sections are organized as follows. We first hypothesize that developmental orientation, HRM focus and customer-facing remit are captured in the second order construct labelled 'learning organization'. Then we hypothesize about the effects of our learning organization model on innovation and financial performance.

The antecedents of the learning organization

Defining exactly what best practice components characterize the learning organization, such that innovation is produced in a sustained way, is problematic. Although broad parameters can probably be established, isolating causal attributes from superfluous detail may not always be possible. The challenge is heightened when focusing on learning organizations, since learning arises both from informal, day-to-day experience as well as formal, planned interventions and occurs at the level of the individual, the workgroup and/or the organization (Bontis, Crossan and Hulland 2001). Furthermore, learning generally involves both tacit and explicit knowledge (Shipton and Zhou 2008).

Given the complexity of the various interactions involved, it seems unfeasible as well as potentially misleading to do more than offer a broad framework regarding desirable policies and practices for learning organizations. We have called upon three variables labelled 'first-order factors' (Hult et al. 2002) – developmental orientation, HRM focus and customer-facing remit, each of which, we suggest, is necessary but individually insufficient to constitute the model.

The variables measuring developmental orientation and HRM focus represent internal components of learning organizations. Argyris and Schön (1978) have argued that learning organizations engage in 'double loop' learning, questioning underlying assumptions. Arising from this, learning organizations make the learning of their members a key strategic goal and actively encourage staff to continually challenge existing ways of working (Pedler et al. 1999). Employee training and learning are seen as an investment rather than a cost, so that resources are made available to support learning activity (Appelbaum and Gallagher 2000). The underlying values of the company would tend to include learning as the key to ongoing improvement (Senge 1990).

We are interested in HRM not so much in terms of its role in directing, motivating and rewarding employees, but more so with regard to factors that prompt the questioning of existing practice and draw on employee insights. Staff appraisals are important, for example insofar as they enable the identification of employee learning needs and planning of appropriate interventions to meet specified needs (West, Guthrie, Dawson, Borrill and Carter 2006). Regular staff meetings provide the opportunity to draw on staff insights about work (London and Smither 1999). Attitude surveys, conducted at given points in time, offer a glimpse into changing feelings at work to inform decision-making (James 2002). Through asking individuals about their experiences of work, managers are better informed about where potential learning blockages may exist (and in a position to deal with them) (Mumford 2000). Overall, the acknowledgement and recognition that staff experience following these various strategic perspectives – encompassed within the variable measuring developmental orientation as well as HRM focus – seems likely to increase flexibility and openness to change employee attributes that research has shown to be linked with innovation.

These two considerations alone are insufficient, however. Taking into account the customer is a necessary additional component for a learning organization. A customer-facing remit provides a focus for interaction with the external context to ensure that learning is valuable relative to the organization's strategic goals (Cohen and Levinthal 1990) and offers data to inform the organization's strategic learning and development plans (e.g. giving a rationale for customer service training). Where strategic imperatives place the customer at the heart of business planning, new insights can be brought into the organization to enable innovation (Pedler et al. 1999). Organizational members can span boundaries through liaising with customers, and organizations can reinforce the value doing so represents (Theoharakis and Hooley 2008).

These three learning organization components may influence dynamics in unexpected ways. Surveying staff attitudes may shed new light on how the company conducts an analysis of external stakeholders, in particular, customers. A higher level of informal learning and knowledge-sharing may occur where there is a perception by senior managers that the company's ability to learn is key to competitive advantage. Competitive strategies based on understanding customer needs may engender a more externally oriented attitude on the part of employees across the organization, as well as a willingness to network. Furthermore, it seems probable that where there is a questioning orientation together with strong customer links, there will be scope to assess the viability of existing work practices

and at the same time review whether customer needs are being adequately addressed. Thus, although (we suggest) the three components are likely to remain important, interactions will vary across contexts, depending on how they are interpreted and enacted within a particular setting.

In summary, following the above logic, our first hypothesis is as follows:

Hypothesis 1: The learning organization conceptualized as a second-order construct arises from three inseparable components: developmental orientation, HRM focus and customer-facing remit.

The learning organization, innovation and performance

We define innovation as a concrete change that has both novelty and value, relative to current practice (West and Farr 1990). It is as a multidimensional construct that may arise in products, services and administrative as well as management systems (Crossan and Apayin 2010). Given the right context, there is scope for a multitude of innovations to occur across all levels and areas of the organization (Paton and McCalman 2000). While innovation may be concentrated in a particular area (e.g. R&D) it could also be widely dispersed across the organization (Damapour 1991).

The learning organization is conducive to innovation in several ways. It presents a context where there are open channels, both with the customer and within the organization, where there are systematic efforts by managers to capture information from both sources. Such channels facilitate the flow of ideas from the outside in, so that customer insights inform and enrich internal dialogue, thereby improving the quantity and quality of ideas and their subsequent implementation, while at the same time drawing on the insights of employees. The flow of ideas in learning organizations may also occur the other way round, from the inside out, as, for example when companies create a need of which customers had not previously been aware (such as Apple's iPad) – a connection linked with close understanding of the external market. Second, the learning organization actively encourages questioning behaviours, which ensures that existing ways of working are regularly scrutinized to ascertain their continued viability. This helps an organization to avoid competency traps (Leonard-Barton 1998), which signal that change is unnecessary and success assured given existing ways of working, thereby discouraging innovation. Furthermore, a questioning approach (effectively communicated) may ensure that managerial practices such as performance management and employee attitude surveys are responsive to this particular orientation. So, for example employees will be rewarded for exhibiting questioning behaviours, and employee attitude surveys will be carried out by managers who are open to the insights gained as a means of improving practices, rather than feeling threatened and disempowered by the insights revealed. This makes it more likely that new possibilities can be contemplated and where appropriate adopted. In addition, learning organizations present opportunities for building employee flexibility in a way that is aligned with customer needs (by emphasizing the importance and value of learning new skills), and a flexible workforce is more likely to produce innovative outcomes than one where skills are entrenched. Finally, HRM systems in learning organizations provide a forum for discussing staff developmental needs and gaining insight into staff feelings about work in a way that is tempered by a deep and broad understanding of customer needs and requirements. Insights gained in this way are likely to feed into the understanding that senior managers have about the viability and potential applicability of proposed innovations, while at the same time reinforcing to staff that innovation is a valued and necessary part of day to day work.

Our theorizing suggests that innovation is a potential mediator between our measure of the learning organization and organizational performance. Innovation allows adaptation to changing environments, thereby enabling better performance relative to less well-adapted firms (Helfat and Peteraf 2008). Innovative organizations are likely to be more flexible and able to envisage alternative strategic options (Bottazzi, Dosi, Lippi, Pammolli and Riccaboni 2001). This allows them to sustain 'evolutionary fitness' (Helfat and Peteraf 2008). Innovation may also prompt cost reduction through eliciting new and better ways of working (Sinclair, Klepper and Cohen 2000).

Because here we have conceptualized innovation as a capability arising from employees across the entire organization, rather than concentrated in pockets of specialist expertise, with the learning organization supporting and sustaining the capability, we envisage that there will be correspondingly more innovation where the learning organization exists to a greater extent, and that higher financial performance outcomes will flow from this. We also predict that there will be a positive relationship between these variables and sustained competitive advantage, given that this outcome focuses on success that is reinforced over time. Our second and final hypothesis is therefore as follows:

Hypothesis 2: Innovation mediates the relationship between the learning organization and organizational performance (indicated by sustained competitive advantage and financial performance).

Method

The data on which the hypotheses of this study are tested are drawn from the 'Marketing in the 21st century' data set (MC21), a large multi-country data collection effort organized by Aston University in the UK. This dataset spans 16 countries: Australia, Austria, Brazil, Mainland China, Finland, Germany, Greece, Hong Kong¹ (SAR), Hungary, Ireland, the Netherlands, New Zealand, Poland, Slovenia, the UK and the USA (see Table 1). Two countries, Poland and the Netherlands, had to be dropped from this analysis because of the high proportion (> 10%) of missing data. Further analyses were therefore conducted on organizations from 14 countries. These countries vary to a large extent in terms of their

Table 1. Descriptive statistics on samples.

	<i>N</i>	<i>Language</i>	<i>Net response rate (%)</i>
UK	487	English	10
Ireland	657	English	47
Austria	249	German	16
Finland	327	English	24
New Zealand	472	English	45
Australia	250	English	20
Hungary	572	Hungarian	21
Hong Kong	552	Chinese	27
China	400	Chinese	25
Slovenia	759	Slovene	60
Greece	326	Greek	43
Germany	400	German	16
USA	165	English	11
Brazil	293	Portuguese	10
Total	5909		

economic development. For example, the lowest GDP per capita (mainland China) was \$6270 while the highest (the USA) was \$41,529.

In each country, an academic expert managed and co-ordinated the data-collection activities. Because the research design was set-up initially to explore the relationship between marketing practices and organizational performance, each country expert targeted the chief marketing officer (in some organizations termed marketing or sales director) of these organizations, each of whom was asked to participate in the study. In the event that the marketing specialist was unable to complete the survey, the chief executive officer was asked to respond. Confidentiality was assured to each informant. A follow-up survey was sent after two weeks if no response had been obtained after the first wave. The net response of the total data collection effort, excluding Poland and the Netherlands, is 5909 organizations. Details are reported in Table 1. No evidence of non-response bias is found through comparing firms that responded in the first and second wave (Armstrong and Overton 1977). The MC21 sampling frame varied from country to country but was always based on an established business directory (including Dun and Bradstreet, proBusiness, Ireland Kompas and TOY-research). From these sampling frames, organizations having fewer than 20 employees and non-commercial organizations were eliminated. The remaining organizations were further stratified into small (20–99 employees), medium (100–499 employees) and large (500 or more employees). From the remaining organizations a random sample was drawn and approached. Part of the study design was to draw on organizations from a heterogeneous range of organizations spanning consumer products and services and business products and services. The sampled companies were spread across a range of business areas including banking, telecommunications, information technology (IT), consulting, commercial, aerospace, pharmaceutical production/research and development, railway engineering, automotive production, energy, oil, minerals and shipping.

We employed an etic approach, comparing constructs implicit in the questionnaire scales (see the Appendix) across multiple countries, and testing construct equivalence through a series of interviews designed to compare the meaning of these constructs. Subsequently, the constructs were translated from the UK original into the native language/spelling (not for Ireland) and subsequently translated back into UK English to test for equivalence (see Harkness, Van de Vijver and Mohler 2003). The main UK questionnaire was extensively pilot tested to refine measurement, check understanding and confirm the applicability of measurement scales and items. We also tested for the cross-cultural equivalence of our measures. Configural and metric invariance of the measures used were supported (Steenkamp and Baumgartner 1998). For each scale separately, configural invariance of the one-factor model was supported. The Incremental Fit Index (IFI; Bollen 1990), the Comparative Fit Index (CFI; Bentler 1990) and the root mean square error of approximation (RMSEA) indicated acceptable model fit. The χ^2 is significant, which is expected given the large sample size (Steenkamp and Trijp 1991). We also tested for equality of factor loadings, which was also supported by the data. Finally, we also inspected the range of the Cronbach's α s found. It appeared that in each country the α met the commonly accepted standards.

Measures

Developmental orientation

Our measure of developmental orientation is adapted from Sinkula, Baker and Noordewier (1997). This measure taps into the consensus amongst managers that a company's ability

to learn is the key for competitive advantage, and of underlying values recognizing learning as key to improving actions and performance outcomes. This measure also takes into account the extent of commitment to invest in training and learning and whether there is awareness that perceptions of the marketplace must be continually questioned. The measure comprises four items and response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. The scale's α reliability in the pooled sample is 0.79.

HRM focus

We used a four-item scale derived from West et al. (2006) to measure HRM focus. We were interested in the existence of HRM systems, and whether or not such systems were designed to take account of employee needs. We also wished to capture participation and contribution of staff views, to ascertain whether or not managers were interested in the feelings of staff about work. Sample items are 'We have regular staff appraisals in which we discuss employees' needs' and 'We survey staff at least once each year to assess their attitudes to their work'. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. The scale's α reliability in the pooled sample is 0.76.

Customer-facing remit

Customer-facing remit is the central aspect of market orientation and we used five items adapted from Narver and Slater (1990) to measure this factor. Through developing a customer-facing remit, organizations are able to gain understanding of an organizations' target customers to allow offering products and services that are of superior value continuously (Narver and Slater 1990). Sample items are 'Our commitment to serving customer needs is closely monitored' and 'Customer satisfaction is systematically and frequently assessed'. Response options ranged from (1) 'strongly disagree' to (7) 'strongly agree'. The scale's α reliability in the pooled sample is 0.81.

Innovation

We used a four-item scale adapted from West and Farr (1990) to measure innovation. According to their definition, innovation encompasses changes in methods, processes, products and procedures that are new to the unit of adoption and designed to benefit the organization. We asked respondents to assess these elements in respect of key competitors. Sample items are 'We are more innovative than our competitors in deciding what methods to pursue in achieving our targets and objectives' and 'We are more innovative than our competitors in initiating new procedures or systems'. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. The scale's α reliability in the pooled sample is 0.89. We adopt a broad measure of innovation that is distinct from 'adoptive' innovativeness measures that focus on, for example the adoption of new products (Hauser, Tellis and Griffin 2006). Furthermore, the definition is not restricted to technological change but includes new ideas or processes in administration, operations or management. This focus on innovation serves our context well as it is applicable to every organization. Note that our definition does not require absolute novelty of the innovation, but it has to be new compared to current practice.

Sustained competitive advantage

This scale focuses on the degree to which the organization has created advantages that are difficult to copy by competitors. Based on the resource-based view of the organization

(Barney, Wright and Ketchen 2001) difficult-to-imitate advantages help organizations achieve higher profits but are also a direct advantage in themselves. We used a four-item scale developed by Theoharakis and Hooley (2008) to measure sustained competitive advantage. An example item is: 'Our competitive advantage is difficult for competitors to copy because it uses only resources we have access to'. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. Sample items are 'Our competitive advantage is difficult for competitors to copy because it uses resources only we have access to' and 'Competitors could copy our competitive advantage but it would be uneconomic for them to do so'. The scale's alpha reliability in the pooled sample is 0.72.

Financial performance

We used a scale developed by Theoharakis and Hooley (2008) to measure financial performance. Following the question, 'How well did your company perform compared with your main competitors in the last financial year on the following criteria', respondents were asked to compare the profit (margins) achieved relative to competitors. Response options ranged from (1) 'strongly disagree' to (5) 'strongly agree'. Sample items are 'Relative competitors profit margins achieved' and 'Relative competitors return on investment'. The scale's α reliability in the pooled sample is 0.72.

Given the global nature of our study and divergent approaches to capturing and reporting financial data, we believe that having two measures of organizational performance increases the likely accuracy of our performance data and provides another check for the general direction of our results. We would anticipate, for example that the responses to questions on financial performance and sustained competitive advantage would be broadly in the same direction, and this check on the data could be useful in asserting the viability of our results.

In a related point, the question of using subjective rather than objective measures of performance deserves scrutiny given that the managers in our sample were asked for their views about performance on two counts, first regarding opinions about the sustained competitive advantage of the company, and second about its financial performance, in both cases in relation to competitors. There have been mixed views amongst researchers about the relative viability of subjective versus objective measures of organizational performance, although recent research has suggested that concerns in this direction may have been over-emphasized. Wall et al. (2004), for example, in three comprehensive tests have shown that there is no statistical difference between objective and subjective measures of performance; indeed, that the two approaches converge to a figure approaching 95% accuracy. They suggest, however, that subjective measures are accurate to the extent that the person completing the questionnaire has a detailed knowledge about the financial position of the company. Senior managers, they argue, are required to be fully cognizant of financial developments and for this reason their ratings are likely to concur closely with (ostensibly more accurate) objective performance data.

Given that respondents in our study were selected on the basis of their knowledge and seniority in the company, we suggest that their opinion about the company's financial well-being or otherwise is more likely than otherwise to be accurate. Furthermore, following recommendations by Wall et al. (2004) to include more than one measure of performance, we developed two separate measures, one related to perceptions of the longer-term performance of the organization and the other taking into account shorter-term financial advantage. Both shed light on how key managers envisage the performance of their organizations, we believe in a way which is helpful for understanding relationships with management practices.

Data analysis

Anderson and Gerbing's (1988) two step-approach was followed to test our hypotheses. Confirmatory factor analysis (CFA) was conducted to test the measurement model by comparing the hypothesized six-factor model (developmental orientation, customer-facing remit, HRM focus, innovation, sustained competitive advantage and financial performance) to a series of nested models: (1) a five-factor model (combining competitive advantage and financial performance); (2) a three-factor model (combining developmental orientation, customer-facing remit, HRM focus and innovation) and (3) a one-factor model.

Then we tested the structural model following procedures recommended by James, Mulaik and Brett (2006). The learning organization was modelled as a second-order construct or 'latent variable' (Hult et al. 2002) with three first-order factors (developmental orientation, customer-facing remit and HRM focus). We compared the hypothesized fully mediated model to a partially mediated model A (with a direct path from LO to financial performance), a partially mediated model B (with a direct path from LO to competitiveness), a partially mediated model C (with paths from LO to financial performance and competitiveness) and a non-mediated model (Kelloway 1998). We repeated these procedures with the sample from each of the 14 countries and the pooled sample. We used the IFI, the CFI, and RMSEA to examine model fit. In addition, we used χ^2 difference test to compare the relative fit of the nested models. Values of 0.90 or greater are indicative of good fit for IFI and CFI (Medsker, Williams and Holahan 1994) while RMSEA values of 0.08 or lower are indicative of good fit for the model (Browne and Cudeck 1993).

Results

Table 2 presents the results of the descriptive statistics and zero-order correlations of the study variables across 14 countries.

Table 3 shows the results of comparison of structural equation models. For the sake of clarity, we only report the model that fits the data best for each country and the pooled sample.² The upper part of Table 3 displays the results of the path estimation relating to Hypothesis 1. Developmental orientation was a significant first-order component of the learning organization with loading values ranging from 0.70 to 0.97 ($p < 0.001$). Customer-facing remit was also a significant first-order component of the LO with loading values ranging from 0.44 to 0.76 ($p < 0.001$). Similarly, HRM focus was a third significant first-order component of the LO with loadings ranging from 0.55 to 0.85 ($p < 0.001$). Thus, Hypothesis 1 was supported (see Figure 1).

Table 2. Descriptive statistics of study variables across 14 countries.

	<i>Mean</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
1 Developmental orientation	3.95	0.70	0.79					
2 Customer-facing remit	4.98	1.03	0.40	0.81				
3 HRM focus	3.72	0.79	0.53	0.34	0.76			
4 Innovation	3.51	0.82	0.47	0.30	0.36	0.89		
5 Sustained competitive advantage	3.00	0.78	0.18	0.14	0.16	0.31	0.72	
6 Financial performance	3.36	0.84	0.17	0.15	0.16	0.28	0.19	0.89

Notes: $n = 5909$. Reliability coefficients for the scales are included along the diagonal. We tested significance of the correlations via the application tool at <http://faculty.vassar.edu/lowry/rsig.html>. The results showed that for a sample size of 5909, r values equal to 0.03 and greater are significant.

Table 3. Summary of the results of structural equation modelling across countries.

	UK	Ireland	Austria	Finland	NZ	AU	Hungary	HK	China	Slovenia	Greece	DE	USA	Brazil	Pooled sample
Path analysis for the whole model															
DO ← LO	0.97***	0.89***	0.76***	0.77***	0.83***	0.80***	0.70***	0.84***	0.85***	0.78***	.072***	0.76***	0.77***	0.81***	0.82***
CR ← LO	0.62***	0.64***	0.67***	0.73***	0.63***	0.76***	0.60***	0.44***	0.55***	0.67***	0.70***	0.70***	0.76***	0.70***	0.58***
HRMF ← LO	0.76***	0.72***	0.73***	0.55***	0.78***	0.72***	0.76***	0.85***	0.74***	0.84***	0.83***	0.63***	0.77***	0.85***	0.74***
INNO ← LO	0.52***	0.51***	0.63***	0.59***	0.41***	0.62***	0.73***	0.58***	0.54***	0.58***	0.64***	0.62***	0.55***	0.45***	0.56***
Sustainable advantage ←	0.27***	0.33***	0.47***	0.47***	0.35***	0.37***	0.44***	0.29***	0.21**	0.33***	0.43***	0.42***	0.37**	0.26***	0.34***
INNO	0.23***	0.33***	0.32***	0.19**	0.25***	0.29***	0.49***	0.16**	0.25***	0.35***	0.41***	-	-	0.30***	0.26***
Financial performance ←	-	-	-	-	-	-	-	-	-	-	-	-	-	0.17*	0.08***
Sustainable advantage ← LO	-	-	-	-	-	-	-	-	-	-	-	-	0.42***	0.41**	0.10***
Financial performance ← LO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Model fit indices															
χ^2	551.01	584.20	404.79	584.07	524.82	390.41	715.65	470.33	433.21	655.74	434.54	380.40	328.36	474.86	2466.98
df	269	269	269	269	269	269	269	269	269	269	269	269	269	268	267
χ^2/df	2.05	2.17	1.51	2.17	1.95	1.45	2.66	1.75	1.61	2.44	1.62	1.41	1.22	1.77	9.24
IFI	0.95	0.95	0.94	0.91	0.93	0.96	0.91	0.96	0.94	0.95	0.94	0.97	0.96	0.94	0.96
CFI	0.95	0.95	0.94	0.91	0.93	0.95	0.91	0.96	0.94	0.95	0.94	0.97	0.96	0.94	0.96
RMSEA	0.05	0.04	0.06	0.06	0.05	0.04	0.05	0.04	0.04	0.04	0.04	0.03	0.04	0.05	0.04

Notes: DO, developmental orientation; LO, learning organization; CR, customer-facing remit; HRMF, HRM focus; INNO, innovation; IFI, Incremental Fit Index; CFI, Comparative Fit Index; RMSEA, root mean square error of approximation.
 Standardized regression weight. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

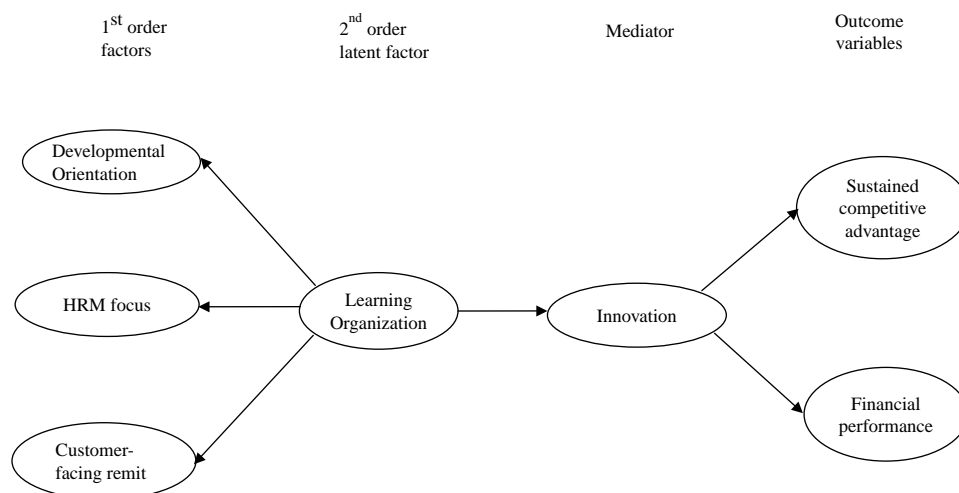


Figure 1. Learning organization and its impact on organizational outcomes.

The fully mediated model received support with the samples from 11 countries (i.e. the UK, Ireland, Austria, Finland, New Zealand, Australia, Hungary, Hong Kong, China, Slovenia and Greece). With each of the samples from the 11 countries, the fully mediated model showed a better fit than the nested models (i.e. partial-mediated models and the non-mediated models), thus Hypothesis 2 received support among these 11 countries. However, for the samples from Germany and the USA, the partially mediated model A (with a direct path from the learning organization to financial performance) showed a better fit than other models. For the sample from Brazil, the partially mediated model B (with a direct path from the learning organization to sustained competitive success) showed a better fit than other models. Finally, for the pooled sample (including all 14 countries), the partially mediated model C (with direct paths from the learning organization to both outcome variables) showed the best fit ($\chi^2 = 2466.98$, $df = 267$, $IFI = 0.96$, $CFI = 0.96$, $RMSEA = 0.037$). Thus, Hypothesis 2 only received partial support with Germany, the USA and Brazil not fitting the criteria for full mediation. This was also the case for the pooled sample. Figure 2 shows the path diagram with standardized results across the pooled sample.

To understand if the antecedents of the learning organization vary across countries and industries we conducted simple one-way ANOVA's for mean differences. We also conducted Levene's (1960) test of the equivalence of variance. We conducted these tests across the different countries and industries present in the sample; consumer goods and services and business goods and services plus an 'other' category consisting of organizations selling to different industries.

The results suggest the means and variances of developmental orientation, employee focus and the customer facing remit, vary across countries and industries ($p < 0.01$). Only the variance of the customer facing-remit across industries ($p > 0.10$) suggests no difference in variation albeit that the means are significantly different. In another test for heterogeneity, we carried out ANOVA tests for differences in the median and the 10% trimmed mean (the 5% and 5% highest observations are taken out). These additional robustness checks indicate similar findings.

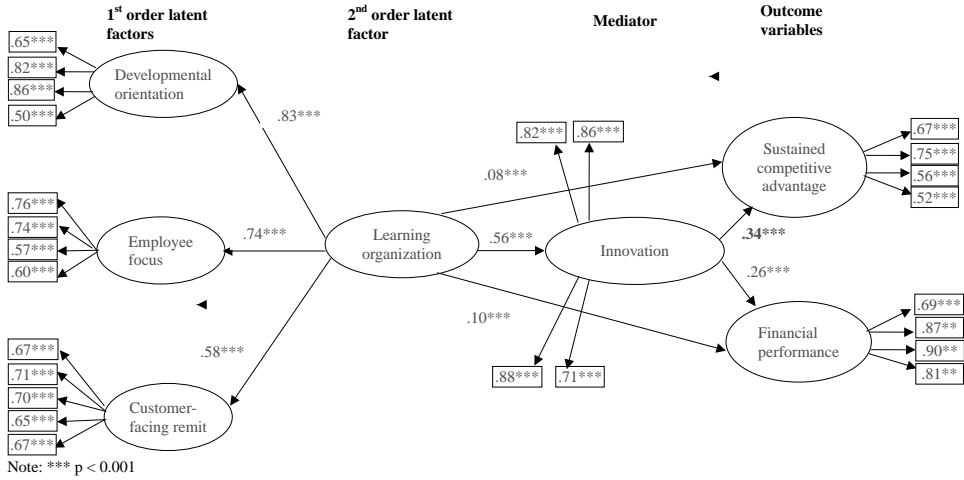


Figure 2. Path diagram with standardized results with the pooled sample. Note: *** $p < 0.001$.

Taken together, these differences suggest a degree of heterogeneity in the learning organization antecedents. We find that the learning organization impacts on performance in all cases (albeit sometimes fully mediated, sometimes partially mediated). While the constituent elements of the learning organization differ across countries and industries, the outcomes of being a learning organization are always positive. The levels and variances of the outcomes (innovation, financial performance and sustained competitive advantage) also differ across countries and industries, but to a markedly lesser extent.

Post hoc tests

The results of the CFAs showed that the hypothesized six-factor model fit the data better than the nested models across 14 countries and the pooled sample. For instance, with the pooled sample, the hypothesized six-factor model ($\chi^2 = 2383.84$, $df = 260$, $CFI = 0.96$, $IFI = 0.96$, $RMSEA = 0.037$) showed a better fit than the five-factor model ($\Delta\chi^2 = 3728.63$; $\Delta df = 5$; $p < 0.001$), the three-factor model ($\Delta\chi^2 = 15094.65$; $\Delta df = 12$; $p < 0.001$) and the one-factor model ($\Delta\chi^2 = 26162.06$; $\Delta df = 15$; $p < 0.001$).³ These findings suggest discriminant validity of our measures.

The potential occurrence of common method variance (CMV) needs to be carefully considered given our research design. Although researchers are by no means in agreement about the phenomena, with some arguing that CMV is an 'urban legend' the effects of which are often over-corrected (Spector 2006), others again have suggested that in order to mitigate the dangers CMV presents, researchers should select an appropriate test (Richardson, Simmering and Sturman 2009). More recently, scholars have suggested that CFA may be a one of the more robust tests for CMV (Podsakoff, MacKenzie, Lee, and Podsakoff 2003). We adopted this more rigorous test, and the results of the CFA indicate to us that the findings are not driven by common method bias.

Discussion

In this study, we identify two main contributions. First, we have developed and tested a model to represent the learning organization based on a sample of 5909 organizations

drawn from 14 countries across the globe. Although the majority of extant work has defined learning in terms of an extra dimension capturing questioning and reflecting behaviours, our conceptualization extends this framework by presenting the learning organization as a second-order construct, arising from three inseparable elements, including the extent of integration with the customer. As such, our study represents a new way of conceptualizing the learning organization, which is suggestive of how innovation may be encouraged across a wide range of different companies and countries with distinctive cultures and at various stages of economic development.

This way of portraying learning organizations draws upon organizational learning and dynamic capability theory and makes connections across these literatures. For the former, it has been suggested that organizations learn to the extent that there is a significant 'jolt' or widely felt acknowledgement signalling that change is required (Thomas, Sussman and Henderson 2001), a mindset which, we believe, may be initiated through building strong links with the buyers of the products or services on which the organization depends. Linked with this point, we have attempted to shed light on an area in the dynamic capability literature (how to produce the capabilities linked with innovation) that has hitherto received little research attention (Helfat and Peteraf 2008). The dynamic capabilities needed to achieve innovation arise from learning, which is in turn precipitated by close attention to each of the three components outlined here. We return to these points in the following section.

A second contribution of our work is to demonstrate the applicability of our model across global boundaries. Although there are grounds for questioning whether or not a universalistic model such as that described here might deliver hoped-for benefits, our work suggests that, by and large, the model holds up, at least for the majority of countries in our study. This might be because of the way that we have conceptualized the learning organization, as a latent variable arising whether sufficient attention is given to the three components detailed above. As suggested in our *post hoc* analyses, becoming a learning organization is complex and situation-specific. Although broad parameters (like those described here) seem to be necessary, the way in which the various orientations play out in a given scenario cannot necessarily be anticipated in advance, especially against a backdrop of change. For example, competitive strategies based on understanding customer needs may produce a more externally oriented attitude on the part of employees across the organization, as well as a willingness to network outside. More informal learning and knowledge-sharing may occur where there senior managers believe that the company's ability to learn is the key to competitive advantage. Our results point to a broad template encompassing various practices that seem likely to channel learning in the desired direction; exactly how the various dynamics that are elicited play out in a given context will vary depending on the dynamics of a particular situation, for example especially creative individuals, consistent leadership, prior experience at innovating, etc. This way of conceptualizing learning organizations broadens its potential applicability to countries outside the West where the notion was originally devised. It adds credence to the idea that the model may be best captured through a second-order conceptualization, rather than through a single construct or multiple constructs separately. We suggest the communality between three core constructs; developmental orientation, HRM focus and customer-facing remit best represents learning organization.

It is worth mentioning that for organizations from two countries – the USA and Germany – a partially mediated model, with a direct path from the learning organization to financial performance added, suggests a better fit than the fully mediated model. Similarly, in the case of Brazil, we detected a pattern in our data leading directly from the

learning organization to sustained competitive success. The pooled sample too demonstrated the viability of a partially mediated model, with paths straight from the learning organization to both outcome variables (financial performance and sustained competitive success). By way of explanation, we suggest that although overall our data (at country level) reveal a fully mediated model, that the learning organization also directly influences performance outcomes makes logical sense. For example, staff in learning organizations are probably better at anticipating performance challenges and more adept at avoiding any damaging effect on financial outcomes (because of the better sources of information to which they have access and the relatively high skills of the workforce). The workforce flexibility such organizations have would mean that the organization is quicker and more efficient than less learning-oriented counterparts at performing existing activities, with corresponding financial benefits.

Regarding differences across the countries, we find consistent strong effects of learning organization on innovation and performance. Three countries stand out against this general trend: Germany, the USA and Brazil, where the learning organization seems to also directly influence performance outcomes (partially mediated by innovation). Why this may be so for these three countries in particular is an interesting point. Although there have been cross-cultural studies exploring the effect of national characteristics on outcomes such as entrepreneurialism and innovation, mostly the focus has been on individualism versus collectivism (Bhaga, Harvesto and Triandis 2002). Germany, the USA and Brazil tend to score highly for individualism (like other countries in our sample); however, perhaps more tellingly, all three countries stand out in the way that they aspire to becoming more 'performance oriented' (Javidan, Stahl, Brodbeck and Wilderom 2005) (where performance orientation is defined as the extent to which a collective encourages and rewards group members for performance improvements). Although detailed discussion of cultural dimensions and their relationship with innovation/performance is outside the scope of this paper (see Bhaga et al. (2002) for a review), we suggest that this desire for performance orientation may lead organizations with these cultural characteristics to be perhaps less interested in achieving innovation (in relative terms) and instead committed to working in a way which impacts directly on the 'bottom line', i.e. the on-going financial viability of the organization. In this sense, we concur with Shane (1993) that cultural influences may have a role in understanding national rates of innovation. Performance orientation is, we suggest, an area deserving of future research in addressing questions of this kind.

In practical terms, our work offers guidance for practitioners, especially in global, multinational companies, into the vexed question of how learning organizations may be developed and where attention should ideally be directed. Currently, literature either focuses on abstract (from a practitioner perspective) ideas such as culture and structure (Garvin et al. 2008) or alternatively conflates a complex, multilevel phenomena into a simple scale measuring the extent of questioning activities and/or reflecting behaviour (e.g. Baker and Sinkula 1999). Here, we provide relatively straightforward guidance which is likely to yield performance benefits in a number of respects, most notably in terms of the on-going financial health of the organization. The components identified in this study: developmental orientation, customer-facing remit and HRM focus, we suggest, in combination, instigate the learning needed for organizations to achieve the capability needed to innovate over time, in order to retain a competitive position. At the same time, because of the complex dynamics involved, the precise mechanisms will vary across organizations, linked with the unique characteristics of a particular setting. Our overriding message is that the learning organization model is always important,

regardless of the setting, while its antecedents are malleable in line with situation-specific variables. Not only is the message to practitioners unambiguous about where attention should be directed; it also allows scope for interpretation depending upon the dynamics within a particular context. Linked with this point, our model seems to have applicability across the globe, even where there is variation in cultural characteristics (Hofstede 2001). Global leaders may therefore find the practical suggestions outlined here have a bearing on the strategic priorities they endorse over and above country-specific attributes.

Our study has a number of strengths, especially regarding the breadth of analysis it offers, given the number of countries represented in the analysis and the sample of organizations included. Furthermore, through taking a multidisciplinary approach we have been able to bring together variables such as the three in our study that are rarely considered in combination, thereby yielding new theoretical insights, linked with organizational learning and dynamic capability literatures. This is the first time to our knowledge that the learning organization has been conceptualized as a second-order construct, although the methodology has been employed to produce interesting and informative insights elsewhere (e.g. Hult et al. 2002).

For future research, it would be valuable to further explore specific examples of effective practice, given the intangible, interdisciplinary and complex nature of learning organizations. It may be that qualitative, case study research would shed further light, given the broad direction that our study has suggested. On the other hand, instruments could be designed to offer insight into the antecedents of learning organizations. For example, are there particular practices, applied internally, such as project work, interdisciplinary teams, mentoring arrangements that might supplement the three components captured here? Are there other measures for capturing external integration such as the extent of benchmarking practices or training offered outside the organization? Given that we have to some extent sacrificed depth for breadth, it would also be interesting and useful to explore whether the global applicability we have found here for our measures holds given more detailed scrutiny, focusing in detail on two or more culturally distinctive nations.

Overall though, given the scope and breadth of our work, we are able to offer a new way of conceptualizing the learning organization. In line with dynamic capability research, our framework sets down broad parameters, while allowing sufficient scope for interpretation and enactment within a particular context. These parameters we believe to be important to focus priorities and to guide the direction of strategic attention, especially where organizations have to deal with turbulent and challenging wider demands.

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Notes

1. Hong Kong is not a country but we have included this geographical region on account of its unique historical and cultural legacy relative to mainland China.
2. The results of the comparison of structural equation model for specific countries are available from the authors.
3. The CFA results for specific countries are available from the authors.

References

- Anand, N., Gardner, H., and Morris, T. (2007), 'Knowledge-Based Innovation: Emergence and Embedding of New Practice Areas in Management Consulting Firms,' *Academy of Management Journal*, 50, 406–428.
- Anderson, J.C., and Gerbing, D.W. (1988), 'Structural Equation Modeling in Practice: A Review and Recommended Two-Step Approach,' *Psychological Bulletin*, 103, 411–423.
- Appelbaum, S., and Gallagher, J. (2000), 'The Competitive Advantage of Organizational Learning,' *Journal of Workplace Learning*, 12, 40–56.
- Argyris, C., and Schön, D. (1978), *Organisational Learning: A Theory of Action Perspective*, Reading: Addison-Wesley.
- Armstrong, A., and Foley, P. (2003), 'Foundations for a Learning Organization: Organization Learning Mechanisms,' *The Learning Organization*, 10, 74–82.
- Armstrong, J., and Overton, T. (1977), 'Estimating Nonresponse Bias in Mail Surveys,' *Journal of Marketing Research*, 14, 396–403.
- Aycan, Z. (2005), 'The Interplay Between Cultural and Institutional/Structural Contingencies in Human Resource Management Practices,' *The International Journal of Human Resource Management*, 16, 7, 1083–1119.
- Baker, W.E., and Sinkula, J.M. (1999), 'The Synergistic Effect of Market Orientation and Learning Orientation on Organizational Performance,' *Journal of the Academy of Marketing Science*, 27, 411–427.
- Barney, J., Wright, M., and Ketchen, D. (2001), 'Resource Based Theories of Competitive Advantage: A Ten-Year Retrospective on the Resource-based View,' *Journal of Management*, 27, 625–643.
- Bentler, P.M. (1990), 'Comparative Fit Indexes in Structural Models,' *Psychological Bulletin*, 107, 238–246.
- Bhaga, R., Harvesto, P., and Triandis, H. (2002), 'Cultural Variations in the Cross Border Transfer of Organizational Knowledge: An Integrative Framework,' *Academy of Management Review*, 27, 204–221.
- Bollen (1990), 'Overall Fit in Covariance Structure Models: Two Types of Sample Size Effects,' *Psychological Bulletin*, 107, 256–259.
- Bontis, N., Crossan, M., and Hulland, J. (2001), 'Managing an Organizational Learning System by Aligning Stocks and Flows,' *Journal of Management Studies*, 39, 437–469.
- Bottazzi, G., Dosi, G., Lippi, M., Pammolli, F., and Riccaboni, M. (2001), 'Innovation and Corporate Growth in the Evolution of the Drug Industry,' *International Journal of Industrial Organization*, 19, 7, 1161–1187.
- Browne, M.W., and Cudeck, R. (1993), 'Alternative Ways of Assessing Model Fit,' in *Testing Structural Equation Models*, eds. K. Bollen and S. Long, Newbury Park, NJ: Sage, pp. 136–162.
- Budhwar, P., and Debrah, Y. (2009), 'Future Research on Human Resource Management Systems in Asia,' *Asia Pacific Journal of Management*, 26, 197–218.
- Budhwar, P., and Sparrow, P. (2002), 'An Integrative Framework for Determining Cross-National Human Resource Management Practices,' *Human Resource Management Review*, 12, 3, 377–403.
- Chiva, R., and Alegre, J. (2009), 'Organizational Learning Capability and Job Satisfaction: An Empirical Assessment in the Ceramic Tile Industry,' *British Journal of Management*, 20, 323–340.
- Cohen, W.M., and Levinthal, D.A. (1990), 'Absorptive Capacity: A New Perspective on Learning and Innovation,' *Administrative Science Quarterly*, 35, 128–152.
- Crossan, M., and Apayin, M. (2010), 'A Multi-Dimensional Framework of Organizational Innovation: A Systematic Review of the Literature,' *Journal of Management Studies*, 47, 1154–1191.
- Damapour, F. (1991), 'Organizational Innovation: A Meta-Analysis of Determinants and Moderators,' *Academy of Management Journal*, 34, 555–590.
- Dougherty, D. (1992), 'Interpretative Barriers to Successful Innovation in Large Firms,' *Organization Science*, 3, 179–202.
- Economic Intelligence Unit (2008), 'Ahead of the Game: Succeeding in Emerging Markets,' Economist Intelligence Unit white paper.
- Eisenhardt, K., and Martin, J. (2000), 'Dynamic Capabilities: What Are They?' *Strategic Management Journal*, 21, Special Issue, 1105–1121.

- Ellinger, A.D., Ellinger, A.E., Yang, B., and Howton, S. (2002), 'The Relationship Between the Learning Organization Concept and Firms Financial Performance: An Empirical Assessment,' *Human Resource Development Quarterly*, 13, 1–17.
- Friedman, V.J., Lipshitz, R., and Popper, M. (2005), 'The Mystification of Organizational Learning,' *Journal of Management Inquiry*, 14, 19–30.
- Garvin, D.A. (1993), 'Building a Learning Organization,' *Harvard Business Review*, 71, 4 (July–August), 75–84.
- Garvin, D.A., Edmondson, A., and Gino, F. (2008), 'Is Yours a Learning Organization?' *Harvard Business Review*, 86, 3 (March), 109–116.
- Goh, S.C., Elliott, C., and Quon, T.K. (2012), 'The Relationship Between Learning Capability and Organizational Performance: A Meta-Analytic Examination,' *The Learning Organization*, 19, 2, 92–108.
- Harkness, J., Van de Vijver, F., and Mohler, P. (2003), *Cross-Cultural Survey Methods*, Hoboken, NJ: Wiley.
- Hauser, J., Tellis, G., and Griffin, A. (2006), 'Research on Innovation: A Review and Agenda for Marketing Science,' *Marketing Science*, 25, 6, 687–717.
- Helfat, C.E., and Peteraf, M.A. (2008), 'Understanding Dynamic Capabilities: Progress Along a Developmental Path,' *Strategic Organization*, 7, 91–102.
- Hofstede, G. (2001), *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*, Thousand Oaks, CA: Sage.
- Horwitz, F. (2011), 'Future HRM Challenges in Eastern and Central Europe,' *Human Resource Management Journal*, 21, 4, 432–443.
- Horwitz, F.M., Chan, T., Quazi, H., Nonkwelo, C., Roditi, D., and van Eck, P. (2006), 'Human Resource Strategies for Managing Knowledge Workers: An Afro-Asian Comparative Analysis,' *The International Journal of Human Resource Management*, 17, 5, 775–811.
- Hult, R.G., Ketchen, D., and Nichols, E. (2002), 'An Examination of Cultural Competitiveness and Order Fulfilment Cycle Time Within Supply Chains,' *Academy of Management Journal*, 45, 3, 577–586.
- Hung, Y., Lien, Y., Yang, B., Wu, C., and Kuo, Y. (2011, April), 'Impact of TQM and Organizational Learning on Innovation Performance in the High-Tech Industry,' *International Business Review*, 20, 213–225.
- James, W. (2002), 'Best HR Practices for Today's Innovation Management,' *Research Technology Management*, 45, 57–60.
- James, L.R., Mulaik, S.A., and Brett, J.M. (2006), 'A Tale of Two Methods,' *Organizational Research Methods*, 9, 2, 233.
- Javidan, K., Stahl, G., Brodbeck, F., and Wilderom, C. (2005), 'Cross Border Transfer of Knowledge: Cultural Lessons From Project GLOBE,' *Academy of Management Executive*, 19, 59–78.
- Kelloway, E.K. (1998), *Using LISREL for Structural Equation Modeling: A Researcher's Guide*, Thousand Oaks, CA: Sage.
- Laursen, K., and Foss, N. (2003), 'New Human Resource Management Practices, Complementarities and the Impact on Innovation Performance,' *Cambridge Journal of Economics*, 27, 243–263.
- Leonard-Barton, D. (1998), *Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation*, Boston, MA: Harvard Business School Press.
- Levene, H. (1960), 'Robust Tests for Equality of Variances,' in *Contributions to Probability and Statistics: Essays in Honor of Harold Hotelling*, eds. I. Olkin, S.G. Ghurye, W. Hoeffding, and W.G. Madow, Menlo Park, CA: Stanford University Press, pp. 278–292.
- London, M., and Smither, J. (1999), 'Empowered Self-Development and Continuous Learning,' *Human Resource Management*, 38, 3–15.
- Medsker, G.J., Williams, L.J., and Holahan, P.J. (1994), 'A Review of Current Practices for Evaluating Causal Models in Organizational Behavior and Human Resources Management Research,' *Journal of Management*, 20, 2, 439.
- Mumford, M. (2000), 'Managing Creative People: Strategies and Tactics for Innovation,' *Human Resource Management Review*, 10, 313–351.
- Narver, J., and Slater, S. (1990), 'The Effect of a Market Orientation on Business Profitability,' *The Journal of Marketing*, 54, 20–35.
- Paton, R.A., and McCalman, J. (2000), *Change Management. A Guide to Effective Implementation* (2nd ed.), Thousand Oaks, CA/London: Sage.

- Pedler, M., Burgoyne, J., and Boydell, P. (1999), *The Learning Company: A Strategy for Sustainable Development*, Maidenhead: McGraw-Hill.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.-Y., and Podsakoff, N.P. (2003), 'Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies,' *Journal of Applied Psychology*, 88, 879–903.
- Raduan, C., Kumar, N., and Ong-Gua, P. (2009), 'The Effect of Organizational Learning on Organizational Commitment, Job Satisfaction and Work Performance,' *The Journal of Applied Business Research*, 25, 6, 55–68.
- Richardson, H., Simmering, M., and Sturman, M. (2009), 'A Tale of Three Perspectives: Examining Post Hoc Statistical Techniques for Detection and Correction of Common Method Variance,' *Organizational Research Methods*, 12, 762–800.
- Senge, P. (1990), *The Fifth Discipline; the Art and Practice of the Learning Organization*, New York: Double Day.
- Shane, S. (1993), 'Cultural Influences on National Rates of Innovation,' *Journal of Business Venturing*, 8, 59–73.
- Sheehan, M., and Sparrow, P. (2012), 'Introduction: Global Human Resource Management and Economic Change: A Multiple Level of Analysis Research Agenda,' *The International Journal of Human Resource Management*, 23, 12, 2393–2403.
- Shipton, H., and Zhou, Q. (2008), 'Learning and Development in Organisations,' in *Strategic HRM: Building Research-Based Practice*, ed. the Aston Centre for Human Resources, London: CIPD.
- Sicilia, M.A., and Lytras, M.D. (2005), 'Scenario-Oriented Reusable Learning Object Characterizations,' *International Journal of Knowledge and Learning*, 1, 4, 332–341.
- Sinclair, G., Klepper, S., and Cohen, W. (2000), 'What's Experience Got To Do With It? Sources of Cost Reduction in a Large Specialty Chemicals Producer,' *Management Science*, 46, 28–45.
- Sinkula, J., Baker, W., and Noordewier, T. (1997), 'A Framework for Market-Based Organizational Learning: Linking Values, Knowledge, and Behavior,' *Journal of the Academy of Marketing Science*, 25, 305–318.
- Spector, P.E. (2006), 'Method Variance in Organizational Research: Truth or Urban Legend?' *Organizational Research Methods*, 9, 221–232.
- Spicer, D., and Sadler-Smith, E. (2006), 'Organizational Learning in Smaller Manufacturing Firms,' *International Small Business Journal*, 24, 2, 133–158.
- Steenkamp, J.B., and Baumgartner, H. (1998), 'Assessing Measurement Invariance in Cross-National Consumer Research,' *Journal of Consumer Research*, 25, 78–90.
- Steenkamp, J.B., and van Trijp, H. (1991, November), 'The Use of LISREL in Validating Marketing Constructs,' *International Journal of Research in Marketing*, 8, 283–299.
- Teece, D. (2007), 'Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance,' *Strategic Management Journal*, 28, 1319–1350.
- Teece, D., Pisano, G., and Shuen, A. (1997), 'Dynamic Capabilities and Strategic Management,' *Strategic Management Journal*, 18, 7, 509–533.
- Theoharakis, V., and Hooley, G. (2008), 'Customer Orientation and Innovativeness: Differing Roles in New and Old Europe,' *International Journal of Research in Marketing*, 25, 1, 69–79.
- Thomas, J., Sussman, S., and Henderson, J. (2001), 'Understanding Strategic Learning: Linking Organizational Learning, Knowledge Management and Sense-Making,' *Organization Science*, 12, 331–345.
- Wall, T., Michie, J., Patterson, M., Wood, S., Sheehan, M., Clegg, C., and West, M. (2004), 'On the Validity of Subjective Measures of Company Performance,' *Personnel Psychology*, 57, 95–118.
- Wang, C.L., and Ahmed, P. (2003), 'Organizational Learning: A Critical Review,' *The Learning Organization*, 10, 1, 8–17.
- Weldy, T. (2009), 'Learning Organization and Transfer: Strategies for Improving Performance,' *The Learning Organization*, 16, 1, 58–68.
- West, M., and Farr, J. (1990), 'Innovation at Work,' in *Innovation and Creativity at Work*, eds. M.A. West and J.L. Farr, Chichester: Wiley.
- West, M., Guthrie, J., Dawson, J., Borrill, C., and Carter, M. (2006), 'Reducing Patient Mortality in Hospitals: the Role of Human Resource Management,' *Journal of Organizational Behaviour*, 27, 983–1002.

Appendix: Questionnaire items

Developmental orientation

Scaling: 1–5; strongly disagree–strongly agree

Managers agree that our company's ability to learning is the key to competitive advantage (0.65).

Employee training and learning is seen as an investment rather than an expense (0.82).

The underlying values of our company include learning as a key to improvement (0.86).

Our staff realize that our perceptions of the marketplace must be continually questioned. (0.50).

HRM focus

Scaling: 1–5; strongly disagree–strongly agree

We have regular staff appraisals in which we discuss employee needs (0.76).

We have regular staff meetings with employees (0.74).

As a manager, I try to find out the true feelings of my staff about their jobs (0.57).

We survey staff at least once each year to assess their attitudes to their work (0.60).

Customer-facing remit

Scaling: 1–7; not at all–to an extreme extent

Our commitment to serving customer needs is closely monitored (0.67).

Our objectives and strategies are driven by the creation of customer satisfaction (0.71).

Competitive strategies are based on understanding customer needs (0.70).

Business strategies are driven by increasing value for customers (0.67).

Customer satisfaction is systematically and frequently assessed (0.65).

Innovation

Scaling: 1–5; strongly disagree–strongly agree

We are more innovative than our competitors in deciding what methods to use (0.82).

We are more innovative than our competitors in initiating new procedures or systems (0.86).

We are more innovative than our competitors in developing new ways of achieving our goals (0.88).

We are more innovative than our competitors in initiating changes in the job content (0.71).

Sustainable competitive advantage

Scaling: 1–5; strongly disagree–strongly agree

Our competitive advantage is difficult for competitors to copy because it uses only resources we have access to (0.67).

It took time to build our competitive advantage and competitors would find it time-consuming to follow a similar route (0.75).

Competitors find it difficult to see how we created our competitive advantage in the first place (0.56).

Competitors could copy our competitive advantage but it would be uneconomic for them to do so (0.52).

Financial performance

Scaling: relative to competitors, is your company (1–5; much worse–much better)

Relative to competitors, overall profit levels achieved (0.69).

Relative to competitors, profit margins achieved (0.88).

Relative to competitors, return on investment (0.90).

Relative to competitors, shareholder satisfaction with financial performance (0.81).

The question of exactly how learning impacts on performance outcomes at the level of the organization remains the subject of wide debate and has fuelled research into the so-called 'dynamic capabilities', defined as 'the ability to integrate, build and reconfigure internal and external competences to address rapidly changing environments' (Teece, Pisano and Shuen 1997, p. 516). Evidence suggests that there are commonalities across dynamic capabilities given particular strategic priorities (Eisenhardt and Martin 2000). This in turn implies that practices designed to trigger learning (such that innovation may arise) may have common elements.

Commonalities across dynamic capabilities

It has been suggested that there are more or less effective ways of dealing with identified organizational and technical challenges (Eisenhardt and Martin 2000). For example, for companies seeking to achieve innovation, there are particular dynamic capabilities – for example, effectively drawing on employee insights – that may be likely to create the necessary conditions for innovation to occur (Anand, Gardner and Morris 2007). That commonalities existing across processes are not to imply that each company attempting to achieve new product development or innovation will do so in an identical way (Eisenhardt and Martin 2000). Indeed, although according to Dougherty (1992) external linkage is important for new product development, it can be achieved in subtly different ways, depending on the unique constellation of factors that together constitute an organization's resource base. How precisely each capability evolves in a particular context will vary in line with differences across organizations (Eisenhardt and Martin 2000).