

DEPLOYING HUMAN RESOURCE CAPABILITY FOR SUSTAINABLE PERFORMANCE: A DYNAMIC CAPABILITIES FRAMEWORK

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Abstract:

The objective of this paper is to explore the notion of dynamic capabilities as a dominant source of sustainable performance, focusing on human resource capability. Building on qualitative data from six representative IT firms, the results indicate that firms more strongly committed to deploying human resource capability as dynamic capability are more successful and hold the potential for a sustained competitive advantage. To bolster our study, we also provide insights into good practices that underpin human resource capability as well as bad practices that represent rigidity in their deployment. Our paper highlights the importance of the dynamic capabilities perspective as a field of study in today's dynamic environment, and exposes the importance of a continuous commitment to sense, seize and reconfigure capabilities as part of dynamic capabilities. From a practitioner's point of view, we believe the results could encourage managers to contemplate and understand how this may be useful in practice.

Keywords: human resource capability, dynamic capabilities, firm performance, information technology (IT) industry, case study

1. INTRODUCTION

How to remain competitive and achieve better performance has been a major challenge, particularly for information technology (IT) firms that exist within a high velocity environment. In such an environment, firms experience great uncertainty and intensive competition. Consequently, to be able to survive in such conditions firms need to renew their resource base as their environment changes. The dynamic capabilities view (DCV) has emerged as an attempt to untangle the complex problem of sustainable competitive advantage in today's dynamic environment (Eisenhardt & Martin, 2000; Teece, Pisano & Shuen, 1997). The underlying assumption is that firms, which are able to sense and then seize new opportunities and, further, reconfigure their resources and capabilities in line with recognised opportunities and environmental change can create and sustain a competitive advantage (Porter, 1985) (Teece, 2009). Ambrosini and Bowman (2009) propose that fine-grained case studies of firms which have been able to sustain a competitive advantage over time in dynamic environments can offer some important guidelines on how to remain competitive and achieve better performance in a world of intense competition. Human resource capability has been recognised as one of the major source of a competitive advantage (e.g. Barney & Clark, 2007; Itami & Roehl, 1987; Kamoche & Muller, 1998; Lado & Wilson, 1994) and thus related firm performance.

The paper's main purpose is to recognise that renewing human resource capability in line with the DCV leads to sustainable performance. Our focus was: (1) to study human resource capability from a dynamic capability viewpoint, its sensing, seizing and reconfiguring capabilities; and (2) to investigate the level of deployment of each individual dynamic capability, and to link this to firm performance. In order to examine the relationships involved, in-depth interviews were conducted in six representative firms in the IT industry. Due to the IT industry's specific nature, IT firms represent a suitable context to create and validate our research model. In addition, the DCV is particularly relevant to markets exposed to rapid technological change and strong international competition (Teece 2009, p. 156). This paper draws attention to the promising avenues and potential offered by the dynamic capabilities view that encourages further development. Finally, it offers some important managerial implications for managers to benchmark their practices to benchmark their practices and to think about how to use this in their daily practice.

2. LITERATURE REVIEW (THEORETICAL FOUNDATIONS)

2.1 Dynamic capabilities as the latest perspective in strategic management

The DCV is the latest perspective trying to explain and guide firms regarding how they can achieve and sustain a competitive advantage. In fact, it can be understood as the "new behavioural theory of the firm" (Augier & Teece, 2009: 413) that extends one of the most dominant frameworks in the strategic management literature (Zott, 2003), the resource-based view (RBV). While the intention of the DCV was to extend the RBV, mainly because of its largely static nature (Priem & Butler, 2001), the DCV also shares some parallels with the core competence perspective and the knowledge-based view (KBV) (Ambrosini & Bowman, 2009). Accordingly, the dynamic capabilities view extends previous perspectives, especially the RBV, by addressing that firms need to adjust and reconfigure their resource base as markets and technologies evolve (Harrelld, O'Reilly & Tushman, 2007). The publication by Teece, Pisano and Shuen (1997) is recognised as the first seminal paper on the notion of dynamic capabilities. The paper has its roots in the earlier working papers of Teece and Pisano (1994), and Teece, Pisano and Shuen (1990). Evidently, the paper triggered a growing body of articles, namely more than 1,534 from 1997 to 2007 (Barreto, 2010), and over 1,900 citations by December 2009 (DiStefano, Peteraf & Verona, 2010). However, the field still remains mostly conceptual and largely focuses on foundation-level issues (Helfat & Peteraf, 2009). Extensive literature reviews in recent years (e.g. Zahra et al. 2006; Wang & Ahmed, 2007; Ambrosini & Bowman, 2009; Barreto, 2010) have not shown much progress as the field is still overflowing with a disconnected body of research. In addition, the DCV has received a lot of criticism (like other previous approaches such as the RBV) for being fuzzy and tautological (e.g. Winter, 2003) with little empirical support (Newbert, 2007; Ambrosini & Bowman, 2009). We propose that, if the DCV is useful as a field of study and, of course, for practitioners, then it needs to be fully researched. To study dynamic capabilities, we must adopt an analytical approach. From an analytical perspective, dynamic capabilities can be disaggregated into three classes (1) sensing capability; (2) seizing capability; and (3) reconfiguring capability (Teece, 2007; 2009). This analytical approach was applied in our research. Thus, human resource capability has been investigated as a composition of the sensing, seizing and

reconfiguring capabilities. Following Teece's (2009) terminology, we explain the basic meaning of sense, seize and reconfigure capability. In order to identify opportunities, firms need to continuously scan their environments and search for opportunities that are constantly opening up. Such searching has to be done inside and outside the firm's boundaries. When opportunities are sensed, they then need to be seized and their value and potential have to be recognised. Teece (2009, pp. 206-209) acknowledged that the seizing capability is really about making good decisions under uncertainty and executing these decisions well. Finally, when opportunities are sensed and seized, the next and final step is that they need to be reconfigured.

2.2 Human resource capability as a source of competitive advantage

Based on the literature review, human resources have been recognised as one of the major sources of a competitive advantage (e.g. Barney & Clark, 2007; Itami & Roehl, 1987; Kamoche & Muller, 1998; Lado & Wilson, 1994), and human resource capability has become one of the most widely studied capabilities in the study of sources of competitive advantage (Newbert, 2007). Additionally, managers' dominant role in developing dynamic capabilities has been widely recognised (Augier & Teece, 2009; Rindova & Kotha, 2001; Teece, 2007), especially in reconfiguring the resource base (Ambrosini & Bowman, 2009; Harreld, O'Reilly & Tushman, 2007; Moliterno & Wiersema, 2007). Research by Kor and Mahoney (2005) based on a study of 60 technological firms shows that managers play a crucial role in "rent-generating" dynamic capabilities. Indeed, if a manager's perceptions of one particular situation are wrong this might trigger the wrong dynamic capabilities (Adner & Helfat, 2003; Ambrosini & Bowman, 2009). In such a case, the consequences could be fatal for a firm.

3. RESEARCH METHOD

3.1 Research focus and data sample

Our study focuses on the following key research question: *Are firms that renew human resource capability in line with the DCV more successful?* Our assumption is that the more strongly dynamic capabilities are deployed, the more abilities/advantages a firm has for creating and sustaining the competitive advantage, and this results in improved performance. To find out the levels, i.e. weak, moderate and strong levels of dynamic capability deployment, human resource capability has been investigated as a composition of sense, seize and reconfigure capabilities. By comparing the results and reports of each case-study firm, we were able to distinguish between the deployment levels of capabilities. For the purpose of our study, we selected six key performing SMEs in the Slovenian IT industry. The Slovenian IT industry is a very demanding and competitive environment, mainly controlled by multinational firms such as Microsoft, SAP, Oracle and others. The selection process of the six firms was based on six indicators: (1) the case-study firm is a SME; (2) the case-study firm has to have been active in the market for more than 10 years (the selected case-study firms should share the same historical issues, such as a transition process and globalisation effects); (3) the case-study firm has to be established in the home country, be locally owned (the selected case-study firms have an independent capital structure, they are not business units of foreign, global firms); (4) the business orientation and programmes of the case-study firms must be comparable (namely, firms in the IT industry can offer a variety of products and services based on different strategic orientations; consequently, such diversity cannot support the comparison between cases); (5) the case-study firm has to be recognised as a relevant player in the market (their economic contribution and market share is relevant for the domestic market); and (6) the case-study firm has to be willing to participate.

3.2 Data collection and analysis

Due to the exploratory nature of our research, we chose a multiple case study approach as our research design (Yin, 2009) and collected empirical data through in-depth interviews. Data was collected in 2011 and 2012. We followed the steps and suggestions presented by Rouse and Daellenbach (1999) since their approach can be seen as giving guidance for studies of resource-based competitive advantage in a single industry. Given that our research focus was a group of SMEs, the target respondents were principally the general managers of the case-study firms. The interviews were informal and narrative in nature, tape-recorded (with permission) and later transcribed. The interviews lasted around 60-90 minutes. We conducted 13 interviews in total. Later, in the process of analysing the data, we also engaged in a number of telephone and Internet communications to resolve some specifics and dilemmas that were not clarified in the earlier phases of research. In order to

minimise bias in qualitative research in general, we triangulated the data with other secondary sources on each case (data from financial and annual reports, a firm's internal documents, different publications, and data from public databases). It should be noted that the author of this paper is an expert who has been working in the IT industry for several years already, and this has helped us to better understand the subject and, further, more profoundly conduct the research. Consistent with an inductive research approach, we moved back and forth among the literature. We used a coding process (Rubin & Rubin, 2005; Saldana, 2009) to code and categorise the data, as well as thematic networks (Stirling-Attride, 2001). We used NVIVO9 as qualitative analysis software to maintain the linkage between the interview transcripts, direct quotes and data gathered from the coding process. To answer the main research question, we first analyse the deployment of human resource capability in each case-study firm and then link the level of their deployment with firm performance. Next, we conduct a cross-case analysis to identify the relationship between the level of deployment of dynamic capabilities and firm performance. As an indicator of a firm's performance we considered the average values of ten selected financial and six non-financial indicators for the last five business years. The combination of financial and non-financial indicators relevant to our research was selected in line with recommendations in the literature. Our analysis process as a content analysis consists of three phases (Yin, 2009). Since we mainly operated with diverse and unstructured data, we created a case-study database with which we were able to increase the reliability of our study. We considered ethical dilemmas that can arise in qualitative research and, consequently we applied important ethical principles to our research.

4. RESEARCH FINDINGS

4.1 Short introduction to the case-study firms

In this section, we briefly introduce the case-study firms under the pseudonyms Alpha, Beta, Delta, Gamma, Epsilon and Zeta. Table 1 describes the case-study firms according to their outstanding results – positive and negative.

Table 1: Selected indicators and results among the case-study firms for the 2007–2011 period

Selected indicators and results	Case-study firms					
	Alpha	Beta	Delta	Gamma	Epsilon	Zeta
Number of employees in 2011	110	55	74	70	63	140
Earnings in 2011	€11 million	€4 million	€6 million	€7 million	€4.5 million	€25 million
Overall performance		very good			most of the indicators are below the average values for the case-study firms	
ROA ROE	ROA - the second highest value; ROE - the highest value		ROA - the highest value			ROA, ROE - the lowest value
Average of value added per employee			the highest	low (40% lower than the highest value)	low (40% lower than the highest value)	

Selected indicators and results	Case-study firms					
	Alpha	Beta	Delta	Gamma	Epsilon	Zeta
Ratio between total revenues and total expenses			the highest			the lowest
Average of salary income				the lowest; below the industry average		
Value of shareholders' funds to assets		around 80%				
Sales growth, ROS	the second highest value for ROS	continually increasing by 2% per year	decreased by 5% in the last five years	negative	decreased; sales dropped by more than 30% between 2008 and 2009	decreased sales dropped by more than 20% between 2009 and 2010
Number ratio of new employment	the highest ratio (the number of employees rose by 44% in the last five years)	continually increasing	increased by 70% during 2007–2010	decreased by 22% in the last five years	negative during 2006–2011	increased by 60% during 2007–2011
EBIT			over €1 in 2011		dropped by 70% between 2008 and 2009	negative in 2010
	High-performing case-study firms based on the results of overall performance			Low-performing case-study firms based on the results of overall performance		

Source: Bonitete.si (2007, 2008, 2009, 2010, 2011) & Annual business reports of the case-study firms (2007, 2008, 2009, 2010, 2011)

4.2 Overview of the development of human resource capability as dynamic capability in the case-study firms

Table 2 provides an overview of the development of human resource capability in the case-study firms. The results show that Alpha, Beta and Delta have the strongest level of deployment. Zeta is successful according to its sensing and seizing capabilities, yet its reconfiguring capability is moderate. The results show that the activities and goals planned in the human resource strategy have not been accomplished yet. The last two firms in the sample, i.e. Gamma and Epsilon, have difficulties deploying and developing their human resource capability. Their sensing capability is indeed strong but their seizing capability is moderate and reconfiguring capability is weak. Both firms are able to sense opportunities in their human resource capability, although their ability to develop, integrate and

recombine their resource base according to the human resource strategy is undernourished and unfocused.

Table 2: An overview of the deployment of dynamic capabilities in the case-study firms

Human resource capability as dynamic capability	Case-study firms					
	Alpha	Beta	Delta	Gamma	Epsilon	Zeta
(1) Sensing capability	strong	strong	strong	strong	strong	strong
(2) Seizing capability	strong	strong	strong	moderate	moderate	strong
(3) Reconfiguring capability	strong	strong	strong	weak	weak	moderate
	High-performing case-study firms			Low-performing case-study firms		

The results of the cross-case analysis between the levels of deployment and firm performance permitted us to distinguish high-performing and low-performing firms. Further, they allowed us to link overall performance results with the deployment of dynamic capabilities by each case-study firm. Performance was assessed through the case-study firms' financial and non-financial data. Evidently, firms with an overall weak performance are less successful at developing human resource capabilities as dynamic capabilities, and vice versa. For instance, the firm Beta, which is a good performer, have all its capabilities at the highest level. On the other side Epsilon, which we had recognised as a bad performer, has difficulties deploying its human resource capability as a dynamic capability. Table 3 presents examples of the deployment and development of dynamic capabilities in the case-study firms.

Table 3: Examples indicating the development of human resource capability as dynamic capability

A component of dynamic capability	Examples indicating the development of human resource capability as dynamic capability
(1) Sensing capability	"Friday's internal tea/coffee party – a great way to get information you need." (General manager, Beta)
(2) Seizing capability	"When we recruit, we don't recruit the best on the market but what is the best for our firm." (General manager, Delta)
(3) Reconfiguring capability	"When you reward people, the reward has to be employee-oriented." (General manager, Alpha)

In order to show the manifestations of sensing, seizing and reconfiguring capabilities, we present an overview of practices that underpin human resource capability as dynamic capability in one of the case-study firms, i.e. Beta (see Table 4). Beta is one of the best performers among the case-study firms when comparing their overall performance. Moreover, Beta's development and deployment of human resource capability as dynamic capability is the strongest in the sample.

Table 4: Overview of the practices that underpin human resource capability as dynamic capability in the case-study firm Beta

A component of dynamic capability	Beta's human resource capability development
(1) Sensing capability	<i>Continuous Sensing activities</i> , for instance: Sensing a lack of knowledge and a need for new/improved knowledge in the existing knowledge base; Sensing opportunities: clientele, partners, professional conferences

A component of dynamic capability	Beta's human resource capability development
(2) Seizing capability	<i>Continuous Seizing activities</i> , for instance: Self-dependent seizing and identifying of needs for specific knowledge and expertise (in line with a business model and firm vision); New "right" recruitments; Employee self-directed learning; Focused networking – partnerships; Time for creativity
(3) Reconfiguring capability	<i>Continuous Reconfiguring activities</i> , for instance: Human resource strategy orientation (human resources as capital); Knowledge and experiences transfer (inside and outside); Mentorships; Internal learning system; Learning from failures (trial and error); Accepted and fair reward system; Continuous creating / developing 'the best / dream team' in the firm; Employees' satisfaction as priority

5. DISCUSSION AND IMPLICATIONS

The findings show that firms with a stronger commitment to deploying human resource capability as dynamic capability are more successful. As theory suggests, the dynamic capabilities view allows firms to respond to changes by altering their resource base. The more successful firms are with that adaption, the better their performance. We argue that renewing the resource base, i.e. human resources in line with the dynamic capabilities view has a positive impact on firm performance. Our carefully selected case-study firms operate in the IT industry whose environment has been exposed to rapid technological change and aggressive international competition. The findings show that the case-study firms do develop human resource capability as dynamic capability more or less successfully. From this point of view, they are all successful in terms of being able to survive in such a dynamic sector, especially in the extreme market conditions. Namely, industry analysis shows that the survival rate is quite low in the Slovenian IT market. In our study, performance is a dependent variable. Being able to renew the resource base does not necessarily involve large inputs, for instance, monitoring the environment can be a low-cost activity. Accordingly, we can suggest that a lack of financial resources cannot be an obstacle to the deployment of human resource capabilities. On the other side, a firm can hire an expert simply because it can afford to do so (good financial performance), but if the potential of that expert does not develop in line with the DCV, the costs (e.g. labour costs) would exceed the benefits (e.g. unexploited knowledge/potential). Accordingly, our research findings are in line with the argumentation of Zahra, Sapienza and Davidsson (2006) who pointed out that developing dynamic capabilities under the wrong cause-effect assumptions can damage a firm's performance. Our research focuses on human resource capabilities that play a central role in the development of dynamic capabilities. In fact, human resources can be seen as an absolute resource, especially in the IT industry where employees and their knowledge, mostly embedded as tacit knowledge, provide a basis for creating and sustaining a competitive advantage. Some of the case-study firms were able to recognise and exploit their human capital better and more successfully than other firms in the sample. Evidently, these firms are overall more successful. We noticed that managers have a strong impact on stimulating or impeding the deployment and development of human resource capability. In Table 5 we have collected "good" practices focusing on human resource area that can help firms exploit their human resource capabilities and remain competitive. In addition, we present "bad practices" we have recognised in some of the case-study firms. By the term bad practices we understand practices that firms have to avoid, minimise and/or abandon since they represent rigidity in the deploying and developing of human resource capability as dynamic capability.

Table 5: Managerial implications for developing human resource capability as dynamic capability in the IT industry

	An overview of practices that helps to exploit human resource capability ("good practices")	An overview of practices that impedes exploitation of human resource capability ("bad practices")
Capabilities development	<ul style="list-style-type: none"> • Every employee's role, tasks, responsibilities and metrics are clearly defined • Mentorship/coaching at all levels and areas within the firm (for new employees, during innovation activities and projects, in training activities and through a learning model) • Building the perfect/best team • Attractive, simple and straightforward reward systems (no need to be transparent) • Financial rewards (collective or individual), e.g. such as a special cash bonus 	<ul style="list-style-type: none"> • Managers do not recognise the potential/value of employees, i.e. talents and stars, and accordingly they do not develop their capabilities • Managers do not recognise/identify their weaknesses, a lack of competence in managing • Managers do not favour changes and do not initiate them, they are obviously afraid of being unable to deal with changes/move away from the status quo • Employees do not perceive the reward system as fair and transparent (the rules of the game are unknown and unwritten)
Reward system	<ul style="list-style-type: none"> • Non-financial rewards (collective or individual), e.g. special training, extra holiday time 	<ul style="list-style-type: none"> • There is "no need for mentorships" • The consequences of bad business decisions and/or management being too passive are reflected in a poor performance, leading to lower salaries
Continuous learning	<ul style="list-style-type: none"> • Well-planned and organised internal training programmes • Continuous in-house knowledge tests/evaluations • Promoting the transfer of knowledge 	<ul style="list-style-type: none"> • A lack of proper training and development • Training depends solely on employees' initiative and willingness • A knowledge-based strategy is lacking
External human resources	<ul style="list-style-type: none"> • External human resources practice is a well-established practice (long-term collaborations, financial advantages for both sides, being more flexible/adaptable to market demands/changes) 	<ul style="list-style-type: none"> • Unidentified potential of external human resources
New recruitments	<ul style="list-style-type: none"> • New recruitments (bring new knowledge, a diversity of experiences and ideas – extension of the existing knowledge base, new employees as a source of innovation) • Identifying the potential and value of future recruitments (test recruiting system) 	<ul style="list-style-type: none"> • Managers do not recognise the potential of new recruitments and their knowledge that could be exploited within the firm

6. CONCLUSION

The results show that firms which deploy human resource capability as dynamic capability hold the potential for a sustained competitive advantage, especially in a high velocity environment such as IT industry. Specifically, we found that firms with a stronger commitment to deploying human resource capabilities as dynamic capabilities are more successful, and vice versa. The results suggest that firms need to continuously deploy human resource capabilities in line with the DCV. The DCV currently offers many challenges for scholars. Still, a few potential limitations of our study have to be addressed. This is an explorative, qualitative study based on a sample of six representative firms in the IT industry. The findings are not intended to be generalised to a population or other contexts but to offer empirical insights that extend the theoretical and empirical framework of the dynamic capabilities approach. Our investigation of human resource capabilities as dynamic capabilities view based on a pragmatic approach. Evidently, we want to present findings and practical implications in a way that practitioners would understand them and be able to use it in their daily practice. Follow-up studies could focus on a deeper investigation of each human resource capability as dynamic capability, especially on the paths and positions affecting the development. Longitudinal research would also be valuable since the results of deploying and developing capabilities as dynamic capabilities usually cannot be seen in the short term. The same or a similar study could also be conducted in other industries, and with other relevant firm capabilities, such as innovation capability. Additionally, a cross-industry analysis could reveal commonalities and diversities in deploying human resource capability as dynamic capability across industries, while an international comparison would also be possible. Future studies exploring the dynamic capabilities field should involve other qualitative approaches such as focus groups or observation methods. In addition, a research framework that enables quantitative empirical testing would also be a step forward.

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