

# COMPETITIVE STRATEGIES IN SMALL AND MEDIUM SIZED ENTERPRISES (SME'S): A CROSS-CASE ANALYSIS OF IRISH CONSTRUCTION PROFESSIONAL SERVICE FIRMS

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Strategy formulation aims to attain strategic fit between an organisation and its business environment in pursuit of competitive advantage. Although competitive strategy research is long established within industries such as manufacturing, financial services and IT, strategy within construction is still under-investigated by comparison. For construction professional service firms (CPSFs), the dearth of academic inquiry is even more apparent, partly due to the intangible nature of their service offerings, highly customised nature of their services and reliance on intellectual capital. The Irish construction sector is experiencing stable growth since following a prolonged recession, thus understanding the strategy process within professional service firms is becoming increasingly important given the role of the service sector in economic recovery. Although the overwhelming majority of Irish CPSF's are small-sized, there remains a paucity of evidence pertaining to the competitive strategies adopted by Small and Medium Size Enterprises (SME's) within construction. This study is a cross-professional investigation involving architectural, engineering and surveying (AES) firms. These firms work together in the interest of the client on a project-level yet may select different strategic options and are led by different types of strategists. The aim of the study is to investigate the overall corporate objectives i.e. corporate strategy, the mechanism adopted in realising it, and how it positions itself relative to the business environment. The study found via a mono-method, online quantitative survey that although CPSFs adopt different corporate strategic objectives, their business strategies are in many ways similar. Findings also show that as firm size increases, strategists shift from a reactive state to defending their market share. This paper provides critical empirical evidence regarding the competitive strategies in SMEs, and the findings advance the discourse by practitioners on collaboration between CPSFs who are required to work together on construction projects, while adopting different competitive strategic choices.

Keywords: competitive strategy, service firms, corporate strategy, cross-case analysis

## INTRODUCTION

The construction industry is a critical component of the world economy, particularly in terms of job creation and contribution to national output (McKinsey Global Institute, 2017). The direct contribution of the construction sector to the Irish economy stood at almost €21bn or 6.6% of GDP (Central statistics office, 2019). While this figure is still far from levels recorded during the peak in 2007, the

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construction industry in Ireland continues to play a critical driving role for economic growth. There are calls for fostering collaboration and improved dialogue between project teams amid increasing complexity in the industry (AECOM Ireland, 2019). The complex and disparate nature of the construction industry does not favour long-term organisational planning and the sector has been criticised as slow to change (Graham and Thomas, 2005). The Irish construction sector has also been criticised by authors such as Murphy (2013) for the lack of empirical research into the strategic management of professional service firms (PSFs), in particular as they comprise a significant portion of the construction industry. Research into the strategic management practices of these organisations is vital to plan for future cyclical fluctuations.

The changes experienced within the sector were unprecedented in severity and duration and have been explored in relation to contracting firms but thus far not relating to construction PSFs, particularly small and medium enterprises. The focus of existing research tends to focus on large firms e.g. Price (2003), Tansey *et al.*, (2017). Secondly, existing research has a tendency to focus on a single profession rather than providing a cross-professional analysis, which reflects the multidisciplinary nature of construction project teams. For example, Flemming (2011), focused on Irish architectural practices; Murphy (2013), focused on Irish quantity surveying practices, but neither compared across professions. Thus, a holistic study is warranted to explore PSFs across professions in the construction industry (architectural, engineering and surveying). Since construction PSFs comprise mainly of Architecture Engineer and Surveying (AES) firms, this paper examines strategy processes within all three professions, with a specific focus on SMEs.

The paper addresses three key objectives. First, it investigates competitive positioning and overall corporate objectives of AES firms in Ireland. Secondly, it identifies the mechanisms adopted in pursuit of competitive positions (i.e. business level strategies). Thirdly, the study benchmarks the strategic type of the strategist within individual practices against established typologies in the existing literature in a bid to understand the influence of the senior managers on strategic choices made. The specific characteristics identified within the study are competitive positioning scales relevant to PSFs and are adapted to inform strategists about the tasks to be considered in pursuit of competitive advantage.

## **LITERATURE REVIEW**

The landscape within which PSFs currently operate within construction in Ireland is one characterised by a constant change, increasing complexity and competitive pressure. Strategy research has been concentrated on the manufacturing and product context with limited attention given to the services sector (Homburg *et al.*, 2002), particularly within construction. The services sector i.e. architectural, engineering and other construction technical services contributed a net value of €151m as at year end 2017 alone (CSO, 2019). For a sector with such significant contribution to national output, it is surprising that the analysis of strategic management in construction PSFs primarily emerged post 2010 (i.e. Flemming, 2011; Murphy, 2013). Since then, only a limited number of longitudinal studies involving strategy have been conducted, with no known study adopting a multidisciplinary approach to the topic, focusing instead on a single profession rather than across key stakeholders within construction. Due to the limited research on the subject, this paper addresses the perceptible gap by providing a multidisciplinary comparative analysis.

## **Strategic Management as a Body of Research**

Porter (1980), a seminal author within strategy research defined the concept as '... a combination of the ends (goals) for which the firm is striving and the means (policies) by which it is seeking to get there.' This definition aligns with the objectives of this study and covers all three areas of focus, namely: Corporate strategy (goals), business strategy (means of getting there) and strategic type. Strategy research has enjoyed contributions from various related areas such as political science, economics, organisational sociology and cognitive psychology, and has developed a robust theoretical base across several research areas (Gongmin Bao, 2015). It has since evolved and expanded into a highly diverse field spanning business, public and private sector firms. One of the key areas of strategy evolution relates to competitiveness within turbulent business environments. Construction is one of such turbulent business environments as the sector is renowned for complexity, multiple stakeholders, uncertain nature of its projects, and dynamism of its outputs (Betts and Ofori, 1992).

### *Corporate level strategy*

Corporate strategy relates to the method(s) by which a firm manages their entire business together (Grant, 1995). These high-level corporate objectives are concerned with what choices managers must make, particularly in relation to competition, selecting value creation activities and whether to enter, consolidate, or exit businesses for the maximization of long-term profitability. Three key types of corporate strategy include growth, stability, and renewal (Robbins and Coulter, 2012). A growth strategy is when a firm expands the number of markets served or services offered, while stability strategy is when a firm continues to do what it is currently doing. The third corporate strategy is renewal or downsizing, which occurs when due to challenges (whether financial, competitive or internal), the firm seeks to address declining performance. This last category is split into two called retrenchment and turnaround strategies. A fourth category is a combination of two strategies i.e. either expansion/maintenance or maintenance/downsizing in order to capture the full picture of the strategy process.

Murphy (2013) found the corporate strategy pursued by Irish QS firms to be broadly spread across all four options; however, the industry has significantly changed since the study was undertaken. The next level of strategy, which describes the business choices undertaken by firms to achieve the corporate strategy, is now explored in detail.

### *Business level strategy*

Business level strategy relates to how a company competes to achieve the corporate strategy. Business strategy is grounded in the seminal work of Porter (1980; 1985), who espoused three generic strategies: Cost leadership, differentiation and focus. These strategies seek to outline the way an organisation positions itself in the marketplace to achieve the corporate goal and gain competitive advantage. Various positioning strategies can be used in different industry settings (Porter, 1980). Porter's business strategies appear to be the preferred mechanism for identifying the strategic options/choice pursued by construction firms, as several authors have utilised them when analysing Irish construction strategy (Flemming, 2011; Murphy, 2013; Tansey *et al.*, 2014). The focus strategy is sometimes extended to become "cost-focus" and "differentiation-focus"(Porter, 1980; 1985). Another variation is what Porter, terms as being "stuck in the middle", which occurs when firms decide to adopt more than one

of the successful generic strategies in their business. Some authors have criticised Porter's work, particularly his notion of being ‘stuck in the middle,’ with claims that a combination of cost leadership and differentiation can also be a valid option (e.g., Miller and Dess, 1993). This criticism is taken into account in this study and the cost-differentiation option included as part of the business strategy options. A combination of generic strategies (hybrid strategies) may be ideal for achieving competitive advantage (Tansey *et al.*, 2014), in SMEs (Spanos *et al.*, 2004), and even during times of economic downturn (Wu *et al.*, 2007).

To a large extent the behaviour of strategists at senior level will have a significant impact on the strategic direction of an organisation, and how these decision-makers position their firm relative to the external environment will now be explored in detail.

### *Strategic type*

Miles and Snow (1978) posit that a firm's positioning relative to strategy will have an impact on the formality of the process, and they named these approaches ‘strategic types’. They argue that although each firm may adopt different strategies based upon their unique characteristics, the behavioural patterns exhibited by the strategist will centre around four organisational types namely: Prospector, analyser, defender and reactor. These typologies help to explain how the strategist, and consequently the overall organisation interacts with the business environment i.e. their behaviour in response to environmental forces. Table 1 further explains the typologies:

*Table 1: Miles and Snow (1978) strategic types*

Strategic types	Description
Prospector	Seek to offer new services and enter new markets. These firms strive to provide innovative services into a market, and are quick to spot/react to opportunities
Defender	Tend to have a narrow market domain and are prone to create/maintain a niche with a limited range of services.
Reactor	Reactor firms do not have clearly articulated long-term goals or strategies, and consequently no uniform behaviour pattern.
Analyser	These firms seek stable markets and follows other competitors into new markets

Stewart *et al.*, (2000) highlight that individual firms within any of the four typologies display unique patterns in their decisions in response to changes in the business environment. Despite the wide adoption of these typologies to strategy analysis, very few criticisms exist to their use. Notable among these is the argument by Desarbo *et al.*, (2005) that businesses leverage their internal strengths (capabilities) and external (environment) circumstances, and these may not, in fact, be easily interpretable by the Miles and Snow (1978) categories. In a counter-argument, Murphy (2013) posits that typologies should only act as a point of reference for analysis rather than as prescriptive guidelines. Thus, these four typologies are adopted as guidelines in analysing how these construction organisations approach strategy and their interactions with their environment (i.e. the Irish construction sector).

### **Strategic Management in Construction**

Studies into strategy in construction have spanned decades as several authors in construction such as Betts and Ofori (1992) have investigated the topic in the early 1990s. A key problem identified by Cheah and Chew (2005) is that several construction firms downplay corporate-level management, as they are often content to stay afloat one project at a time. This project-centrism makes it difficult to obtain information on strategy within individual firms, thus limiting academic inquiry. A large number of studies in construction focus on profession-specific studies and the

generalisability of such single-profession studies is problematic, as each profession within construction is unique. In Ireland, there has been an attempt by researchers to bridge the multidisciplinary gap, including Tansey *et al.*, (2017) that examined strategy in five large engineering and QS firms. However, the analysis does not take account of architectural practices and adopts a small sample size, making it difficult for the findings to be generalizable across the AES professions. In addition, these firms collaborate on a project level, yet they have very different strategic goals (at corporate or business level). Yet, there is no evidence to suggest that the strategies being employed within a particular profession are the same adopted across all PSFs in construction, hence the need for comparative analysis.

#### *Unique nature of Professional Service Firms*

One of the key characteristics that sets PSFs apart is their knowledge intensive nature, high level of client interaction and customised nature of service offerings (Lowendahl, 2000). Strategic management in PSFs is centred on professionals (people), and the body of knowledge in construction would benefit immensely from insights in CPSFs. Ling *et al.*, (2006) in their research into CPSFs stress the need for construction organisations to consider their strategy in order to ensure survival through economic cycles. For the purpose of this research, AES firms will be used as the unit of analysis. In general terms, 'CPSF' is used in reference to construction PSFs included under the Building Control Act 2007 (Irish Statute Book, 2016) and registered as Architectural, Surveying and Engineering firms in Ireland. In Ireland, professional bodies regulate the activities of AES firms. These bodies include the Royal Institute of the Architects of Ireland (RIAI); Association of Consulting Engineers Ireland (ACEI) and the Society of Chartered Surveyors Ireland (SCSI). Conducting strategy analysis within these organisations will help them understand their business as well as professional goals (Maister, 2012). The other distinguishing factor explored in this study is firm size and the impact on strategy.

#### *Preoccupation with large firms*

A key gap identified in this study is the predominant focus on large firms in strategic management research within construction (Lowstedt *et al.*, 2011; Oyewobi *et al.*, 2015; and Tansey *et al.*, 2017). The Irish Central Statistics Office (CSO) reports that SMEs accounted for 99.8% of total number of enterprises in 2016 and over 68% of all persons engaged (CSO, 2019). For the purposes of this research, small firms are classified as firms having between 1-10 employees while medium sized firms are firms having between 11-50 employees. This classification differs from the EU classification, as the firm size was adjusted to scale to fit the Irish construction industry context, consistent with the work of Murphy (2013). Given the majority of firms in the Irish construction sector are SME's, there is a need for a reorientation of research focus to these firms.

## **METHODOLOGY**

This paper adopts a mono-method, deductive approach to data collection, analysis and interpretation. Bell (2005) posits there is no standard methodology that can be applied to all research problems, and the choice of methodology is based on the type of data readily available and the nature and scope of the topic at hand. The philosophical stance of this study is pragmatism, which allows a researcher to view a topic from either a constructivist or objectivist point-of-view (Saunders *et al.*, 2009). The research approach employed in the study is deductive in nature (Alvesson and Skoldberg, 2009), and the data collection instrument is a quantitative survey, which

allowed for a highly economical way of collecting large amounts of data to address the research questions/objectives (Saunders *et al.*, 2009). A rigid and well-justified sampling strategy was followed i.e. non-probability sampling, since the research population was already defined (member firms of the predefined professional bodies). Purposive sampling technique, where participants are chosen on the basis of personal judgement and established criteria was used (Miles and Huberman, 1994). In collaboration with the ACEI, RIAI and SCSI, firms registered on the professional body database were used thus defined the sample population.

The design of the questionnaire was based on established strategy metrics highlighted in the literature review i.e. corporate/business level strategy and strategic typologies. The survey was pilot tested amongst a number of CPSFs, and feedback from the pilot test was incorporated into a final refined survey which is potentially replicable in within PSFs in construction and other sectors. The survey was administered using an online survey instrument to a single key informant at senior manager level within member firms of the ACEI, RIAI and SCSI. The data from the study was not subjected to statistical analysis as the study is purely exploratory as opposed to explanatory i.e. to investigate what is there as opposed to investigating causality. Table 1 below presents the demographic data of the study.

Table 1: Profile of respondent firms

	Population	Responses	Res. Rate (%)	No. of SMEs	% SMEs
Architectural (ARCH)	510	116	22.75	112	96.6%
Engineering firms (ENG)	99	43	43.43	30	68.2%
Surveying firms (PQS)	236	66	27.69	60	90.9%

## FINDINGS

### Corporate Strategy of SME PSFs

Table 2 outlines the corporate strategy analysis of Irish SME PSFs. The table shows that majority of the respondent firms are expanding across the board except small sized PQS firms. No engineering practice within the population is undergoing downsizing, showing a robust outlook in the sector, similar to mid-sized PQS firms.

Table 2: Corporate level strategies of CPSFs

	ARCH (%)		ENG (%)		PQS (%)	
	Small	Medium	Small	Medium	Small	Medium
Consolidation	30.12	21.05	43.75	23.08	44.44	20.00
Expansion	55.42	57.89	50.00	76.92	31.48	60.00
Downsizing	7.23	5.26	0.00	0.00	11.11	0.00
Combination	7.23	15.79	6.25	0.00	12.96	20.00

As engineering firms move from small to medium, their corporate objectives become more defined i.e. they are either undergoing expansion or consolidation. More than 40% of small engineering and PQS firms are consolidating, meaning that their organisations protect and strengthen their position in their current markets with current service offerings (Johnson *et al.*, 2008). These firms seek to maintain their market share in existing markets; however, this does not necessarily mean that they are stagnating. It may mean that they are keeping the existing portfolio of clients and business size or reinforcing their market position within the growing construction sector.

One tenth of small PQS practices in the sample are downsizing and this may be connected to the concerns of worker shortages identified by Murphy (2018). The

report highlighted critical skills shortage within PQS practices, and this is an increasing concern within the profession. Medium sized architectural and PQS firms exhibit similarity in terms of corporate strategy except that medium sized PQS firms are not downsizing at all. Rather, their focus is primarily on expansion, which Deng and Yang (2015) posit may be due to confidence based on internal capabilities and strengths or externally driven market pressure.

Table 3: Business level strategies of CPSFs

	ARCH		ENG		PQS	
	Small	Medium	Small	Medium	Small	Medium
Low-cost	3.61	5.26	0.00	0.00	14.81	20.00
Differentiation	55.42	42.11	18.75	23.80	48.15	80.00
Focus	16.87	10.53	12.50	7.69	5.56	0.00
Cost-focus	0.00	5.26	0.00	0.00	1.85	0.00
Diff.-Focus	22.89	31.58	68.75	69.23	24.07	0.00
Cost-Diff.	1.20	5.26	0.00	0.00	5.56	0.00
Stuck in the middle	0.00	0.00	0.00	0.00	0.00	0.00

Findings shown in table 3 highlight that engineering firms do not compete at all on a low-cost basis, followed by architectural firms who also do not seek cost-leadership with only about 5% of the sample size outlining that they compete on low-cost. In PQS firms however, one fifth of respondents seek to achieve cost-leadership. These firms tend to focus more on competitors rather than clients, and seek to outprice the competition (Frambach, et. al, 2003). Nearly half of the SME population in architecture firms select the differentiation business strategy, having similar characteristics with PQS firms, which has 48.15% of small firms confirmed. However, a surprising 80% of PQS practices are currently choosing the differentiation strategy. Oyewobi *et al.*, (2014) outlines that when construction organisations adopt differentiation strategies, it is in a bid to ensure survival in complex business environments. It is reasonable to assume that this may be the case in Ireland.

Notably, none of the SME firms across all professions are stuck-in-the-middle, which Johnson *et al.*, (2008) argue is a recipe for failure as such firms do not have a clearly defined means of achieving their business objectives. The findings within business level strategy shows marginal difference from the pattern observed in corporate-level strategy, with engineering firms still posing as an outlier and having unique strategic choices. While engineering and PQS firms predominantly tilt towards differentiation strategy as the preferred choice, engineering firms are less inclined so.

The data in table 4 shows similar patterns between architecture and PQS firms, particularly small firms. Prospector firms are innovative, creating new markets and enacting uncertain environments (Miles and Snow, 1978), however Irish SMEs show very limited prospector characteristics. The reactor typology is predominant across all professions within the sample, with these firms being late to change - often too late - and usually performing below the industry mean (Brunk, 2003).

Table 4: Miles and Snow Strategic typologies

	ARCH		ENG		PQS	
	Small	Medium	Small	Medium	Small	Medium
Prospectors	7.41	21.05	12.50	0.00	12.96	20.00
Defenders	18.52	42.11	12.50	38.46	11.11	20.00
Analysers	33.33	10.53	6.25	15.38	35.19	0.00
Reactors	40.74	26.31	68.75	46.16	40.74	60.00

Only medium sized architectural firms are primarily defenders, who characteristically choose to focus on cost control, maintaining stability and process innovation (Parnell *et al.*, 2015). In addition, as firm size increases, firms move from being predominantly reactors to defenders. Becoming more defensive in their strategic typology would require concentrating on ongoing strategic challenges rather than potential markets (Parnell *et al.*, 2015). Cabrera *et al.*, (2008) also argued that defenders are often left with no option than to compete on a low-cost basis, however links between strategic type adopted and business strategy choice is not investigated in this study. Miles and Snow (1978) also suggested that organizations adopting clear generic strategies (i.e. prospectors, defenders, and analysers) typically outperform those without one (i.e. reactors), leaving room to investigate this further via a qualitative study, which will be conducted in phase II of this research.

## CONCLUSION

This paper has investigated strategy processes in professional architecture, engineering and surveying firms within the Irish construction sector. These firms who are required to work together on projects have been well studied on project level but have not been studied on a strategic level. One of the significant findings to emerge from this study is that majority of PSFs within the SME category in Ireland are undergoing expansion and not seeking to downsize. This supports forecasts from the CSO of continuous growth in the sector. The study also found that engineering firms do not engage in any form of low-cost strategy, but rather heavily rely on differentiation-focus strategy. In addition, the preferred strategic choice of architecture and PQS firms is differentiation, consistent with theory about PSFs seeking differentiation. Notably, only small PQS firms compete considerably on a low-cost basis, possibly in a bid to gain market share. None of the SME firms across all professions are stuck-in-the-middle, which shows that these firms are clear about their business strategies. Lastly, this study has shown that there is a positive correlation between size and the strategic type i.e. as firm size increases, strategists shift from a reactive state to defending their market share (i.e. they move from being predominantly reactors to defenders). Although the literature suggests that, there are possible links between strategic typologies and business strategy, the opportunity to investigate this in the next phase of the research has been identified.

As firms within the industry are being encouraged to collaborate more, despite having different strategic goals, this paper has highlighted these differences and forms the basis for better understanding the uniqueness of individual PSFs going forward.

## REFERENCES

- AECOM Ireland (2019) *Taking the Long View, Ireland Annual Review 2019*, Available from <https://ireland.aecom.com/> [Accessed 19/07/2019].
- Alvesson, M and Sköldböck, K (2009) (Post-)positivism, social constructionism, critical realism: Three reference points in the philosophy of science, *Reflexive Methodology: New Vistas for Qualitative Research*, 15, 15-52.
- Bell, J (2005) *Doing Your Research Project*. Buckingham: Open University Press.
- Betts, M and Ofori, G (1992) Strategic planning for competitive advantage, *Construction, Management and Economics*, 10(6), 511-532.
- Brunk, S E (2003) From theory to practice: Applying miles and snow's ideas to understand and improve firm performance, *Academy of Management Executive*, 17(4), 105-108.



- Cabrera, Á, Cabrera, E F and Barajas, S (2008) The key role of organizational culture in a multi-system view of technology-driven change, *International Journal of Information Management*, 21(3), 178-199.
- Central Statistics Office (2019) *Exports and Imports of Services by Component, Statistical Indicator and Year*. Available from <https://www.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=BPA03&PLanguage=0> [Accessed 19/07/2019] Ireland: Central Statistics Office.
- Cheah, C and Chew, D A S (2005) Dynamics of strategic management in the Chinese construction industry, *Management Decision*, 43(4), 551-567.
- Deng, P and Yang, M (2015) Cross-border mergers and acquisitions by emerging market firms: A comparative investigation, *International Business Review*, 24(1), 157-172.
- DeSarbo, W S, Di Benedetto, C A, Song, M and Sinha, I (2005), Revisiting the miles and snow strategic framework: Uncovering interrelationships between strategic types, capabilities, environmental uncertainty and firm performance, *Strategic Management Journal*, 26, 47-74.
- Flemming, K (2011) *Strategic Leadership of Architectural Firms in Ireland: the Role of Emotion, Management and Innovation*. Dublin City University. DCU Business School
- Frambach, Ruud, T, Prabhu, J and Verhallen, T (2003) The influence of business strategy on new product activity, *International Journal of Research in Marketing*, 20(4), 377-397.
- Gongmin Bao (2015) What theories are needed for strategic management? *Nankai Business Review International*, 6(4), 433-454.
- Graham, B and Thomas, K (2005) An investigation into the development of knowledge management systems within the leading Irish construction companies. In: Khosrowshahi, F (Ed.), *Proceedings of the 21st Annual ARCOM Conference*, 7-9 September 2005, London, UK. Association of Researchers in Construction Management, Vol. 1, 499-508.
- Grant R M (1995) *Contemporary Strategy Analysis, 2nd Edition*. Oxford: Basil Blackwell.
- Løwendahl, B R (2007) *The Strategies and Management of Professional Service Firms*. Copenhagen: Copenhagen Business School Press
- Löwstedt, M, Räisänen, C and Stenberg, A C and Stenberg, A-C (2011) How does change happen in a large construction company: Comparing objectified and lived versions of change. In: Egbu, C and Lou, E C W (Eds.), *Proceedings of the 27th Annual ARCOM Conference*, 5-7 September 2011, Bristol, UK. Association of Researchers in Construction Management, 84-94.
- Homburg, C, Hoyer, W D and Fassnacht, M (2002) Service orientation of a retailer's business strategy: Dimensions, antecedents and performance outcomes, *Journal of Marketing*, 66(4), 86-101.
- Irish Statute Book (2016) *Irish Statute Book*. Available from <http://www.irishstatutebook.ie/eli/2016/si> [Accessed 20/03/2019].
- Linesight (2019) *Linesight Knowledge Center, Value of Construction Output 2007-2018*, Available from <https://www.linesight.com/knowledge/2018/ireland/value-of-construction-output-2007-2018> [Accessed 20/03/2019].
- McKinsey Global Institute (MGI) (2017) Reinventing Construction: A Route to Higher Productivity. Available from <https://www.mckinsey.com/industries/capital-projects-and-infrastructure/our-insights/reinventing-construction-through-a-productivity-revolution> [Accessed 19/07/2019].

- Maister, D H (2012) *Managing the Professional Service Firm*. New York: Simon and Schuster, Inc
- Miles, R E and Snow, C (1978) *Organisational Strategy Structure and Process*, Stanford Business Classics. California, Stanford Business Books.
- Miller, A and Dess, G (1993) Assessing Porter's (1980) model in terms of its generalizability, accuracy and simplicity, *Journal of Management Studies*, 30(4), 553-585.
- Murphy, R (2013) Strategic planning in construction professional service firms: A study of Irish QS practices, *Construction Management and Economics*, 31(2), 151-166.
- Murphy, R (2018) *Employment Opportunities and Future Skills Requirements for Surveying Professionals*. Report SCSL, 1-85.
- Oyewobi, L O, Windapo A O and James R O B (2015) An empirical analysis of construction organisations' competitive strategies and performance, *Built Environment Project and Asset Management*, 5(4), 417-431.
- Parnell, J A, Long, Z and Lester, D (2015) Competitive strategy, capabilities and uncertainty in small and medium sized enterprises (SMEs) in China and the United States, *Management Decision*, 53(2), 402-431.
- Porter, M E (1980) *Competitive Strategy: Techniques for Analysing Industries and Competitors*. New York: Free Press, Collier Macmillan.
- Porter, M E (1985) *Competitive Advantage: Creating and Sustaining Superior Performance*. New York: Free Press.
- Price, A D F (2003) The strategy process within large construction organisations, *Engineering, Construction and Architectural Management*, 10(4), 283-296.
- Robbins, S P and Coulter, M (2012) *Management*. London: Pearson.
- Saunders, M, Lewis, P and Thornhill, A (2009) *Research Methods for Business Students*. London: Prentice Hall.
- Stewart, J P (2000) *Strategic IT Maturity of Construction Companies*. PhD Thesis, Department of Building and Construction Economics, Faculty of the Constructed Environment, Royal Melbourne Institute of Technology.
- Spanos, Y, Zaralis, G and Lioukas, S (2004) Strategy and industry effects on profitability: Evidence from Greece, *Strategic Management Journal*, 25(2), 139-165.
- Tansey, P, Spillane, J P and Meng, X (2014) Linking response strategies adopted by construction firms during the 2007 economic recession to Porter's generic strategies, *Construction Management and Economics*, 32(7-8), 705-724.
- Tansey, P, Spillane, J P and Brooks, T (2017) Creating opportunities in the face of an environmental jolt: Exploring turnaround strategizing practices within large Irish construction contractors, *Construction Management and Economics*, 36(4), 217-241.
- Wu, H-L, Lin, B-W and Chen, C-J (2007) Contingency view on technological differentiation and firm performance: Evidence in an economic downturn, *R&D Management*, 37(1), 75-88.