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Skills that improve profitability: The relationship between project management, IT skills, and small to medium enterprise profitability

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Abstract

It is commonly assumed that using project management and IT skills are good for business performance. This research explored this assumption by testing whether the use of project management and IT skills have a positive affect on business' total sales and profitability. The research data was drawn from two longitudinal Government surveys of small to medium enterprises in Australia. Models were created to describe the relationship between project management, IT skills, profitability and total sales using multiple linear regression and binary logistic regression. The results show that when controlling for the influence of other business skills, project management and IT skills have a significant positive influence on sales and profitability.

Keywords: Project management; Information technology; Small to medium enterprise; Profitability; Sales; Business skills

1. Introduction

It is a basic and fundamental assumption that developing business skills in your employees improves the profitability of your business. Although it may be difficult to test each step in the long and diffuse causal chain from an improved employee skill set to a better bottom line, the link between developing employee capability and improved company performance is typically taken as so obvious that it is rarely questioned. This assumption is held for skills such as the ability to manage projects, where it is taken for granted that using project management to reach strategic and operational objectives improves performance. Similarly, we tend to assume that increased information technology (IT) staff capability helps businesses not only survive, but excel in our currently changing technological climate. Were these assumptions false, there would be little justification to support the significant investments that organisations and individuals make on personnel development in these disciplines.

Many researchers have commented that project management improves the likelihood of an organisation being successful. The benefits of project management to organisations have been expressed as an improvement in productivity (McHugh and Hogan, 2011; Cleland, 1984), effectiveness (Shenhar et al., 2001), efficiency (Stimpson, 2008), and performance (Abbasi and Al-Mharmah, 2000), while the benefits of IT investment are commonly cited as providing strategic value (Carr, 2003), improved productivity (Hwang et al., 2015), and improved levels of organisational internal entrepreneurship (Benitez-Amando et al., 2010). This body of research appears to provide strong justification for sustaining the assumption that project management and IT skills support financial performance.

However, this assumption remains largely unexamined. In the project management literature, the debate more commonly focuses on developing idealised, or contingent, models of project management, ways of implementing these, and the examination of criteria that contribute to the success and failure of projects. In this regard, the IT literature is not that different, with an added emphasis on the impacts and opportunities associated with specific technological developments. In 2012, Hällgren (2012)

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called for an increased emphasis on research that explores the basic assumptions that underpin project management research and practice, and this research responds to that call by questioning whether the use of project management and IT as core business skills have an impact on businesses' financial performance, focusing on the roles these skills play in Australian small to medium enterprises (SMEs).

2. Literature review

There is a large body of research that examines the ways in which project management can be improved, developed and refined, so that organisational objectives are delivered more effectively (e.g. Hagen and Park, 2013; Kloppenborg et al., 2014). For instance, there have been a variety of studies that have linked personality types to project success (Creasy and Anantatmula, 2013; Cohen et al., 2013), or factors that impact productivity on projects (Ng et al., 2004). Other research has focused on process related issues, such as the link between project management process maturity and project success (Mir and Pinnington, 2014), or links between the maturity of the portfolio management system in an organisation and project success (Reyck et al., 2005). One consistent emphasis in these studies is that they focus on project success rather than organisational performance. The relationship between project and business success is usually left to implication only.

Research that connects project management and organisational success is less common, but examples can be found in the literature. For instance, Ozcelik (2010) reported on ways that organisational performance was impacted by one particular type of project. Lappe and Sprang (2014) also investigated the impact of project management on the organisation, examining 251 projects that were managed by one German life insurance company. Their research involved the development of a model describing the relationship between the company's investment in project management and their return on investment, and showed a reliable relationship between project management costs and benefits. Another comparable study was conducted by Thomas and Mullaly (2008), who also examined the return on investment from spending on project management. This research involved 65 participant organisations, and was able to demonstrate that in over half of the organisations there was a measurable value from their use of project management. However, the research findings were limited by few of the participant companies collecting the necessary data on their investment in project management processes.

It is more common for research to examine the relationship between IT and organisational performance. However, this " … literature has traditionally shown contradictory results regarding the impact of the IT artefact on firm performance" (Benitez-Amando et al., 2010, p. 551). Taking e-commerce as an example, Hau et al. (2015) found that e-commerce affected the gross operating profit for some categories of hotel, while a cross-sector study by Hwang et al. (2015) found no link between e-commerce and business performance. Other studies have taken an indirect approach, often based on the assumption that IT is an enabler of business functions but not necessarily one that directly impacts upon performance. For example, IT capability has been found to indirectly affect business performance through customer orientation (Nakata et al., 2008). Investment in IT has also been found to positively affect a company's internal entrepreneurship culture, which then indirectly affects company performance (Benitez-Amando et al., 2010), and to enable a proactive environmental strategy, which can in turn mediate the effect of IT on business performance (Benitez-Amando and Walczuch, 2012).

Other studies (e.g. Lee et al., 2010) have uncovered a direct relationship between IT supported processes and organisational performance. However, the link between IT investment and performance does not appear to be universal. Hwang et al. (2015) found that specific newer technologies positively impact upon productivity, but older aspects of IT, such as basic computer use and internet access were not found to improve productivity. This can be interpreted in light of Carr's (2003) research that suggests that as IT becomes ubiquitous, its strategic value diminishes. A common factor in these studies of the impact of IT investment is that they focus on IT artefacts and IT supported process. With the exception of Benitez-Amando et al. (2010), these studies focus on the technology, not the embodied capability, leaving the impact of the use of IT as a core business skill on financial performance predominantly unexamined.

In addition to a lack of research that tests the assumption that there is a link between project management skills or IT skills, and financial performance, there is a tendency in the project management literature to focus on mega-projects (e.g. Flyvbjerg, 2014; Eweje et al., 2012; Winch, 2013; Brady and Davies, 2014). In contrast to this prevailing trend, the research presented in this paper focuses on the impact of business skills on small to medium enterprise (SME) performance. The tendency to focus on larger projects is understandable, given how entertaining it is to read of their spectacular failures and successes, and the air of glamour associated with the large sums invested in mega-projects. However, the importance of SMEs to the social and economic health of countries has long been recognised (Beck et al., 2005; Schiffer and Weder, 2001; Ayyagari et al., 2007). It is acknowledged that SMEs may, and do, contribute to larger projects, but SMEs more commonly work on smaller projects. SMEs account for 40–70% of the value added by the business sector, and 70–90% of all enterprises in OECD countries are SMEs (OECD, 2013a, 2013b). This is consistent with data from Australia; the context in which this research is set. In Australia, there were over one million SMEs operating in 2012, representing over 90% of the business sector (ABS, 2012a,b) making SME profitability critical to the broader economy. In these SMEs, the Australian Bureau of Statistics (ABS) found IT professional skills in use in one in six SMEs, and project management used by one in eight SMEs (ABS, 2013a).

Project management research has often been submerged in the general management research into human resources, sales and marketing (Hudson et al., 2001; Turner et al., 2009; Turner et al., 2010). However, given that project management is a vital skill for SMEs (Turner et al., 2012), the critical role that project management plays in small business success (Sádaba et al.,