

White Paper, April 2014

Dr Marian Carcary, Dr Stephen McLaughlin

Driving SME Competitiveness in a Dynamic Business Landscape

Leveraging an IT Capability Mindset

Abstract

The criticality of SMEs to the recovery and stability of world economies is paramount. Yet, growing and sustaining competitiveness in a business landscape characterised by dynamic market forces is undoubtedly challenging. Nonetheless, the increasing pervasiveness of globalization and ICT diffusion and innovation over the past decade, and the resulting changes in how companies now need to operate, have paved the way for smaller, more agile enterprises to compete with well established organizations. A more level playing field has emerged, with some individuals arguing that SMEs are now better positioned to gain maximum benefit from recent technological advances due to their greater agility comparative to that of larger organizations. However, technology in itself is not sufficient to acquire a competitive edge in today's dynamic markets. Hence, how can SMEs turn the potential benefits of recent technological advances into a sustainable competitive advantage? Or, to put it another way, how can "the business" derive continuous and sustainable value from ICT in order to support and enhance its competitive position in the marketplace? The answer lies in the SMEs' adoption of a capability mindset, which recognises that sustainable competitive advantage is dependent not on technology itself, but rather on the creation of distinct and inimitable IT capabilities that differentiate a company from its competitors. This white paper explores the benefits of adopting an IT capability mindset for SMEs as a key enabler of business competitiveness and growth. The paper further introduces the SME IT-Capability Maturity Framework (SME IT-CMF) to support SMEs in embarking on a capability improvement journey.

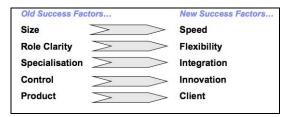
KEYWORDS: SME, SME competitiveness, IT capability, SME IT-CMF, technological innovation

Introduction

Growing and sustaining competitiveness in a globally competitive environment is a leading priority for companies worldwide. This priority holds true for both large multinational companies and Small- to Mediumsized Enterprises (SMEs)¹ - company types which are characterised by fundamental differences. According to Limburg (2012), an SME is not simply "a little big business", and can typically be regarded as having more limited human and financial resources; increased propensity for outsourcing; simpler command structures; lower levels of bureaucracy and formality in processes/procedures; and greater agility and more rapid decision-making processes (Limburg, 2012; Pemmaraju, 2010; Street and Meister, 2004). Particularly given the resource constraints on SMEs comparative to larger firms, how can they co-exist and thrive against their larger competitors?

The last two decades of the twentieth century gave rise to two interconnected events that changed the ways companies need to compete in order to survive; that is, the globalization of markets and ICT diffusion and innovation (Uden, 2007). At the turn of the 21st century, Mundim et al (2000) wrote "specific advantages derived from operating in a global market seem to be exploitable only by large organizations unless SMEs can find an organizational solution allowing them to cope with global business opportunities". However, the prevalence of globalization and ICT diffusion and innovation over the past decade have given rise to dynamic changes in the global business landscape, many of which have resulted in a more "level playing field" for SMEs to compete with their larger counterparts, and in many instances created opportunities for more agile and innovative firms to gain a dominant position against well known, established firms (McLaughlin, 2012b). In the dynamic competitive landscape, well established companies can struggle to remain competitive and viable, with threats faced from existing, new and emerging markets. While effectively delivering products and services, and developing processes to reliably support this, remain critical, this alone is not sufficient to maintain a competitive advantage, as forces will continually challenge and impact current operational processes. Hence, organizations need to emphasise new success factors of speed, flexibility, integration, innovation, and customer focus, as opposed to old success factors such as size, specialization, role clarity, control, and products, in order to effectively sense and respond to market dynamics (McLaughlin, 2012a; Uden, 2007).

Figure 1: Old versus New Success Factors



Based on the inherent differences between SMEs and larger companies outlined above, it can be argued that SMEs may be better positioned to emphasise these new success factors (Figure 1). Ensuring SMEs can exploit this "better positioning" is critical. Given the fact that there are many millions of SMEs across the globe and the fact that the economies of many countries worldwide are heavily dependent on SMEs for their economic survival² (Uden, 2007), the continued growth and competitiveness of these firms is at the heart of every country's economic recovery and stability.

Competing in a Changing World – Technological Advances as a Driving Force

For several decades, Information Technology has helped deliver or facilitate several business benefits, including improved decision-making, flexibility, and productivity; internal operations efficiency; enhanced information management; lower cost business transactions; improved supply chain management and greater interconnections with business partners. However, it is the rapid pace and evolution of technological advances witnessed in more recent years that have helped "level the playing field" for SMEs. Such advances have resulted in unprecedented business opportunities from, for example, mobile computing, digitization, and cloud. These advances in IT have resulted in the development of business models that are fundamentally different - traditional brick-and-mortar industries are being dominated, or completely replaced, by models that are essentially software-based, and physical boundaries are disappearing with more and more business data being transmitted and shared over the Internet. The promise of Cloud Computing provides for significant cost reduction opportunities, with the ability of firms to switch from a CAPEX to an OPEX cost structure and take advantage of the pay-per-use model, as well as offering opportunities of increased scalability and agility, improved resource utilization, mobility and collaboration, and business continuity and disaster recovery

¹ SMEs are defined by the European Commission (2005) as any firm with fewer than 250 employees.

² SMEs form a cornerstone of the EU economy representing 99 percent of all enterprises (European Commission, 2012), and in 2012 they were estimated to account for 67 percent of total employment and 58 percent of gross value added (Ecorys, 2012).

capabilities (Carcary et al, 2014). Some individuals argue that these technological developments not only contribute to a more "level playing field" for SMEs, but may even better position SMEs to gain maximum benefit from these advances because of their greater agility comparative to larger organizations (Limburg, 2012).

A report by BCG (2010) suggests that historically SMEs "have not necessarily operated on the 'bleeding edge' of technology". Nonetheless, it appears that the potential opportunities provided by technological advances is now increasingly recognised among the SME community – in a recent Oxford Economics (2013) survey of 2,100 SME executives across 21 countries, 59% of respondents regarded technology as a principal differentiator within their companies, while 57% placed technology "at the heart of their business transformation efforts".

Adopting an IT Capability Perspective within SMEs – the Key to Business Agility, Competitiveness and Growth

Despite the potential of technological innovation and the pervasiveness of IT within SMEs, it has long been recognised that in order to acquire a competitive edge in the market, technology in itself is not enough – particularly due to the ability of competitors to benefit from similar technological approaches. Hence, how can SMEs turn the potential benefit of these technological advances into a sustainable competitive advantage?

The answer lies in the SMEs' adoption of a capability mindset - a perspective originating in the "resource-based view" of organizations (Barney, 1991) which examines how 'strategic assets' can be deployed as sources of competitive advantage. Sustainable competitive advantage is dependent not on technology itself, but rather on the creation of distinct and inimitable IT capabilities that differentiate a company from its competitors (Limburg, 2012). Adopting a capability perspective involves a mindset shift for many companies that have historically emphasised a process-centric view, focused on an "ability to produce a desired, repeatable output to a predetermined quality and quantity", in essence "systemizing internal activities" (McLaughlin, 2012). The capability-centric view, on the other hand, requires organizations to develop an understanding of "what organizational abilities can, and should be developed to support and build a unique and sustainable competitive advantage... [and] effectively respond to (as yet undefined) external challenges" (McLaughlin, 2012).

While it is not disputed that effective and efficient processes are critical in the execution of business operations in delivering products or services, these processes in themselves do not deliver competitive value. Rather, it is through the capability to regularly evaluate, modify and mature these processes in line with the company's need to adapt to changing market and environmental forces, that this value is derived. The pace and manner with which it proactively senses and responds to changing market forces depends on the maturity of its capabilities. Hence, a capability perspective is a key facilitator of organizational performance enhancing and value-adding business opportunities (McLaughlin, 2012). The direct influence of an IT capability perspective on company performance has been recognised in much previous research. For example, Santhanam and Hartono (2003) found that companies with superior IT capabilities have higher than average performance; while Mithas et al (2011) found that information management capabilities play an important role in developing other business capabilities such as customer management, performance management, and process management.

With the ever growing pervasiveness of, and dependence on, technology within company operations, and the transition towards global value chains as a consequence of globalization, it is rational to view IT influenced and influencing capabilities as playing an even greater role in the future in defining the competitive nature of the SME. Further, as commented in a recent report for the European Commission, it is likely to become increasingly important for SMEs to be able to demonstrate their capabilities, particularly their IT capabilities, on a global stage in a way that is internationally recognised.

This capability mindset can deliver SMEs many significant benefits. It encourages the SME to re-evaluate its use of IT to support the company's goals of agility, competitiveness and growth, forcing the company as a whole to examine not just what it does now, but what IT capabilities it needs for the future to support the business. Further, it enables the SME to identify its strengths in terms of inimitable IT capabilities, its areas of weakness, and its priority areas for improvement. This awareness helps to shape strategic and operational discussions around resource allocation, and the implementation timelines of strategic objectives, and moves the focus from one of IT cost management to one of IT strategic enablement of business competitiveness (McLaughlin, 2012a; 2012b).

Maturing IT Capabilities – Strategically Enabling the Business

Given the rapid pace of technological advancement, understanding a company's ability to plan, fund, execute, and reflect on its ability to deliver transformational change through technology becomes key to the ongoing competitive positioning of the SME. To plan actively for the future and ensure IT can support the company in sensing and responding to emerging trends and engaging in transformational change, all stakeholders and not just the IT manager. need to focus on closing the gap between the need for IT to deliver, IT's ability to deliver, and the pace and manner by which IT can deliver (AT Kearney, 2011). As noted above, if IT is positioned appropriately, it plays a vital role in the transformation and development of key company-wide capabilities. Positioning IT appropriately involves firstly understanding the level of sophistication of existing IT capabilities and maturing those priority IT capabilities, thereby enabling the company as a whole to move from a reactive to a proactive stance. Through this awareness of the "as is" and desired "to be" position, the SME can focus on developing the core IT capabilities that are critical to the businesses' achievement of strategic advantage in the changing landscape; as well as identifying those noncore capabilities that the SME may be advised to outsource to a reliable third party. In fact, an SME's understanding of the capability of their potential partners for outsourcing or for possible strategic alliances or networking partnerships can also help in assessing partner suitability, based on their unique capabilities to support the SME's competitive positioning.

In order to gain the most benefit from maturing IT capabilities, it is important to recognise that within the SME it must not be regarded as "just an IT endeavour". Rather the participation and buy in of business stakeholders is critical to its success. In order words, business stakeholders need to leave behind the mindset of IT as a "cost to be managed", and rather recognise the role of IT as a "strategic business enabler". A participative approach supports enhanced understanding within IT of the IT capabilities that are needed to enable the business in any business transformation and competitive repositioning efforts in response to market dynamics. In line with this participative mindset, ongoing enhancement of these IT capabilities involves embedding IT management as part of overall company management processes in order to continuously respond to the competitive environment (Limburg, 2012). IT's ability to demonstrate improved business value realization enabled by mature IT capabilities, improves the perception of IT as a valued business partner that can

influence overall strategy, and acquire greater business investment to support future IT-business enabling initiatives.

Embarking on a Capability Improvement Journey – the Adoption of the SME IT-Capability Maturity Framework (SME IT-CMF)

The previous sections of this white paper have argued the importance for SMEs to adopt an IT capability mindset, in order for the company as a whole to survive and thrive in today's dynamic business environment. Improving the maturity of those IT capabilities that are core to business success enables a company to differentiate itself from its competitors. The question, therefore, is how can SMEs embark on this capability improvement journey? The SME IT-Capability Maturity Framework (SME IT-CMF) has been developed with a view to addressing this question. This framework, developed by IVI researchers and SME industry practitioners, provides companies with a clear and descriptive overview of the IT-related capabilities that shape performance in today's business landscape. Specifically the SME IT-CMF focuses on 10 IT capabilities, identified through direct engagement with SME organizations, that reflect the top IT-related challenges/priorities faced by SMEs.

The framework encompasses two types of capability assessments: 1) a High-Level Assessment which provides an overall snapshot or "rapid health check" of current IT maturity across all ten capabilities; and 2) Critical Capability Deep Dive Assessments, which provide a granular and focused view of a specific IT capability. Both of these assessment types can be undertaken by SMEs online, and ideally should be completed by both IT and business department stakeholders. The current maturity score achieved (i.e. an aggregated view of all participants' scores) will depend on multiple factors, including for example, overall strategy, operational focus, resource levels, service offerings, management commitment, and external market dynamics. By determining the target maturity levels for the areas assessed, and identifying the relative importance of these areas to enabling the business, the company as a whole can strategically prioritize the development of its unique, inimitable capabilities to support business competitiveness and growth.

In knowing the desired target state for the prioritized capabilities, the challenge lies in making the transition from "as is" to "to be" maturity. The output from an SME IT-CMF assessment presents an improvement roadmap for all areas assessed. For each area, this roadmap outlines a series of "next maturity level" practices, enabling companies to incrementally improve towards the desired target. Further, a series of value-oriented outcomes that result from the implementation of these practices are presented, as well as a series of key metrics that enable companies to monitor and track their progress over time. Hence, SME IT-CMF assessment output reports serve as the basis for driving a company's capability improvement journey.

Conclusion

Speed, agility, and responsiveness are a few of the traits required for SMEs to thrive in today's globalized and dynamic landscape, characterized by hyper competitiveness. Rapid technological advances undoubtedly have played a significant role in changing the nature of the business landscape, and as such play a vital role within SMEs in ensuring they keep pace with market dynamics. As outlined by Uden (2007), "only sustainable strategies will save [SMEs] from the destructive power of the heavyweight companies...the only way to remain competitive in business today is to be constantly and fully alive to new ideas, new practices, and new opportunities". Adopting a capability-centric mindset is one way to remain "fully alive" to new ideas, practices, and opportunities and to leverage technological potential to enhance the overall SME's competitiveness. The SME IT-CMF, introduced in this paper, provides a powerful tool to support companies in embarking on a capability improving journey.

We conclude this briefing using the words of a recent AT Kearney (2011) report... "never has more been expected of IT; reducing costs, enabling business transformation and driving innovation... Those that cannot keep pace with changing demands are at risk of falling behind their more agile rivals... Success will depend on developing a capability-driven organization - one that positions IT to deliver for the business and gain a much needed seat at the strategy table. IT organizations that make this shift...will move IT upstream and position the company for long-term success". Therein, lies the potential of an IT capability mindset.

References

- AT Kearney (2011). Building a Capability-Driven IT Organization: the road to growth, flexibility and innovation. Available at: http://www.atkearney.com/documents/10192/ b42ce349-90c2-4144-b2f1-d8b1ee51ceaf
- Berisha-Namani, M. and Ramadani, A. (2009). The Role of Information Technology in Small and Medium Szed Enterprises in Kosova. Fullbright Academy Conference. Available at: http://www.fulbrightacademy.org/file_depot/0-10000000/20000-30000/21647/folder/82430/ Berisha+Paper+IT+in+SMEs+in+Kosovo.pdf
- Carcary, M., Doherty, E., Conway, G. and McLaughlin, S. (2014). Goud Computing Adoption Readiness and Benefit Realization in Irish SMEs – An Exploratory Study. Information Systems Management. (forthcoming)
- Ecorys (2012). EU SMEs in 2012: at the Crossroads. Available at: http://ec.europa.eu/enterprise/policies/sme/fac ts-figures-analysis/ performancereview/files/supportingdocuments/2012/annual-report_en.pdf
- European Commission (2012). Facts and figures about the EU's Small and Medium Enterprise.
 Available at: http://ec.europa.eu/enterprise/ policies/sme/facts-figures-analysis/
- Limburg, D. (2012). Ready, willing and capable. How can SMEs gain competitive advantage from using Internet-based technologies? UK AIS Conference Proceedings. Available at: http://www.ukais.org.uk/Documents/Downloads/ Conference201279ecac83-ad40-4713-a084e1e8bb4d658d.pdf
- McLaughlin, S (2012a). Positioning the IT-OMF: a Capability versus Process Perspective.
 Available at: www.ivi.nuim.ie
- McLaughlin, S (2012b). Using IT-CMF to build Competitive Advantage.
 Available at: www.ivi.nuim.ie
- Mundim, A.P.F., Alessandro, R., and Stoochetti, A. (2000). SMEs in the Global Market: Challenges, Opportunities and Threats. Recife, Jun 26th, 2000. Available at: www.researchgate.net
- Oxford Economics (2013). SMEs Equipped to Compete – Innovation and Differentiation. Available at: http://www.oxfordeconomics.com/Media/ Default/Landing%20pages/SAP%20SME/ Research/SAP_SME_TP4_V3.pdf
- Uden, L (2007). How to promote competitive advantages for SMEs: issues, ideas and innovation. Journal of Business Systems, Governance and Ethics. 2 (2). Available at: http://www.jbsge.vu.edu.au/issues/ vol02no2/Uden.pdf

About the Authors

In her current role, Dr. Marian Carcary is project manager for the development of the SME IT-Capability Maturity Framework (SME IT-CMF). Marian also works on European Commission funded research, including the development of a European Framework for ICT Professionalism, and more recently the impact of globalization on the demand for and supply of e-skills. She works as lead researcher on the Risk Management (RM), People Asset Management (PAM), and Capability Assessment Management (CAM) Critical Capabilities of the IT-CMF. Marian's research interests centre on areas such as Design Science, Information Security Management, Cloud Computing and drivers and challenges surrounding the realization of business value by SMEs. She has an MSc in Information Technology, focused on the topic of ERP, and a PhD focused on ICT investment evaluation, both of which were funded by the Irish Research Council. Marian can be contacted at marian.carcary@nuim.ie

In Feb 2010, Dr. Stephen McLaughlin took up the position of Head of Research and Development with the Innovation Value Institute. Prior to this, Stephen was a Senior Research Fellow at the University of Glasgow, and Deputy Director of the Complex Service Innovation Research Network (CSIRN). Stephen now holds an Honorary Senior Research Fellowship position with the University of Glasgow. He also has over 20 years of management experience, gained prior to becoming an academic, within both the public and private sector, most recently holding a senior management position within IBM (UK). Stephen can be contacted at stephen.mclaughlin@nuim.ie

This white paper was edited by Tom Keogan, TeKcomm Technical Writing.

About IVI

The Innovation Value Institute (IVI) is a multi-disciplinary research and education establishment co-founded by the National University of Ireland Maynooth and Intel Corporation. IVI develops frameworks to assist IT and business executives to manage IT for Business Value and to deliver IT-enabled business innovation. IVI is supported by a global consortium of like-minded peers drawn from a community of public and private sector organizations, academia, analysts, professional associations, independent software vendors, and professional services organizations.

Contact Us

For more information on the SME IT-CMF and current IT hot topics and priorities such as cloud computing and risk management, or on becoming a member of the IVI Consortium please visit www.ivi.je or contact us at:

ivi@nuim.ie or +353 (0)1 708 6931

Innovation Value Institute, IT Capability Maturity Framework, and IT-CMF are trademarks of the Innovation Value Institute. Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this publication, and the Institute was aware of a trademark claim, the designations have been printed with initial capital letters or all in capital letters.

Copyright © 2014

