Conceptualizing and measuring strategy implementation – a multi-dimensional view[1]

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Main message

The development of a multi-dimensional instrument measuring strategy implementation identified ten key dimensions (activities), with senior management involvement; perception of managers; and feedback/control as the topmost among the identified activities for strategy implementation success.

Key points

Through quantitative methodological approaches for studying the strategic management and planning process, analysis of data from 208 senior managers involved in strategy processes within ten UK industrial sectors provides evidence on the measurement properties of a multi-dimensional instrument that assesses ten dimensions of strategy implementation. Using exploratory factor analysis, results indicate the sub-constructs (the ten dimensions) are uni-dimensional factors with acceptable reliability and validity; whilst using three additional measures, and correlation and hierarchical regression analysis, the nomological validity for the multi-dimensional strategy implementation

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construct was established. Relative importance of ten strategy implementation dimensions (activities) for practicing managers is highlighted, with the mutually and combinative effects drawing conclusion that senior management involvement leads the way among the ten key identified activities vital for successful strategy implementation.

Introduction

The dwindling number of strategic planning studies has been highlighted by several authors (see Whittington & Cailluet, 2008; Wolf & Floyd, 2017; and Bryson *et al*., 2018). Although highly reputable peer-reviewed journals have recently given space for the publication of strategy management and strategy processes (see O'Regan *et al*., 2012; Thomas & Ambrosini, 2015; Kin *et al*., 2016; Gans & Ryal, 2017; Burgelman *et al*., 2018), these papers tend to look more at the strategy formation and strategy development, often on the use of strategy tools and techniques (see Jarzabkowski *et al.*, 2013; Tassabehji & Isherwood, 2014; Arend *et al.*, 2017; Vuorinen *et al*., 2018) and with few putting the strategy into action (strategy implementation). Hambrick & Cannella (1989, p.278) stated that, *'Without successful implementation, a strategy (plan) is but a fantasy'*. There is an expectation that strategy implementation will create value as a vital role in the strategic planning processes (Allio, 2005; Aldehayyat & Anchor, 2010; Hrebiniak, 2013; Sull *et al*., 2015). However, notwithstanding this importance in organizational effectiveness (Barrick *et al*., 2015; Greer *et al*, 2017), there is a general lack of comprehensive studies within the extant literature on this vital part of the strategic planning process (Walker & Ruekert, 1987; Chebat, 1999; Noble, 1999; Parsa, 1999; Hrebiniak, 2013; Lee & Puranam, 2016). Whilst researchers are confronted with the challenge of this lack of a significant body of literature, they also find it more difficult to conceptualize, operationalize and measure the dimensions of strategy implementation

compared to strategy making (Bailey *et al.*, 2000; Andersen, 2004; Andersen & Nielsen, 2009). In practice, strategy implementation involves highly complex tasks requiring sequential and simultaneous thinking, as such is a difficult activity for an organization to tackle (Hrebiniak & Joyce, 2001; Yang *et al*., 2010; Hrebiniak, 2013;). It could therefore be inferred that if undertaking implementation tasks is difficult in reality, then operationalizing the variables to measure them becomes even more challenging. We found a lack of a comprehensive methodology for strategy implementation measure in the extant literature. Some studies have provided measures of implementation (Floyd & Woolridge, 1992; Homburg *et al.,* 2004; Thorpe & Morgan, 2007; Brenes *et al.*, 2008); however, these are primarily undertaken for each individual implementation task and this, in turn, has led to the fragmentation of strategy implementation research (Hrebiniak & Joyce, 2001; Yang *et al*., 2010). We address this void by reporting on the methodological development and validation of a multi-dimensional measure to represent the strategy implementation construct, which provides a sound basis to focus future research studies and a source of consistency within the approaches used.

This paper is presented in the following sections. The first section provides a background and overview of strategy implementation in the extant literature. Here, we review and discuss the various concepts and perspectives used to define strategy implementation. Based on these, we provide the dimensions used to operationalize the methodological concept. In the second section we explain our methods, and how items were measured and the results of our analysis. The third section illustrates nomological validity assessment of the newly developed scale and conceptual relationships between variables of the new strategy implementation construct relative to the hypothesis posed. In the final section, we provide a roadmap of the relative importance of the multi-dimensional scale

in terms of literature and practicing manager competencies, and the variance between the dimensions of strategy implementation. Here we discuss the implication and contribution of our study, both for academia and managerial practice.

Background to the measuring instrument

The value of strategy implementation in strategy research is found in the concept of strategy and the strategic management model – sometimes denoted as the 'process' or 'framework' (Ansoff, 1965; Ackoff, 1970; Andrews, 1971; Dyson & O'Brien, 1998; Kazmi, 2008; Espinosa et al., 2015) and from many decades of strategy planning – performance studies (Thune & House, 1970; Kudla, 1980; Miller & Cardinal, 1994; Grant, 2003; Kohtamäki *et al.,* 2012; Pollanen *et al*., 2017).

Broadly speaking within the strategy literature, most models, or frameworks of the strategy process have several stages (Andrews, 1971; Grant *et al.*, 2003; Wheelen & Hunger, 2017; Barney & Hesterly, 2018). Some depict a strategy formulation or formation stage; a choice stage; a selection stage; and an implementation stage. In these stages, the organization seeks to understand its strategic position; makes a selection based on the assessment of various choices and puts the strategic choices into action (Mintzberg & Rose, 2003; Johnson *et al.,* 2014). Additionally, there are stages where the organization manages the changes required to allow strategy execution (Floyd & Wooldridge, 1992; Balogun & Johnson, 2004; Balogun, 2006), monitor and evaluate the results for control purposes, and provide feedback to improve the process for the future (Schreyögg & Steinman, 1987; Simons, 1994; Covin *et al.,* 2006). However, all these stages could be subsumed into two main activities - strategy making and strategy execution or the notion of *thinking* and *acting* activities as advocated by Henry Mintzberg (Gluck *et al.,* 1982;

Chakravarthy & Lorange, 1991; Mintzberg *et al.*, 1998; Wheelen & Hunger, 2017). There are concerns in the literature as to whether these activities flow sequentially or cyclically, and some authors have argued that the model fails to incorporate strategic changes which are gradual, and the notion of incrementalism is ignored (Lindblom, 1979; Quinn, 1980a; Mintzberg & Waters, 1985; Elbanna, 2006; Johnson et al, 2014). For these reasons, models of the strategic planning process have been labelled as too traditional, prescriptive, reductionist and simplistic. Key among these concerns is how past research has paid insufficient attention to the process of strategy implementation (Pearce *et al.*, 1987; Smith & Kofron, 1996; Pryor *et al.*, 2007; Lee & Puranam, 2016).

While some authors consider that it is possible to distinguish conceptually between stages in the strategy process (Ansoff, 1965; Ackoff, 1970; Andrews, 1971; Ansoff, 1991; Jarzabkowski *et al.*, 2013; Bellamy *et al.*, 2019), other authors consider that any identification of the stages in strategy are artificial, irrelevant, dysfunctional and therefore inappropriate (Lenz & Lyles, 1985; Mintzberg, 1990; Barney & Zajac, 1994). While this debate is addressed extensively in the main strategic management literature and not repeated here (see for example Hrebiniak & Joyce, 2001; and Hrebiniak, 2013), this study adopts the view that it is theoretically possible and analytically useful to identify different stages of the strategy process although, in practice, there may be elements of overlap.

In one of Mintzberg's notions of '*The Three Grand Fallacies of Strategic Planning'*, the detachment of strategy making and strategy execution is seen as separating *thinking* from *acting* (Mintzberg, 1994a; Mintzberg, 1994b, pp.227–321; Mintzberg, 1994c, pp.15–19; Mintzberg *et al*., 1998, p.52; De Wit & Meyer, 2014). Hrebiniak & Joyce (2001) and Hrebiniak (2006, 2013) suggest the reason why there are no measuring scales to

investigate strategy implementation is due to this formulation – implementation dichotomy. Essentially, if they are the same then there is no need for research concerning implementation. Because of this criticism, most strategy research has avoided consideration of separate stages in the strategy process and has tended to bundle formulation and implementation variables into a single measure as strategy planning – particularly in strategic planning performance studies (Miller & Cardinal, 1994; Hopkins & Hopkins, 1997, p.642; Phillips & Moutinho, 2000). Within this formulation – implementation dichotomy, an interesting aspect is that rather than being critical of inseparability of the two processes, there is criticism of the separation of those undertaking the activities (the *actors*), emphasized as the *formulators* and *implementers* (Burnham *et al*. in Pressman, 1978, p.397; Mintzberg, 1994b, p.287). This does not preclude the same people undertaking the dual roles, transitioning from formulation to implementation. Although Burgelman (1983) and Floyd & Lane (2000) clearly identify the role difference between hierarchical levels in the formulation and implementation activities. Even though Mintzberg (1994b) asserts strategy is continually revised and may emerge within the implementation process, that is it may be 'emergent' through learning rather than 'deliberate' (Mintzberg, 1994a, p.111), hence may be deemed a false concept; a clear implementation phase takes place in organizational practice (Burgelman, 1983; Floyd & Lane, 2000; Jarzabkowski & Balogun, 2009). To support this delivery, we need to devote more emphasis on measuring the strategy implementation side. Even others like Vaara & Whittington (2012), who although advocates the term 'strategy-making' as encompassing all the various stages and elements within the strategic management, still call for more studies of strategy implementation to further our understanding of this critical but neglected area of empirical study in strategic management.

Burnham *et al*. (1978) and Mintzberg (1994b) do, however, take the same position as those who favour a separation of formulation from implementation - that being equal emphasis needs to be devoted at every stage of the process (Ansoff, 1965; Steiner, 1969; Ackoff, 1970; Andrews, 1971; Hrebiniak & Joyce, 1984; Hrebiniak, 2006; Elbanna & Child, 2007; Elbanna *et al*., 2013). Whichever side one takes on the detachment of formulation – implementation debate, an evaluation of the contributing and important role played by each of the activities should be of interest to all. For these reasons Hambrick & Cannella Jr (1989), Heracleous (2000), Pryor *et al*., (2007) and Vaara & Whittington (2012) have argued that the process of strategy implementation requires greater attention from academic researchers and, as is the view of this paper, there is the need to study, conceptualize and measure it separately.

Our approach to the conceptualization and measurement of strategy implementation is to consider it as a complex and multi-faceted organizational process (Noble, 1999; Hrebiniak, 2006). Consequently, we have used a diverse array of variables in order to fully exploit the domain of the concept. This approach finds favour in the management literature and the field of statistics (Blalcok, 1968, 1979; Cronbach *et al*., 1972; Cook & Campbell, 1979; Montgomery *et al*., 1989; Snow & Thomas, 1994). By using a diverse array of variables from different sources to operationalize a construct, rather than adopting a uni-dimensional approach, greater breadth and comprehensiveness is provided and offers a holistic representation of complex phenomena (Bailey *et al*., 2000; Boyd *et al*., 2005; Katsikeas *et al*., 2006). Furthermore, this approach allows the matching of broad predictors with broad outcomes and allows more of the variance in the data to be explained (Roznowski & Hanisch, 1990; Ones *et al*., 1996; Hrebiniak & Joyce, 2001).

Definition of strategy implementation and its representative dimensions

In the translation of the strategy implementation concept into a measure and to achieve construct validity, we paid close attention to how it has been defined and represented. In doing so, we reviewed the various perspectives taken by different writers and researchers.

With the fragmentation of strategy implementation research, an explicit definition of strategy implementation can be elusive. Early works view it as mostly an administrative activity (Ansoff, 1965; Ackoff, 1970; Andrews, 1971; Galbraith & Kazanjian, 1986). For example, Galbraith & Kazanjian (1986, p.2) view implementation as the investment of the time and effort needed to effectively integrate the major organization design variables: task, people, structure, technology, reward systems, and information and decision processes to produce the required performance levels. More recent texts (Mintzberg & Rose, 2003; Thompson *et al.*, 2013; Hill & Jones, 2014) also take the same views of implementation as basically a combination of administrative activities and the putting into place of organizational processes, such as compensation and management development. A strategy ultimately requires results to be achieved by undertaking actions (the implementation). It is this sub-activity in the process chain that incorporates the development and design of appropriate organizational structures, resource allocation issues and managing strategic change (Alexander, 1985; Reed & Buckley, 1988; Mintzberg & Rose, 2003; Johnson *et al*., 2014). Hill & Jones (2014) note that an organization's structure, strategic control and culture, together with individual attitudes and values, shape the way people behave. In turn, this influences how the organization's business model and strategies are implemented. Strategy implementation therefore, refers to the effective integration, updating and operationalization (application) of these sub-activities.

Table 1. Concepts and perspective of strategy implementation

Year	Author(s)	Concept/perspective of implementation
1983	Laffan	During the implementation phase, a policy decision must be spelled out in operational detail and resources allocated among programs.
1984	Hrebiniak & Joyce	Implementation is a series of interventions concerning organizational structures, key personnel actions, and control systems designed to control performance with respect to desired ends.
1984	Bonoma	Implementation is turning drawing board strategy into marketplace reality.
1984	Kotler	Implementation is the process that turns plans into action assignments and ensures that such assignments are executed in a manner that accomplishes the plan's stated objectives.
1988	Aaker	The implementation stage involves converting strategic alternatives into an operating plan.
1991	Cespedes	Implementation refers to the 'how-to-do-it' aspects of marketing. Implementation deals with organizational issues, with the development of specific marketing programs, and with the execution of programs in the field.
1992	Floyd & Woolridge	Implementation is the managerial interventions that align organizational action with strategic intention.
2004	Homburga *et al*.	Implementation perspective that views the role of market orientation as an important intangible organizational variable (as oppose to organizational structure like planning, control, reward, and information systems).
2007	Thorpe & Morgan	Implementation as an emphasis on the importance of a rigid organizational structure, visible control systems and other hierarchical factors, such as reward systems.
2008	Brenes *et al*.	Implementation is determined by the degree of alignment between organizational structure and culture; the role of the CEO and management actors; the ability to effectively delegate decision-making, and the alignment between processes, work systems, and information systems.
2012	Kohtamki *et al*.	Participation in strategy planning has a directly positive relationship to the personnel's commitment to effective strategy implementation, which in turn has a directly positive impact on company performance.
2013	Hrebiniak	Implementation as the "doing" part of strategy and there will be obstacles on the way but having a "roadmap" to help with the order of execution decisions as managers confront these obstacles and take advantage of opportunities, are vital for success.
2015	Sull *et al.*	Strategy implementation as a carefully crafted and coordinated top driven approach.
2015	Barrick *et al*.	Implementation as a measure of team processes which includes goal specification; the monitoring progress toward these goals; and monitoring.
2019	Bellamy *et al.*	Clear strategic approaches and strong implementation positively influence success, measured by growth.

Over time extensive discussions and reviews of the concepts and perspectives taken by different writers and researchers have emerged (Ruekert & Walker Jr, 1987; Noble, 1999; Okumus, 2001, 2003; Pryor *et al*., 2007; Crittenden & Crittenden, 2008; Ho *et al*., 2014).

Table 1 is an adaptation and an update on the concepts and perspectives from these reviews.

The evidence from the works of Noble (1999) and Okumus (2001, 2003) indicate that, predominantly, researchers are interested in understanding only one aspect (or dimension) of strategy implementation and how that related to performance (Lamont *et al*., 1994; Waldersee & Sheather, 1996; Kohtamki *et al*., 2012). A close look at the studies in Table 1 support the assertion made by Hrebiniak and Joyce (2001) that strategy implementation research has been fragmented as it has been reported in a variety of management disciplines, for example project management (Bryson & Bromiley, 2006), organization behaviour (Kohtamki *et al*., 2012) and marketing literature (Sashittal & Jassawalla, 2001). This fragmentation has led to discipline-specific measurement and subsequently fails to provide a comprehensive approach to concept measurement. The view of this study, as supported by the position of others like Hrebiniak & Joyce (2001), is that it would be conceptually and analytically useful to measure and combine all these dimensions of strategy implementation to facilitate strategic planning studies aimed at finding the relationship between strategy and performance.

A feature of the literature reviewed (Waterman *et al*., 1980; Stonich, 1982; Hrebiniak & Joyce, 1984; Galbraith & Kazanjian, 1986; Aaltonen & Ikavalko, 2002; Thorpe & Morgan, 2007; Thompson *et al*., 2013; Ho *et al*., 2014) is the consistent view that strategy implementation as a concept is made up of similar and identifiable factors. These common factors are organizational structure; organizational culture; leadership; operational planning; resource allocation; communication; people; and control (see also the McKinsey's *7S Model* by Waterman *et al*., 1980; and the expanded *8 S's Model* by Higgins, 2005). A review of several authors who have written on strategy implementation

(see Noble, 1999; Okumus, 2003; Yang *et al*., 2010), shows that these factors could be grouped into two main variables: structures (organizational) and managerial skills. Structures as suggested by Crittenden & Crittenden (2008) provide the framework or configuration in which organizations operate effectively. Managerial skills are the behavioural activities managers engage in within the structures developed by the organization. These structures (organizational) and managerial skills include formal organizational structure and control mechanisms during implementation, the leadership style of senior managers, including elements such as the delegation of authority and decision making (Nutt, 1983; Bourgeois & Brodwin, 1984; Gupta & Govindarajan, 1984; Hakonsson *et al*., 2012), and the interaction and communication between managers and coalitions of managers within the organizations (Workman Jr, 1993). In summary, based on the foregoing we viewed strategy implementation as:

> *the realization, execution, or putting into action of the organization's strategy through programmes, projects or tasks. Strategy implementation is concerned with the translation of strategy into organizational actions through organizational structure and design, resource planning and allocation, and the management of strategic change*.

Within this broad view we discern eight discrete dimensions or sub-activities of strategy implementation and labeled these as:

1. Project/programmes – the organization's capacity and abilities in undertaking its projects and programmes in the implementation of its strategy.
2. Resource allocation – providing and allocating the necessary resources (for example: technological and budgetary).

3. Organization structure and design – the manner in which the organization structures itself in order to implement its strategy.
4. Senior management involvement – the approach of senior management in encouraging and motivating organizational members in order to implement the strategy.
5. Managing change – how the organization manages the changes during the implementation.
6. Communicating – communication of the strategy for implementation.
7. Perceptions – the way organizational members perceive the organization and implementation managers during the implementation.
8. Feedback and control – the monitoring undertaken throughout the implementation.

These eight dimensions of strategy implementation have been used and described separately in detail elsewhere in management literature. Table 2 provides a summary of the characteristics of these eight dimensions, and cites studies that have discussed each of the dimensions.

The extant literature highlights the fragmented dimensions and measures of strategy implementation impacting the strategic planning, implementation effectiveness and subsequent organizational performance. We aim to address this inconsistency and fragmentation by addressing the questions of:

- *What are the dimensions of strategy implementation that need to be addressed, hence measured?*
- *How can these dimensions be measured to ensure effective strategy implementation?*

- *What is the relative importance of strategy implementation activities (dimensions)?*

Table 2. Characteristics and key attributes of the eight dimensions of the strategy implementation construct

Dimension	Description	Key References
Project and programmes	Implementation incorporates the idea that the strategy needs to be put into action through task accomplishment. The critical variables of time, cost and scope (also known as objectives/targets), and otherwise also known as the 'iron triangle' have to be managed in order to deliver successful projects.	Galbraith & Kazanjian (1986) Grundy *et al*. (1998) Atkinson (1999) Turner (1999) Morris *et al*. (2000) Harrington (2006) Ritson *et al*. (2012) Lehtonen (2014)
Resource allocation	Providing and allocating the necessary resources. The resources that need to be allocated are typically financial, human, technological and knowledge-based.	Dorfman (1983) Lewis & Churchhill (1983) Stevenson & Gumpert (1985) Bhide (2000) Holbrook *et al*. (2000) Andries & Debackere (2006) Keshavjee *et al.* (2006) Barney & Hesterly (2018) Getz & Le (2011)
Organization structure and design	The capabilities the organization has in the design and structuring of its organization in order to put into action the strategy plan. Does the organization have the capacity and capabilities to have a well configured design and is the structure a conscious redesign for the purpose of the strategy it wants to implement? Are there job redefinitions in the organization to support the strategy or does the organization just muddle through?	Sashittal and Wileman (1996) Olson *et al*. (2005) Neilson *et al*. (2008) Slater (2010) Wheelen & Hunger (2017) Barney & Hesterly (2018)
Senior management Involvement	Assesses the leadership and senior management involvement in the implementation of the strategy. Management is about motivating people to accomplish things. During the implementation stage of the organization's strategy, management should provide the leadership that: encourages cooperation across all divisions of the organization so that they exploit the economies of scope that exist in the organization; and coordinates the decisions and actions.	Smith & Kofran (1996) Dooley *et al.* (2000) Collier *et al.* (2004) Henisz & Delios (2004) Barney & Hesterly (2018) Schaap (2006) Kohtamäki, *et al.* (2012) McKnight (2013)

Dimension	Description	Key References
Managing change	The activity that assesses capacity to manage the challenges to organizational identity due to the plans being executed; and manages the impact on individual and resistance to change within the firm. The organization needs to overcome all these issues and have the capabilities to undergo the necessary change without disintegrating. This is done through appropriate training; re-tooling and re-skilling of staff; and equality in the promotion and reward systems. Some also look to entrepreneurship and innovation that give value to the organization.	Balogun (2006) Beckhard & Pritchard (1992) Kanter *et al*. (1992) Goodstein *et al*. (1993) Beer (1994) Burke (1994) Wes *et al*. (1996) Kianfar *et al*. (2010) Ravasi & Phillips (2011) Friesl & Kwon (2017)
Communicating	The activity that assesses capacity to successfully communicate the strategic plan and facilitate employees in making sense of the strategy by providing a shared or clear vision of the strategy priorities and impact to organizational members. This shared meaning aligns attitudes and values, enhancing strategy consensus and implementation effectiveness.	Beer & Eisenstat (2000) Dooley *et al*. (2000) Peng &Littlejohn (2001) Rapert *et al*. (2002) Chimhanzi (2004) Reeves *et al*. (2005) Schaap (2006) Thatcher (2006) Neilson *et al*. (2008) Littlejohn & Foss (2010) Cooran *et al*. (2011) Kleinbaum & Stuart (2014)
Perceptions	To assesses how the organization manages the perceptions held by people in the organization about the organization's ability to implement its strategy. This perception is related to whether the organization has adequate resources and finances, as well as the implementation manager's ability to accomplish the strategy.	Guth & MacMillan (1986) Govindarajan (1988) Noble (1999) Collier *et al*. (2004) Neves (2012)
Feedback and control	To assess the effectiveness of the strategy and actions, and the modification of these actions as necessary. Evaluation and control activities are very important in the overall management model, as they allow managers to evaluate actions and therefore initiate corrective actions —in some cases stimulating the whole process again.	Schendel & Hofer (1979) Waterman *et al*. (1980) Daft & Macintosh (1984) Drazin & Howard (1984) Higgins (2005) Garengo & Biazzo (2012) Kershaw & Molhotra (2012) Ho *et al*. (2014)

To achieve this, we analyzed the stages within the strategy implementation process and identified the dimensions used to operationalize it. We then developed a better measurement method through a multi-dimensional measurement of strategy implementation that will provide consistency, with clear identification of the dimensions managers need to address. Developing capabilities in these dimensions offer an insight as to why organizations outperform each other in the strategic management process.

Methodology

Item development and selection

Based on Table 2 we generated a pool of items for each dimension which reflected the unique characteristics of the separate dimensions and which can be used in a self-completion questionnaire survey.

To ensure face and content validity, a three stage process was undertaken to develop the items to be used in the measuring instrument (Atuahene-Gima, 2005; Katsikeas *et al*., 2006). Firstly, from the literature, a pool of items for each dimension was generated that reflected the individual characteristics of that dimension. Secondly, an assessment of the appropriateness of the items was undertaken by six academics. Each academic was selected based on their acknowledged expertise of the literature relating to a particular dimension. Within this process each of the individual academics were asked to evaluate the theoretical representativeness of each item and suggest the addition or deletion of items. Finally, the pool of items were assessed by a group of practising managers from ten separate organizations who had experience in strategy implementation processes in various sectors to confirm their relevance and clarity. This final stage ensured the selected pool of items were the actual activities managers engaged in when undertaking strategy

implementation processes and addresses the concerns raised as to what managers actual do in practise, as oppose to what we as academics propose in theory (Stewart, 1984, p.325; Jarzabkowski & Wilson, 2006; Shapiro *et al*., 2007; Jarzabkowski *et al*., 2010).

Following these initial processes, a draft questionnaire for pre-testing was produced. Items were rated on a 7-point Likert scale anchored between 1 – 'no extent' to 7 – 'high extent', and respondents were asked to indicate the extent of their agreement. As suggested by Frazer & Lawley (2000, p.33) and Bryman (2016), we used 20 people in the pilot study belonging to three different groups: ten students on the Executive MBA programme at a leading UK university who are senior managers and involved in strategy planning and implementation in their respective organization; five of the practising managers who were involved in the initial assessment; and five final year PhD students. After completing the draft, these people then suggested corrections and refinement for the final questionnaire (see final items in Table 3).

To ensure there was a consistent rating, we informed respondents of the frame of reference for the survey in the covering letter and provided explicit definitions of all key terms (that is: what we mean by the words 'strategy' and 'strategy implementation', and by the phrase 'our organization') in the questionnaire. All these activities ensured we had highly useable responses and virtually no incomplete questionnaires.

Samples, sampling characteristics and profile of key informants

We selected our sample from a leading UK supplier of high quality business and financial information company's database. We used a purposive quota sampling technique for practical considerations, to ensure the sample was representative of the key variables in

the study, namely firm size, industry type and firms facing different forms of environmental turbulence. We were aware this sampling technique was a non-probability sampling and this could result in generalization problems. However, as noted by Blair & Zinkhan (2006, p.5-6), Trochim (2006) and Bryman (2016) non-probability samples do not necessarily mean that they are not representative of the population, as the generalizability of academic research is fairly robust with respect to variations in sample quality, and this can be achieved via various means, including replication by other researchers.

Ten industry sectors in the industry classification benchmark (ICB) grouping were taken as ten quotas, namely oil and gas, basic materials, industrials, consumer goods, healthcare, consumer services, telecommunications, utilities, financials, and technology. In each of these quotas, a purposive selection was made, mindful of their firm size, industry type and firms facing different environmental turbulence.

In keeping with previous practice in strategic management research, the CEO or their immediate executive were identified and used as the key informant; since they are the most significant person who has influence in the strategic planning process in the organization (Wrapp, 1984; Miller, 1987; Hax & Majluf, 1991; Hopkins & Hopkins, 1997; Brew & Hunt, 1999; Kim *et al*., 2004; Boppel *et al*., 2014).

To ensure respondents had adequate knowledge of the strategy implementation process in the organization; have access to any information required; and have the authority to provide it (Campbell, 1955; Frazer & Lawley, 2000, p.19; Katsikeas *et al*., 2006, p.874), four items were used on a 5–point scale (see Appendix 1). This informant (respondent)

quality procedure has been used successfully in previous research to assess informant knowledge (Joshi & Sharma, 2004; Atuahene-Gima, 2005; Katsikeas *et al*., 2006).

We sent out 1,000 questionnaires to the sample drawn from the database and received 208 useable responses, representing a 20.8 percent response rate. The mean composite rating for informant (respondent) quality procedure was calculated to be 4.38; which, on a 5-point Likert scale indicates high knowledge and confidence among respondents to the study and bears favourable comparisons with previously cited studies that have used this procedure (Joshi & Sharma, 2004; Atuahene-Gima, 2005).

We checked for non-response bias by using a *t*-test to show that there were no significant differences between those who completed the survey and those non-respondents; and also between early and late respondents (Armstrong & Overton, 1977; Tanriverdi & Venkatraman, 2005, p.106; Katsikeas *et al*., 2006, p.875; Leary, 2014). We further checked for common method bias (CMB) using the Harman one-factor method (Podsakoff & Organ, 1986; Chang *et al*, 2010). A principal components factor analysis of all measures yielded 23 factors with eigenvalues greater than 1.0, and with a total explained variance of 73 percent. As several factors were uncovered and the first factor accounted for only 23 percent of the variance, we concluded that CMB may not be a serious problem (Menon *et al*., 1999, p.31; Atuahene-Gima & Murray, 2004, p.40; Joshi & Sharma, 2004, p.54).

Additional measures

We took three additional, previously validated measures: intelligent-failure reward system, organization size, and organicity index (mechanistic or organic organizational

type) in order to develop the nomological network for construct validation of the newly developed strategy implementation construct (Cronbach & Meehl, 1955; Spiro & Weitz, 1990; Tanriverdi & Vankatraman 2005).

Providing some form of reward in terms of pay, compensations and incentives are ways organizations encourage their members to strive and achieve higher performances (Wright *et al*., 2005; Zenger & Marshall, 2000). An intelligent-failure reward system is another way of encouraging the implementation manager to provide inputs into strategy making in the organization. As a result, instead of using conventional methods of reward when outcomes are achieved and punishments if they are not (Leonard 1988; Dougherty & Hardy 1996), a reward is provided for the manager regardless of the immediate success or failure during the implementation periods (Kanter 1988; Sitkin 1992; Sarin & Mahajan 2001; Carmeli *et al*., 2012). This reward is provided for the manager based on the extent to which they undertake creative and learning-oriented activities, and renders this as feedback for developing the organization's strategy. We used a 5-item section (see Appendix 2) with a 7–point Likert scale (Atuahene-Gima & Li, 2002; Atuahene-Gima & Murray, 2004; Joshi & Sharma, 2004).

Previous studies have operationalized firm size as a single indicator, predominantly using the number of employees (Fredrickson & Mitchell, 1984; Slevin & Covin, 1997; Miller *et al*., 1998; Atuahene-Gima & Murray, 2004; Atuahene-Gima, 2005), while other researchers used total assets as a single indicator (Hopkins & Hopkins, 1997; Aldrich, 1999; Andersen**,** 2004). However, in keeping with the concept of using multiple indicators in all the construct measurements as previous studies have (Boyd *et al*., 2005; Gibson & Cassar, 2005), we used three items: employee total headcount (both full-time

and part-time), sales, and total assets. In the final analyses, we used log transformations to normalise all size indicators.

We measured the organicity index using a popular scale applied and validated over the years (Covin & Slevin, 1989; Slevin & Colvin, 1997; Glaister & Falshaw, 1999; Gibbon & O'Connor, 2005), initially developed by Khandwalla (1977). This structural 'organicity', or its opposite, 'mechanisation', scale has been popularized through the works of Bums & Stalker (1961), Lawrence & Lorsch (1967), Khandwalla (1977) and many others, and continues to be extensively used to describe essential differences in these two structural forms (Stopford & Baden-Fuller, 1994; Green *et al*., 2008). A 7-item scale was used to measure the firm's organicity index, with a higher index indicating that the firm is more organic in structure (see items used in Appendix 3).

Analyses and results

We are aware that there has been considerable criticism of measurement issues in strategic planning research, particularly the way constructs were being measured and assessed (Venkatraman & Grant, 1986; Babbie, 1989; Montgomery *et al*., 1989; Snow & Thomas, 1994; Godfrey & Hill, 1995; Boyd *et al*., 2005). We therefore paid particularly careful attention to the selection and retention of items used in our measures, whilst at the same time ensuring that noisy items that cross-load were eliminated. Although there is some support for being parsimonious, our philosophy in item measures was to use as many items that define and exploit the domain of the particular construct being measured as appropriate. This approach has support both in the strategic management literature and the field of statistics (Blalcok, 1968, 1979; Cook & Campbell, 1979; Boyd *et al*., 2005). The use of a diverse array of variables from different sources to operationalize a construct

is suitable for matching more predictors with broad outcomes to allows more variance to be explained, for *examining the construct validity of the measurements* and is of the utmost importance in enhancing the generalizability of final results (Cronbach *et al*., 1972; Roznowski & Hanisch, 1990; Ones *et al*., 1996; Hanisch *et al*., 1998).

We undertook three main methods of assessment (uni-dimensionality, reliability and validity) supported in the literature for item purification and validating measures (Nunnally, 1978; Churchill Jr, 1979; Gerbing & Anderson, 1988; Steenkamp & van Trijp, 1991; Kanyurhi, 2017). We initially undertook item purification by an exploratory factor analysis (EFA), although we discern a-priori structure of the measures.

Uni-dimensionality was assessed by separately considering each sub-construct to identify a set of unique items underlying the make-up of that construct (Hattie, 1985; Steenkamp & van Trijp, 1991). We initially assessed this using EFA to check that all items loaded well on the factor being assessed. The procedure was carried out with the statistical programme for social scientists (SPSS) by examining the factor loadings when undertaking a principal component analysis (PCA) and using varimax rotation. In some cases, items that did not load significantly on the assigned factor or tended to cross-load on many factors were deleted. Finally, the procedure was repeated again, this time, only one factor was extracted (see Table 3). In the process of doing this check, the EFA indicated that the project/programme management constructs are not one-dimensional, thus we had to separate them into two separate constructs in order to conform to our uni-dimensionality test (see Table 3). Similarly, the managing change construct had to be separated into two. This test meant that although we started with eight sub-constructs for the implementation construct; we ended up with ten. We renamed these as project

management (accomplishment) and project management (importance), and support during managing change and leadership during managing change respectively.

Table 3. Items (measures) and factor loadings

	Description of Measure	Factor Loading		Descriptives	
		1	2**	Mean	S.D.
1.0 Projects/programmes management					
1.1	We typically accomplish projects/programmes within cost.	.861		4.99	1.26
1.2	We typically accomplish projects/programmes within stated objectives.	.801		4.86	1.31
1.3	We typically accomplish projects/programmes within schedule.	.736		5.16	1.10
1.4	In the accomplishment of our projects/programmes stated objectives are very important.		.691	5.28	1.37
1.5	In the accomplishment of our projects/programmes cost considerations are very important.		.714	5.37	1.24
1.6	In the accomplishment of our projects/programmes schedules are very important.		.860	5.49	1.20
1.7*	Team members for projects/programmes spend more than 50% of their time on team activities.	.287		3.99	1.60
2.0 Resource allocation					
2.1	Our organization provides up to date technological infrastructures (e.g. IT resources) for task accomplishment.	.797		4.64	1.69
2.2	Priority is given to projects/programmes that meet the organization's strategy when it comes to allocating financial resources.	.745		5.59	1.09
2.3	Our organization always has adequate budgetary allocation for resource provision for actions to be done.	.750		4.45	1.50
2.4	Our organization typically has no problems in securing capital for the implementation of its strategy.	.642		5.36	1.29
2.5*	Our organization does not have to outsource any of its primary functional activities during the implementation of its strategy.	.500		4.58	1.76
2.6*	Our organization outsources some of its support functional activities during the implementation of its strategy.	.080		3.31	1.90
3.0 Organization design and structuring					
3.1	Our organization has a well-configured organizational structure for the implementation of its strategy.	.840		4.81	1.43
3.2	Our organization allocates time and efforts necessary in planning organizational forms that support its strategy implementation.	.906		4.46	1.54
3.3	Our organization essentially ensures that functions are aligned with its strategy.	.732		4.81	1.25
3.4*	Our organization has to undertake a conscious redesign of its organizational structure in order to implement its strategy.	-.064		3.64	1.58
3.5	Our organization does not always have to undertake a conscious redesign of its structure, but has to muddle through (reverse item)	.606		5.10	1.57
4.0 Senior management involvement					
4.1	Our senior management is involved in the implementation process.	.829		6.05	1.18
4.2	Our senior management provides a management style that supports the cooperation of cross-functional teams.	.777		5.13	1.47

	Description of Measure	Factor Loading		Descriptives	
		1	2**	Mean	S.D.
4.3	Our senior management provides a management style that encourages the exploitation of the economies of scope (or scale) that exist in the organization.	.839		4.89	1.31
4.4	Our senior management provides a management style that coordinates the decisions and actions of implementation managers in order for them to implement the strategy.	.864		4.85	1.16
5.0 Managing change					
5.1	Our organization has the right reward and compensation procedures in place that encourages actions to be done.	.876		5.12	1.28
5.2	Our organization has the right training and development procedures in place that encourages actions to be done.	.785		3.37	1.38
5.3	Our senior management is committed in providing a culture that rewards individuals for their innovation and entrepreneurialship.	.783		4.36	1.27
5.4	Our organization actively reviews and provides the right administrative policies.	.675		4.55	1.53
5.5	Line managers are constantly motivating people into action.	.640		4.52	1.41
5.6	Our organization is able to manage change through the creation and dispersion of knowledge throughout the firm.		.697	4.45	1.28
5.7	During implementation of its strategy, our organization is able to manage bureaucratic systems or structures whose interferences could negate professional efforts.		.702	5.08	1.45
5.8	Our organization is able to manage power differences within organizational units or divisions.		.676	4.49	1.20
5.9	Our organization is actively involved in managing change in the implementation of its strategy.		.646	4.57	1.43
5.10	There is a commitment by all members of the organization in implementing the strategy.		.859	4.71	1.41
5.11	There is no resistance to change during the strategy implementation process.		.785	4.14	1.52
6.0 Communication					
6.1	All stakeholders in this organization have a shared or clear vision of the strategy during the implementation process.	.750		4.66	1.28
6.2	Our organization typically provides clear lines for operational teams to communicate with senior management.	.815		5.27	1.17
6.3	Management is always finding ways to encourage members to identify themselves in roles that the organization's strategy represents.	.824		4.33	1.30
6.4	We typically present the organization's strategy to people in a simple, but clear language that facilitate proper understanding.	.822		5.26	1.45
6.5	Our organization's information and decision processes are clear so as to provide an interactive way to accelerate strategy implementation.	.834		4.58	1.39
7.0 Perception					
7.1	People in our organization have the perceptions that the organization's strategy is communicated adequately to them.	.794		4.22	1.45
7.2	There is the perception in the organization that the strategy can be implemented.	.883		5.09	1.32
7.3	There is a perception that the implementation manager who drives the process has sufficient authority to mobilise and implement strategy.	.852		4.94	1.21
7.4	There is a perception that the implementation manager who drives the process has the respect of the senior management or people who developed the strategy.	.832		5.25	1.31

	Description of Measure	Factor Loading		Descriptives	
		1	2**	Mean	S.D.
7.5	People in our organization have the perceptions that the organization will allocate resources for the implementation of its strategy.	.776		4.94	1.39
8.0	**Feedback and control**				
8.1	Our organization has the right feedback measures in place to ensure on-going revision of the strategy.	.866		4.24	1.67
8.2	Our organization has the right control measures in place to ensure on-going revision of the strategy.	.866		4.6	1.57
8.3	Our organization does not only just provide resource allocations but also has the capacity to control and monitor this during task accomplishment.	.873		4.05	1.51
8.4	Strategy developers have access to feedback during the implementation to adjust plans if necessary.	.859		4.70	1.41
8.5	Our organization facilitates an atmosphere of continuous learning that keeps team members well informed.	.830		4.73	1.51
8.6	Our organization has a system in place that allows for the adjustment of plans when required.	.862		4.97	1.58

* Item deleted in the final scale
** Second factor extracted in principal component analysis using varimax rotation

When multiple items are used to measure the same concept, it is expected that these items will correlate well with each other. In other words, the measure will have internal consistency. We use the internal consistency method of assessing reliability to verify the homogeneity of the scale by calculating the Cronbach's coefficient alpha statistic (Litwin, 1995, p.24). As indicated in Table 4, all the coefficients are above 0.7, which, according to Nunnally (1978), is acceptable in an exploratory study. In some instances, some items had to be deleted, or reversed in order to improve the coefficient. However, before any items were deleted or reversed, the inter-item correlation matrix was examined to establish that the item correlated very poorly with other items in the scale. Furthermore, the item statement was also re-examined to see whether it made sense to delete it from the scale. Such item purification procedures identify a set of items that parsimoniously capture the variance of the data, thereby helping to eliminate unreliable items, has been used successfully by past researchers (Tanriverdi & Venkatraman, 2005; Katsikeas *et al*., 2006).

Table 4. Implementation construct - correlation and descriptive statistics (*N* = 208)

		1	2	3	4	5	6	7	8	9	10	Mean	Std. Dev.	AVE	Cronbach Alpha
1	Project management - accomplishment	1										5.00	1.005	0.64	0.76
2	Project management - importance	.357	1									5.38	0.986	0.58	0.67
3	Resource allocation	.420	.206	1								4.92	1.010	0.54	0.72
4	Organization design and structure	.537	.479	.544	1							4.80	1.130	0.61	0.78
5	Senior management involvement	.484	.329	.548	.673	1						5.23	1.060	0.69	0.84
6	Managing change - support	.432	.308	.542	.583	.538	1					4.60	1.157	0.57	0.88
7	Managing change - leadership	.325	.355	.384	.605	.571	.732	1				4.39	1.109	0.53	0.90
8	Communication	.438	.300	.498	.577	.685	.767	.780	1			4.82	1.069	0.66	0.87
9	Perception	.366	.328	.611	.638	.672	.739	.769	.811	1		4.89	1.104	0.69	0.88
10	Control and feedback	.352	.397	.557	.692	.598	.738	.785	.754	.830	1	4.55	1.325	0.74	0.93

Notes: All sub-constructs were measured on a 7-point scale. All significance tests are two-tail ($p < 0.01$).

We paid close attention to assessing validity as suggested by some researchers such as Messick (1989), who argued that construct validity should be the main type of validity of interest to researchers in quantitative measurement. This was suggested and used by previous researchers (Atuahene-Gima & Murray, 2004, p.41; Joshi & Sharma, 2004, p.54; Atuahene-Gima, 2005, p.67). As such, we established construct validity using two main construct validity types — convergent and discriminant.

Convergent validity was assessed by examining the internal consistency (or correlation) among items that make up the scale; typically, researchers use Cronbach's coefficient alpha (Huh *et al*., 2006). Additionally, Fornell & Larcker (1981) suggested that a construct displays convergent validity if the average variance extracted (AVE) is at least 0.50 (Menon *et al*., 1999; Atuahene-Gima & Murray, 2004, p.39). Table 4 indicates that

both the Cronbach's coefficient alphas and AVE for the sub-constructs are all above the acceptable levels.

We concluded that the respective sub-construct has acceptable discriminant validity, since an examination of the correlation matrix table shows that they do not highly correlate above the suggested cut-off value r = 0.85 (Hair *et al*., 2006; Garson, 2010). It was also established during the factor analysis that respective indicators load most heavily on their own factors and less on other factors (Bailey *et al*., 2000).

The strategy implementation construct

The strategy implementation construct was formed as a multidimensional construct with the following dimensions — project management (accomplishment), project management (importance), resource allocation, organization design and structure, senior management involvement, managing change (support), managing change (leadership), communication, perception, and feedback and control. Each of the dimensions were pre-assessed and prepared, and the composite measure was formed by averaging the scores of the ten dimensions. After the formation, the strategy implementation construct had a Cronbach's coefficient alpha 0.92, which is very high and well within acceptable levels (Nunnally, 1978).

We observed that there seemed to be high correlation among the various dimensions. However, Aiken & West (1991), and Jaccard & Turrisi (2003) note that such co-linearity of independent construct components, when formed into a scale, index or other construct is desirable and should not be considered as a possible multicollinearity issue. We used Hair *et al*.'s (2006) rule of thumb suggestion that multicollinearity could be a problem if

a correlation is greater than 0.90, or several are greater than 0.70 in the correlation matrix formed by all the independent variables (see e.g. Caputo *et al*., 2019, p.28). An examination of the correlation matrix (see Tables 4) indicates that this condition was satisfied (the highest correlation is 0.83). Therefore, we concluded that collinearity was not a problem.

Validation of the strategy implementation scale

In the strategic management literature, there is a plethora of issues and criticisms relating to construct validity, particularly for newly developed scales (Blalcok, 1968, 1979; Venkatraman & Grant, 1986; Venkatraman & Ramanuujam, 1986; Boyd *et al*., 2005). Following is an explanation on how we achieved and established construct validity.

The initial basis of construct validity is to examine the domain of the concepts to ensure sound procedures on face and content validity. This was done, as outlined in the item development and selection section of this paper. To address the issue of whether the respective dimensions (factors) are a good representation of the strategy implementation, we produced Table 5 in support. To overcome individual weakness of central tendency (Ghauri & Gronhaug, 2005; Bryman & Cramer, 2011) we quote the mean, mode and medium, and include the percentages of variance explained for the factors by their respective items. All the factors exceed the midpoint value of 4 on a 7-point scale bar feedback and control mode of 3.83. The Cronbach's alpha values also exceed Nunnally's (1978) suggested value of 0.7.

Table 5. Additional descriptives of the strategy implementation construct (*N*=208)

	Dimensions	Mean	Median	Mode	Std. dev.	No. of items	percentage of variance
1	Project management - accomplishment	5.00	5.33	5.33	1.005	3	67.13
2	Project management - importance	5.38	5.33	5.33	0.986	3	60.55
3	Resource allocation	4.92	5.00	4.60	1.010	4	48.27
4	Organization structure and design	4.80	5.00	5.75	1.130	4	61.05
5	Senior management involvement	5.23	5.25	6.00	1.060	4	68.53
6	Managing change - support	4.60	4.80	4.80	1.157	5	67.91
7	Managing change - leadership	4.39	4.50	4.67	1.109	6	67.00
8	Communicating	4.82	4.90	5.00	1.069	5	65.52
9	Perception	4.89	5.00	4.80	1.104	5	68.61
10	Feedback and control	4.55	4.50	3.83	1.325	6	73.87

Note: Dimensions measured on a 7–point Likert scale

Furthermore, for all the factors there was a 50 percent or more variance explained, indicating the constituent items load well on the same factor. As a result, all indications from the tables suggest the respondents see this set of factors as uniquely important during the strategy process and could be inferred that they are a good representation of the strategy implementation concept.

Establishing nomological validity

Cronbach & Meehl (1955) suggest that establishing nomological validity could provide more evidence for construct validity (Podsakoff & MacKenzie, 1994; Wang & Netemeyer, 2004; Tanriverdi & Vankatraman 2005; Kanyurhi, 2017). To do this, Cronbach & Meehl (1955) suggest that one has to develop a nomological network for the measure. This network should use at least two other constructs to show associations with the construct in question, and include the theoretical framework for what is being measured, an empirical framework for how it is going to be measured, and specification

of the linkages among and between these two frameworks (Schroeder *et al*., 2002; Trochim, 2006).

We used the three additional measures - intelligent-failure reward system, organicity index, and organization (firm) size to show associations with the new strategy implementation construct. In this test, we hypothesised that an intelligent-failure reward system will be significantly positively correlated with the strategy implementation. The basis is that a reward provided for the manager – and based on the extent to which they undertake creative and learning-oriented activities, and rendered this as feedback for developing the organization's strategy – regardless of the immediate success or failure would be good for an implementation activity (Kanter 1988; Sitkin 1992; Sarin & Mahajan 2001). We also hypothesized that organizations with an organic and fluid type of organizational structure, by the nature of their less rigid and bureaucratic system, allows for better decision making and there will be less inhibitions to carry out their implementation activities (Covin & Slevin, 1989). Therefore, an organic type of structure will be positively correlated with the strategy implementation. Finally, we also hypothesised that larger organizations, by nature of their economics of scale, will be better placed at carry out their implementation activities (Grinyer & Yasai-Ardekani, 1981) and consequently, size will be positively correlated with strategy implementation.

We undertook this validation test by carrying out two analyses. First, undertaking a Pearson's correlation analysis between the three variables and the newly developed Strategy Implementation construct. Second, undertaking a hierarchical regression that hypothesized relationships between the three variables and the strategy implementation construct, and establishing a validation equation.

Table 6. Correlations and descriptive statistics for nomological validation

		1	2	3	4	Items in the scale	Mean	Std. dev.	Cronbach alpha
1	STRATEGY IMPLEMENTATION	1							0.92
2	Intelligent reward system	0.646*	1			5	3.62	1.181	0.92
3	Organicity index	0.339*	0.302*	1		7	4.09	0.845	0.74
4	Organization size	0.076	-0.052	-0.073	1	3	2.37	0.780	0.79

* Correlation significant at $p < 0.01$; 2-tail.

For the first analysis, and as highlighted in Table 6, two other constructs (intelligent-failure reward system and organicity index) have a significant association ($r = 0.646$; and $r = 0.339$ respectively) with strategy implementation thus confirming nomological validity which in turn suggests good construct validity for the new Strategy Implementation construct.

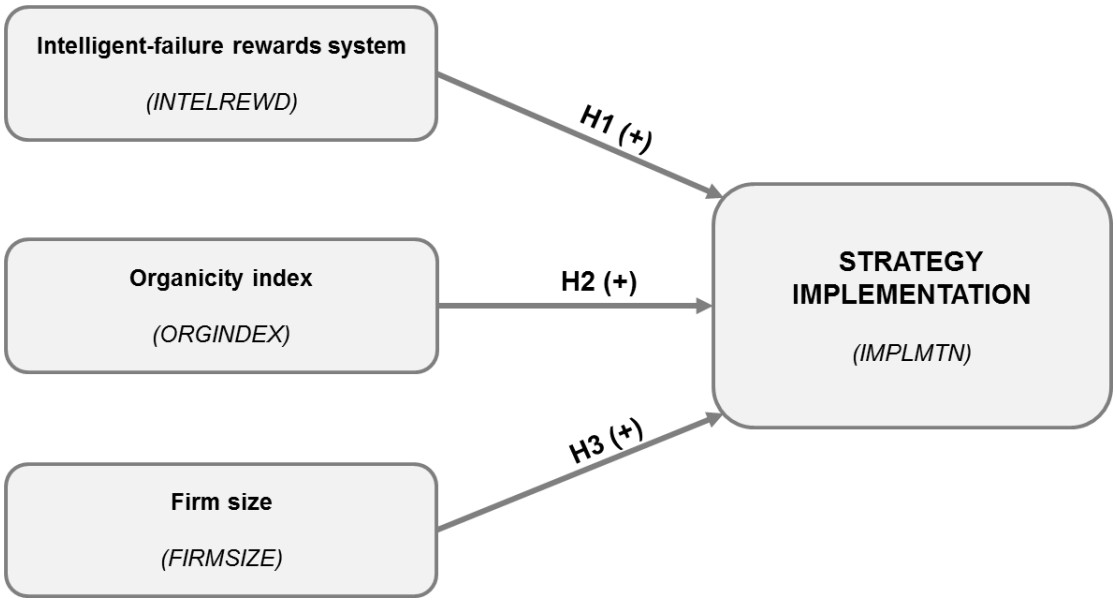
For the second analysis, we hypothesised that the three independent variables, the intelligent-failure reward system; organicity index; and firm size have a direct effect on the newly developed construct (strategy implementation). These direct effects, we further hypothesized will all be positively related to the new construct as indicated in Figure 1 and the three hypotheses as follows[i]:

H1: Intelligent failure reward system will be positively associated to strategy implementation.

H2: Firms that operate in an organic type of structure will be positively associated to strategy implementation.

H3: Firm size will be positively associated with strategy implementation.

Figure 1: Conceptual diagram showing the relationship of some variables with the new strategy implementation construct



We also specified the validation equation below and tested the hypothesis using a hierarchical regression analysis. The results of testing the regression are in Table 7 and 8.

$$IMPLMTN = \alpha_0 + \alpha_1(INTELREWD) + \alpha_2(ORGINDEX) + \alpha_3(FIRMSIZE) + \varepsilon$$

Where:

IMPLMTN = strategy implementation

INTELREWD = intelligent reward system

ORGINDEX = organicity index (mechanical/organic structure type)

FIRMSIZE = firm size

α's are the regression coefficients, whilst ε_1 is the error term. It has been noted that in the SPSS programme the error terms ε_1 is combined with α_0 respectively as the *constant* value (Field, 2018; Norusis, 2008).

Table 7: Estimation of the validation equation and test of hypotheses

Model	R	R square	Adjusted R square	Std. Error of the estimate	Change statistics					Durbin-Watson
					R square change	F change	df1	df2	Sig. F change	
1	.646	.417	.414	31.215	.417	147.486	1	206	.000	
2	.663	.440	.435	30.669	.023	8.395	1	205	.004	
3	.674	.454	.446	30.354	.014	5.278	1	204	.023	2.210

1. Predictors: (constant), intelligent reward system
2. Predictors: (constant), intelligent reward system, organicity index
3. Predictors: (constant), intelligent reward system, organicity index, firm size

Dependent variable: STRATEGY IMPLEMENTATION

Table 7 shows the model summary of when the variables were entered into the hierarchical regression analysis and altogether, 45.4 percent (ΔR^2 is 0.454) of the variance in strategy implementation was explained by the three entered variables and model specified for the equation was significant at $p < 0.05$ (Sig. *F change* = 0.023).

The summaries of the regression results in the tables (Table 8) indicate that the $p < 0.05$ significance levels for the regression coefficients were achieved for all the supported hypotheses even for the *Intelligent Reward System* construct, this was at a higher level ($p < 0.001$).

Table 8: Summary of regression weights and hypotheses results for validation equation

Variables	Hypotheses	Unstandardized coefficients	t-value	Sig.	Results of hypothesis testing
(Constant)		98.222	7.435	.000	
Intelligent reward system	*H1*	4.159	11.089	.000	H1: supported
Organicity index	*H2*	1.147	3.060	.003	H2: supported
Firm size	*H3*	2.079	2.297	.023	H3 supported

Note: Dependent variable is STRATEGY IMPLEMENTATION.

From the above table, we can now write the validation equation as:

$$IMPLMTN = 98.22 + 4.16(INTELREWD) + 1.15(ORGINDEX) + 2.08(FIRMSIZE)$$

We checked for empirical validation by splitting the existing sample into two random parts and compared them to ensure we had similar results in terms of the significance of variables; sign and size as with our full sample (Hair *et al*., 2006, pp.233–234).

Discussion

In addressing the questions of: *What are the dimensions of strategy implementation that need to be addressed, hence measured?; How can these dimensions be measured to ensure effective strategy implementation?;* and *What is the relative importance of strategy implementation activities (dimensions)?* We analysed the stages within the strategy process and identified a comprehensive range of dimensions, developing a multi-item scale for each dimension for robustness and validity, to provide a consistent measure methodology for effective strategy implementation. By identifying the factors considered important to organizational participants during the strategy process, then applying multi-dimensional measures for strategy implementation, we offer an additional benefit of taking a step towards closing the scholar-practitioner relevance-rigour divide (Jarzabkowski *et al.*, 2010).

The analyses indicated the newly developed scale had very good reliability and validity, being the most important characteristic of a good measure (Cook & Campbell, 1979; Hewitt & Cramer, 2017, 2011; Leary, 2014). The scale development have not only used a multi-dimensional approach, but also used multi-items in the development of the scale,

thereby addressing the criticisms of past researchers such as Boyd *et al*. (2005). We further note that the fields of management research generally use multiple indicators and indexes for measuring complex phenomena - typically organizational concepts (Bagozzi & Phillips, 1982; Chakravarthy, 1986; Bhargava *et al.*, 1994; Katsikeas *et al*., 2000). Therefore, using multi-dimensional measures in this study provides greater insight into strategy research.

While organizations have invested significant resources in developing the know-how and insights to create the right strategy formulation (Zagotta & Robinson, 2002; Pryor *et al*., 2007; Neilson *et al*., 2008; Greer *et al.*, 2017), the implementation is often neglected, somewhat of an 'afterthought' (Raps, 2004, p.53). The word 'implementation' is notably absent in earlier texts (Ansoff, 1965; Ackoff, 1970; Armstrong, 1982), with Armstrong (1982) effectively relegating it to an administrative function, resource allocation or organizing activity rather than a strategic endeavour. Andrews (1971) and Galbraith & Kazanjian (1986) are notable exceptions, clearly identifying formulation and implementation stages. Humphreys (2004) and Atkinson (2006) consider implementation less 'glamorous', relegated to 'lower-levels for execution' (Hrebiniak, 2006, p.13). In later text, theorists have identified this gap, calling for greater focus on implementation as a core organizational competency (Fauli & Fleming, 2005; Hrebiniak, 2006; Pryor *et al*., 2007; Crittenden & Crittenden, 2008; Neilson *et al*., 2008; Vaara & Whittington, 2012), highlighting its importance and unique role in the strategy process and organizational success (Allio, 2005; Greer *et al.*, 2017; Lindsay *et al*., 2018).

It is within this context that past research has sought to develop ways to measure strategy planning, with some developing multi-dimensional measures (Bailey *et al*., 2000). With

the lack of extent literature and validation measurement scales able to be utilized in investigating strategy implementation and its effect in the planning – performance relationship (Noble, 1999; Pryor *et al*., 2007) we have sought to address this gap. The development of a scale to measure strategy implementation is a significant contribution and a sound platform for future studies. This study thus addresses the concern of those people who have said researchers in strategy implementation are confronted with the challenge of the lack of a scale to measure this activity in the strategy process (Noble, 1999; Chebat, 1999; Hrebiniak & Joyce, 2001; Hrebiniak, 2006, 2013). The resultant benefit of this successful development and validation of a multi-dimensional, multi-item scale to measure strategy implementation effectiveness allows future researchers to utilise and further validate the scale in strategy implementation research. Thus, addressing the lack of current measurability methods highlighted by such theorists as Noble (1999), Boyd *et al*. (2005) and Pryor *et al*. (2007).

Strategy implementation is considered as a stage in the whole strategy process by those who subscribes to a view of strategy as rational/logical, sequential and consciously predetermined (Ansoff, 1965; Ackoff, 1970; Andrews, 1971; Ansoff, 1991). An alternative view of strategy implementation is to see it as part of learning and an inseparable emergent process (Lindblom, 1959, 1968, 1979; Mintzberg, 1973; Quinn, 1980b; Mintzberg & Rose, 2003). The proponents on this side of the debate suggest that strategy implementation is more of a response or consequence of the emergent nature of the strategy development process (Majone & Wildavsky, 1978). However, the empirical evidence from this study, which contributes to the debate, suggests that rather than seeing it as a response to an emerging strategy; organizations recognize implementation as a set

of activities on which they place higher emphasis and must seek to develop requisite capabilities for them.

To support this, in developing our multi-dimensional measure we expanded Noble (1999) and Okumus's (2003) measures, along with dimensions or sub-activities sourced from more extant literature (see example Yang *et al*., 2010) to collate eight discrete strategy implementation dimensions. To this, we developed multi-item measures and expanded this further to provide a ten dimensional measure, thereby providing a comprehensive multi-dimensional scale that not only strengthens the various measures identified from literature, we also identified the dimensions practicing managers consider requisite competencies in effective strategy implementation to provide a holistic approach (see Figure 2).

Figure 2: The ten dimensions (activities) of strategy implementation

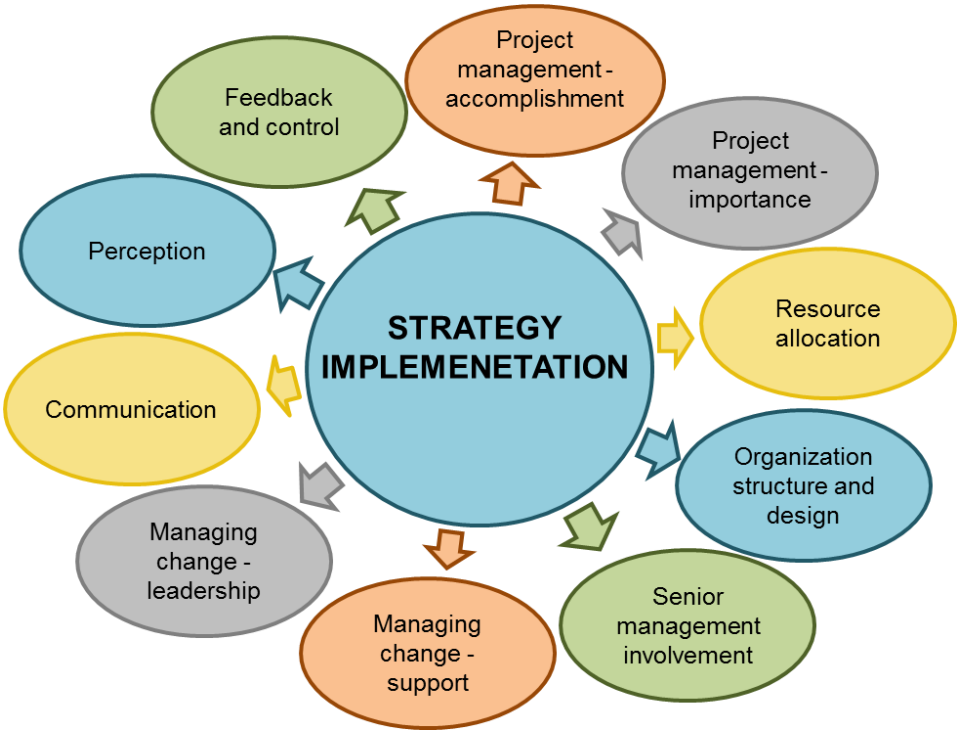


Figure 2 illustrates how practicing managers should see these strategy implementation dimensions (activities) as interconnected. As such, this study contributes to management practice by highlighting the ten major activities managers need to address as they implement their strategy. The descriptive statistics table (Table 5) shows that, apart from the mode for the feedback and control activity, all the values of the three averages are all above the midpoint of 4 in the 7-point measurement scale. This suggests that the respondents in this study see this set of dimensions as uniquely important during the strategy implementation process and developing capabilities in them is essential. Engaging in these activities in the implementation of strategy could offer an explanation why some organizations out-perform others and should therefore be at the fore-front of any strategy development initiatives. Essentially, all of these dimensions (activities) are important, as emphasised by the high values of percentage variances explained in Table 5, with very small differences in most of these values. In using information from Table 5, we rank their importance by the percentage of variance explained by each with the strategy implementation to give an indication of their relative importance.

As illustrated in Figure 3 in terms of ranking, feedback and control (73.87 percent); perception (68.61 percent); senior management involvement (68.53 percent); and managing change – support (67.91 percent) ranks the highest respectively. The mutually and combinative effects of these four activities highlight how senior management involvement is vital for successful strategy implementation. The most highly ranked activity, feedback and control (73.87 percent), sets the tone of how the senior managers see and respect the views of others in any strategy management within the organization. They view listening to the middle managers and lower hierarchical members of the

organization as vital (Wood & Bandura, 1989; Marginson, 2002) to putting the strategy they have crafted to work.

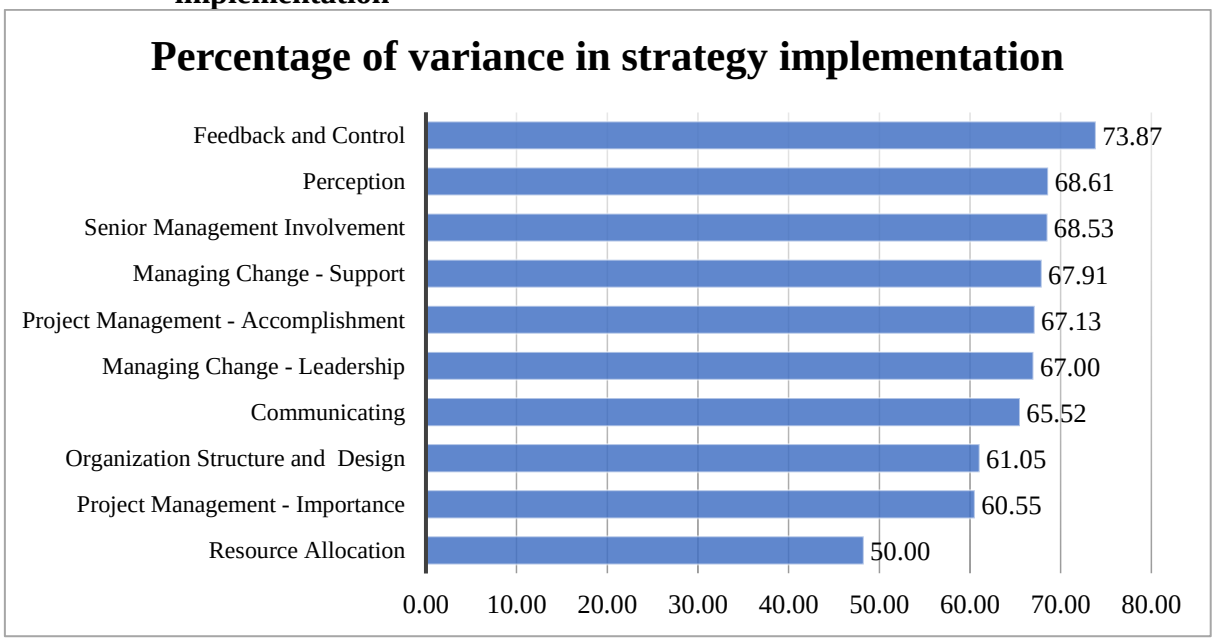
The respondents in our study are senior managers (for example the CEO or their immediate executive) in their organizations, and they seeing themselves as playing key roles during the strategy. This addresses the criticisms they are only sitting up high and mighty in their hierarchical position crafting strategy but not really 'getting their hands dirty' in putting that strategy into action (Andersen, 2004; Raps, 2004; Crittenden & Crittenden, 2008). Here, we see a reversal from the proverbial 'top-down' approach used by management in the strategy management process (Wheelen & Hunger, 2017) where the criticisms had been that senior management craft strategy at the top and then only pass it on to lower members of the organization to deliver. (Mintzberg, 1978; Burgelman, 1983; Mintzberg & Waters, 1985; Burgelman & Grove, 2007). The results of our study therefore show that senior management are aware of this and still follow a top-down approach, even during the implementation stage by getting tightly involve in the process and 'getting their hands dirty'. There is also recognition by the senior managers that '*the greater the interaction between 'doers' and 'planners' ...the higher the probability of implementation success*' (Hrebiniak, 2006, p.14). There is an element of trust and support in managing the strategy change that comes about during the implementation process (Sørensen *et al*., 2011; Sverdrup & Stensaker, 2017), reflective of how the mangers think they are perceived by the organizational members.

If we recognise that perception is a process of how organizational members would acquire, receive, select, transform, organise and interpret what they see as the seniors manager's intensions and reality whilst appreciating the physical and social processes

which gives meaning to their environment and how they make sense of where they want to take the organization (Berelson & Steiner, 1964, p.88; Barber & Legge, 1976). Therefore, the way in which senior managers appreciate how they are perceived by the organizational members is vital to the implementation of the strategy itself (Grösnhaug & Falkenberg, 1989; Buss & Kuyvenhofen, 2011; Hasan *et al*., 2011; Özleblebici & Çetin, 2015).

The integrative nature of these activities is not lost on the respondents of this study. From Table 5, we note the highest modal response for the strategy implementation activities was senior management involvement. With a modal value of 6, senior management involvement is very high on the 7-point measuring scale. We therefore see that the one most singular activity being highlighted by the senior managers was their own involvement in the strategy implementation process (Fulmer & Gelfand, 2012; Loonam *et al*, 2014).

Figure 3: Ranking of the variance explained by the dimensions of strategy implementation



The study does have limitations that need to be taken into account when considering its contributions. The scope of this study looked only at organizations in UK industries. The data used for this study were taken from UK publicly quoted companies only. As such, this poses a limitation on the generalization of any results. The study is also limited to the database used and the various inputs provided by the senior managers and academics in the field of strategy planning and implementation. It is presumed that this set of people have knowledge and insight into the problems being investigated. Therefore, although every attempt was made to source responses from those with first-hand knowledge, and the key informants were senior managers in the respective organizations, this could, in effect, be a limitation. The study is limited to the variables included in the conceptual framework used in the investigation. As such, it is acknowledged that it would be practically impossible to include all variables, and as indicated from the factor analysis, other variables, such as leadership, could separately represent a dimension in strategy implementation. Although all known variables that were discerned to be significant were included, any possible omission could represent a limitation.

References

Aaker, D. A. (1988). *Strategic market management*. New York: Wiley & Sons.

Aaltonen, P., & Ikavalko, H. (2002). Implementing strategies successfully. *Integrated Manufacturing Systems*. 13, 415-418.

Ackoff, R. L. (1970). *Concept of strategic planning*. London: Wiley-Interscience.

Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Newbury Park, CA: Sage.

Aldehayyat, J. S., & Anchor, J.R. (2010). Strategic planning implementation and creation of value in the firm. *Strategic Change*, 19(3-4), 163-176.

Aldrich, H. E. (1999). *Organizations evolving*. London: Sage Publications.

Alexander, L. D. (1985). Successfully implementing strategic decisions. *Long Range Planning*, 18, 91-97.

Allio, M. (2005). A short, practical guide to implementing strategy. *The Journal of Business Strategy*, 26, 10.

Andersen, T. (2004). Integrating decentralized strategy making and strategic planning processes in dynamic environments. *Journal of Management Studies*, 41, 1271-1299.

Andersen, T., & Nielsen, B. (2009). Adaptive strategy making: the effects of emergent and intended strategy modes. *European Management Review*, 6, 94-106.

Andrews, K. R. (1971). *The concept of corporate strategy*. Homewood, IL: Dow Jones & Irwin.

Andries, P., & Debackere, K. (2006). Adaptation in new technology-based ventures: insights at the company level. *International Journal of Management Reviews*, 8, 91-112.

Ansoff, H. I. (1965). *Corporate strategy*. New York: McGraw-Hill.

Ansoff, H. I. (1991). Critique of Henry Mintzberg's "The design school: reconsidering the basic premises of strategic management". *Strategic Management Journal*, 12, 449-461.

Arend, R., Zhao, L., Song. M., & Im, S. (2017). Strategic planning as a complex and enabling managerial tool. *Strategic Management Journal*, 38, 1741-1752.

Armstrong, J., & Overton, T. (1977). Estimating nonresponse bias in mail survey. *Journal of Marketing Research*, 396-402.

Armstrong, J. S. (1982). The value of formal planning for strategic decisions - review of empirical-research. *Strategic Management Journal*, 3, 197-211.

Atkinson, H. (2006). Strategy implementation: a role for the balanced scorecard? *Management Decision*, 44, 1441-1460.

Atkinson, R. (1999). Project Management, cost, time and quality, two best guesses and a phenomenon, it's time to accept other successful criteria. *International Journal of Project Management*, 17, 337-342.

Atuahene-Gima, K. (2005). Resolving the capability-rigidity paradox in new product innovation. *Journal of Marketing*, 69, 61-83.

Atuahene-Gima, K., & Li, H. Y. (2002). When does trust matter? Antecedents and contingent effects of supervisee trust on performance in selling new products in China and the United States. *Journal of Marketing*, 66, 61-81.

Atuahene-Gima, K., & Murray, J. Y. (2004). Antecedents and outcomes of marketing strategy comprehensiveness. *Journal of Marketing*, 68, 33-46.

Babbie, E. (1989). *The Practice of Social Research*, 7th ed. Belmont: Wadsworth Inc.

Bagozzi, R. P., & Phillips, L. W. (1982). Representing and testing organizational theories - a holistic construal. *Administrative Science Quarterly*, 27, 459-489.

Bailey, A., Johnson, G., & Daniels, K. (2000). Validation of a multi-dimensional measure of strategy development processes. *British Journal of Management*, 11, 151-162.

Balogun, J., & Johnson, G. (2004). Organizational restructuring and middle manager sensemaking. *Academy of Management Journal*, 47, 523-549.

Balogun, J. (2006). Managing change: steering a course between intended strategies and unanticipated outcomes. *Long Range Planning*, 39, 29-49.

Barber, P. J., & Legge, D. (1976). *Perception and information*. London: Methuen.

Barney, J. B., & Hesterly, W. S. (2018). *Strategic management and competitive advantage: concepts*. 6th Ed. Upper Saddle River, New Jersey: Pearson.

Barney, J. B., & Zajac, E. J. (1994). Competitive organizational-behaviour - toward an organizationally-based theory of competitive advantage. *Strategic Management Journal*, 15, 5-9.

Barrick, M. R., Thurgood, G. R., Smith, T. A., & Courtright, S. H. (2015). Collective organizational engagement: Linking motivational antecedents, strategic implementation, and firm performance. *Academy of Management journal*, 58(1), 111-135.

Beckhard, R., & Pritchard, W. (1992). *Changing the essence: The Art of creating and leading fundamental change in organizations*. San Francisco: Jossey-Bass.

Beer, M. (1994). *Managing strategic alignment*., in L. A. Berger, M. J. Sikora with D. R. Berger (Eds.) The change management handbook: a road map to corporate transformation (pp.33-48). Burr Ridge, IL: Irwin.

Beer, M., & Eisenstat, R. A. (2000). The silent killers of strategy implementation and learning. *Sloan Management Review*, 41, 29-40.

Bellamy, L., Amoo, N., Mervyn, K., & Hiddlestone-Mumford, J. (2019). The use of strategy tools and frameworks by SMEs in the strategy formation process. International *Journal of Organizational Analysis*, DOI: 10.1108/IJOA-02-2018-1363.

Berelson, B., & Steiner, G.A. (1964). *Human behaviour: an inventory of scientific findings*. New York: Harcourt, Brace & World.

Bhargava, M., Dubelaar, C., & Ramaswami, S. (1994). Reconciling diverse measures of performance: a conceptual framework and test of a methodology. *Journal of Business Research*, 31, 235–246.

Bhidé, A. V. (2000). *The origin and evolution of new businesses*. Oxford, UK: Oxford University Press.

Blair, E., & Zinkhan, G. (2006). Nonresponse and generalizability in academic research. *Journal of the Academy of Marketing Science*, 34, 4-7.

Blalock, H. M. (1968). *Methodology in social research*. New York: McGraw-Hill.

Blalock, H. (1979). *Social statistics*, 2nd ed. New York: McGraw-Hill.

Bonoma, T. V. (1984). Making your marketing strategy work. *Harvard Business Review*, 62, 69-76.

Boppel, M., Kunisch, S., & Birkinshaw, J. (2014). Corporate programs: analysis of major structural choice in strategy implementation. *Academy of Management Annual Meeting Proceedings*, 429-434.

Bourgeois, L. J., & Brodwin, D. R. (1984). Strategic implementation - 5 approaches to an elusive phenomenon. *Strategic Management Journal*, 5, 241-264.

Boyd, B. K., Gove, S., & Hitt, M. A. (2005). Consequences of measurement problems in strategic management research: the case of Amihud and Lev. *Strategic Management Journal*, 26, 367-375.

Brenes, E., Mena, M., & Molina, G. (2008). Key success factors for strategy implementation in Latin America. *Journal of Business Research*, 61, 590-598.

Brews, P. J., & Hunt, M. R. (1999). Learning to plan and planning to learn: resolving the planning school/learning school debate. *Strategic Management Journal*, 20, 889-913.

Bryman, A. (2016). *Social research methods*. 5th ed, USA: Oxford University Press.

Bryman, A., & Cramer, D. (2011). *Quantitative data analysis with SPSS 14, 15 and 16: a guide for social scientists*. London: Routledge.

Bryson, J., & Bromiley, P. (2006). Critical factors affecting the planning and implementation of major projects. *Strategic Management Journal*, 14, 319-337.

Bryson, John M., Edwards, Lauren Hamilton & Van Slyke, David M. (2018). Getting strategic about strategic planning research. *Public Management Review* 20: 317-339

Burgelman, R. A. (1983). A process model of internal corporate venturing in the diversified major firm. *Administrative Science Quarterly*, 28, 223-244.

Burgelman, R. A., & Grove, A. (2007). Let chaos reign, then reign on chaos – repeatedly: managing strategy dynamics for corporate longevity. *Strategic Management Journal*, 28, 965-979

Burgelman, Robert A, Floyd, Steven W, Laamanen, Tomi, Mantere, Saku, Vaara, Eero & Whittington, Richard. (2018). Strategy processes and practices: Dialogues and intersections. *Strategic Management Journal* 39: 531-558.

Burke, W. W. (1994). *Organization development: a process of learning and changing*, 2nd ed. Reading, MA: Addison-Wesley.

Burnham, W. D., Weinberg, M. W., & Pressman, J. L. (1978). *American politics and public policy*. Cambridge, Mass: London, M.I.T. Press.

Burns, T., & Stalker, G. (1961). *The management of innovation*. London: Tavistock Links.

Buss, W., & Kuyvenhofen, R. (2011). Perceptions of European middle managers of their role in strategic change. *Global Journal of Business Research*, 5, 109-120.

Campbell, D. (1955). The informant in quantitative research. *American Journal of Sociology*, 60, 339-342.

Caputo, A., Ayoko, O. B., Amoo, N., & Menke, C. (2019). The relationship between cultural values, cultural intelligence and negotiation styles. *Journal of Business Research*, 99, 23-36.

Carmeli, A., Tishler, A., & Edmondson, A. C. (2012). CEO relational leadership and strategic decision quality in top management teams: the role of team trust and learning from failure. *Strategic Organization*, 10, 31-54.

Cespedes, F. (1991) *Organizing and implementing the marketing effort: text and cases. Reading*, MA: Addison-Wesley.

Chang, S.-J., Van Witteloostuijn, A., & Eden, L. (2010). From the editors: common method variance in international business research. *Journal of International Business Studies*, 41(2), 178-184.

Chakravarthy, B. (1986). Measuring strategic performance, *Strategic Management Journal*, 7, 437-458.

Chakravarthy, B., & Lorange, P. (1991). *Managing the strategy process: a framework for a multibusiness firm*. Englewood Cliffs, NJ: Prentice-Hall International.

Chebat, J. C. (1999). Special issue on strategy implementation and assessment research: research on implementation deserves as much attention as strategy formulation. *Journal of Business Research*, 45, 107-109.

Chimhanzi, J. (2004). The impact of marketing/HR interactions on marketing strategy implementation. *European Journal of Marketing*, 38, 73-98.

Churchill Jr, G. (1979). A paradigm for developing better measures of marketing constructs. *Journal of Marketing Research*, 16, 64-73.

Churchill, N. C., & Lewis, V. L. (1983, May). The five stages of small business growth. *Harvard Business Review*, May 1983.

Collier, N., Fishwick, F., & Floyd, S. W. (2004). Managerial involvement and perceptions of strategy process. *Long Range Planning*, 37, 67-83.

Cook, T., & Campbell, D. (1979). *Quasi-experimentation: design and analysis for field settings*. Chicago: Rand McNally.

Cooran, F., Khun, T., Cornelissen, J. P., & Clark, T. (2011). Communication, organizing and organization: an overview and introduction to the special issue. *Organization Studies*, 32, 1149-1170.

Covin, J. G., Green, K. M., & Selvin, D. P. (2006). Strategic process effect on the entrepreneurial orientation – sales growth rate relationship. *Entrepreneurship Theory and Practice*, 30, 57-81.

Covin. J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10, 75-87.

Crittenden, V., & Crittenden, W. (2008). Building a capable organization: the eight levers of strategy implementation. *Business Horizons*, 51, 301-309.

Cronbach, L., Gleser, G., Nanda, H., & Rajaratnam, N. (1972). *The dependability of behavioural measurements: theory of generalizability for scores and profiles*. New York: Wiley.

Cronbach, L., & Meehl, P. (1955). Construct validity in psychological tests. *Psychological Bulletin*, 52, 281-302.

Daft, R. L., & Macintosh, N. B. (1984). The nature and use of formal control-systems for management control and strategy implementation. *Journal of Management*, 10, 43-66.

De Wit, B. and Meyer, R. (2014), *Strategy Synthesis: managing strategy paradoxes to create competitive advantage*, Cengage Learning EMEA, Hampshire.

Dooley, R., Fryxell, G., & Judge, W. (2000). Belabouring the not-so-obvious: consensus, commitment, and strategy implementation speed and success. *Journal of Management*, 26, 1237.

Dorfman, G. A. (1983). *British trade unionism against the Trade Union Congress*. Hong Kong: Hoover Press.

Dougherty, D., & Hardy, C. (1996). Sustained product innovation in large, mature organizations: overcoming innovation-to-organization problems, *Academy of Management Journal*, 39, 1120-1153.

Drazin, R., & Howard, P. (1984). Strategy implementation – a technique for organizational design. *Columbia Journal of World Business*, 19, 40-46.

Dyson, R., & O'brien, F. (1998). *Strategic development: methods and models.* Washington DC: John Wiley & Sons.

Elbanna, S. (2006). Strategic decision-making: process perspectives. *International Journal of Management Review*, 8, 1-20.

Elbanna, S., & Child, J. (2007). Influences on strategic decision effectiveness: development and test of an integrative model. *Strategic Management Journal*, 28, 431-453.

Elbanna, S., Child, J., & Dayan, M. (2013). A model of antecedents and consequences of Intuition in strategic decision-making: evidence from Egypt. *Long Range Planning*, 46, 149-176.

Espinosa, A., Reficco, E., Martínez, A., & Guzmán, D. (2015). A methodology for supporting strategy implementation based on the VSM: A case study in a Latin-American multi-national. *European Journal of Operational Research*, 240, 202-212.

Fauli, N., & Fleming, P. (2005). Turning intentions into outcomes: a quick scorecard to guide implementation. *Measuring Business Excellence*, 9, 5-12.

Field, A. (2018). *Discovering statistics using SPSS*. 5th ed. Sage Publications.

Floyd, S. W., & Lane, P. J. (2000). Strategizing throughout the organization: managing role conflict in strategic renewal. *Academy of Management Review*, 25, 154-177.

Floyd, S., & Woolridge, B. (1992). Managing strategic consensus, the foundation of effective implementation. *Academy of Management Executive*, 6, 27-39.

Fornell, C., & Larcker, D. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 39-50.

Frazer, L., & Lawley, M. (2000). *Questionnaire design & administration: a practical guide*. Australia: John Wiley & Sons.

Fredrickson, J. W., & Mitchell, T. R. (1984). Strategic decision-processes - comprehensiveness and performance in an industry with an unstable environment. *Academy of Management Journal*, 27, 399-423.

Fulmer, A., & Gelfand, M. J. (2012). At what level (and in whom) we trust: trust across multiple organizational levels. *Journal of Management*, 38, 116-1230.

Galbraith, J., & Kazanjian, R. (1986). *Strategy implementation: structure, systems and process.* West St Paul: MN.

Gans, J., & Ryal, M. (2017). Value capture theory: a strategic management review. *Strategic Management Journal*, 38,17-41.

Garengo, P., Biazzo, S. (2012). Unveiling strategy in SMEs through balanced scorecard implementation: a circular methodology. *Total Quality Management and Business Excellence*, 23, 79-102.

Garson, G. D. (2010). *Multiple regression, from Statnotes: Topics in multivariate analysis*. https://faculty.chass.ncsu.edu/garson/PA765/statnote.htm Retrieved, 9(10), 2010.

Geltz, G., & Lea, J. (2011). Why your strategy isn't working. *Business Strategy Series*, 12, 303-307.

Gerbing, D., & Anderson, J. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research*, 25, 186-192.

Ghauri, P., & Gronhaug, K. (2005). *Research methods in business studies: a practical guide*. London: Financial Times, Prentice Hall.

Gibbons, P., & O'connor, T. (2005). Influences on strategic planning processes among Irish SMEs. *Journal of Small Business Management*, 43; 170-187.

Gibson, B., & Cassar, G. (2005). Longitudinal analysis of the relationships between planning and performance in small firms. *Small Business Economics*, 25, 207-222.

Glaister, K. W., & Falshaw, J. R. (1999). Strategic planning: still going strong? *Long Range Planning*, 32, 107-116.

Gluck, F., Kaufman, S., & Walleck, A. (1982). Strategic management for competitive advantage. *Harvard Business Review*, 154-161.

Godfrey, P. C., & Hill, C. W. L. (1995). The problem of unobservable in strategic management research. *Strategic Management Journal*, 16, 519-533.

Goodstein, L.D., Nolan, T.M., & Pfeiffer, J.W. (1993). *Applied strategic planning: a comprehensive guide*. New York: McGraw-Hill.

Govindarajan, V. (1988). A contingency approach to strategy implementation at the business-unit level - integrating administrative mechanisms with strategy. *Academy of Management Journal*, 31, 828-853.

Grant, R. (2003). Strategic planning in a turbulent environment: evidence from the oil majors. *Strategic Management Journal*, 24, 491.

Grant, D., Hardy, C., Oswick, C., & Putnam, L. (2003). *The Sage handbook of organizational discourse*. London: Sage.

Green, K. M., Colvin, J. G., & Slevin, D. P. (2008). Exploring the relationship between strategic reactiveness and entrepreneurial orientation: the role of structure–style fit. *Journal of Business Venturing*, 23, 356-383.

Greer, C. R., Lusch, R. F., & Hitt, M. A. (2017). A service perspective for human capital resources: A critical base for strategy implementation. *Academy of Management Perspectives*, 31(2), 137-158

Grinyer, P. H., & Yasai-Ardekani, M. (1981). Strategy, structure, size and bureaucracy. *The Academy of Management Journal*, 24, 471-486.

Grösnhaug, K., & Falkenberg, J. S. (1989). Exploring strategy perceptions in changing environments. *Journal of Management Studies*, 2, 349-359.

Grundy, T., Johnson, G., & Scholes, K. (1998). *Exploring strategic financial management*. London: Prentice Hall.

Gupta, A. K., & Govindarajan, V. (1984). Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation. *Academy of Management Journal*, 27, 25-41.

Guth, W. D., & Macmillan, I. C. (1986). Strategy implementation versus middle management self-interest. *Strategic Management Journal*, 7, 313-327.

Hasan, S. A., Subhani, M. I., & Afshari, K. (2011). Empirical conclusion from the managerial perception for the various multi-brands strategies and their implementations. *European Journal of Economics, Finance and Administrative Sciences*, 39, 66-70.

Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson Prentice-Hall.

Hakonsson D.D., Burton, R.M., Obel, B., & Lauridsen, J.T. (2012). Strategy implementation requires the right executive style: evidence from Danish SMEs. *Long Range Planning*, 45, 182-208.

Hambrick, D., & Cannella Jr., A. (1989). Strategy implementation as substance and selling. *The Academy of Management Executive*, 278-285.

Hanisch, K., Hulin, C., & Roznowski, M. (1998). The importance of individuals' repertoires of behaviours: the scientific appropriateness of studying multiple behaviours and general attitudes. *Journal of Organizational Behaviour*, 19, 463-480.

Harrington, R. J. (2006). The moderating effects of size, manager tactics and involvement on strategy implementation in food service. *Hospitality Management*, 25, 373-397.

Hattie, J. (1985). Methodology review: assessing unidimensionality of tests and items. *Applied Psychological Measurement*, 9, 139.

Hax, A., & Majluf. N. (1991). *The strategy concept and process: a pragmatic approach*. Englewood Cliffs, NJ: Prentice Hall.

Heracleous, L. (2000). The role of strategy implementation in organization development. *Organization Development Journal*, 18, 75-86.

Hewitt. D., & Cramer, D. (2017). *Introduction to SPSS in Psychology*. 7th ed. England: Pearson/Prentice Hall.

Higgins, J. M. (2005). The eight 'S's of successful strategy execution. *Journal of Change Management*, 5, 3-13.

Hill, C., & Jones, G. (2014). *Strategic management: theory & cases: an integrated approach*, 11th ed. Australia: South-Western, Cengage.

Ho, J. Y., Wu, A., & Wu, S. Y. C. (2014). Performance measures, consensus on strategy implementation, and performance: evidence from the operational-level of organizations. *Accounting, Organizations and Society*, 39, 38-58.

Holbrook, A., Padmore, T., & Hughes, L. (2000). *Innovation in enterprises in a non-metropolitan area: quantitative and qualitative perspectives. Innovation, Institutions and Territory*. Montreal & Kingston: School of Policy Studies.

Homburg, C., Krohmer, H., & Workman, J. P. (2004). A strategy implementation perspective of market orientation. *Journal of Business Research*, 57, 1331-1340.

Hopkins, W. E., & Hopkins, S. A. (1997). Strategic planning-financial performance relationships in banks: a causal examination. *Strategic Management Journal*, 18, 635-652.

Hrebiniak, L. G. (2006). Obstacles to effective strategy implementation. *Organizational Dynamics*, 35, 12-31.

Hrebiniak, L. G. (2013). *Making strategy work: leading effective execution of change*, 2nd ed. New Jersey: Pearson Education.

Hrebiniak, L. G., & Joyce, W. F. (1984). *Implementing strategy*. New York: McMillan.

Hrebiniak, L. G., & Joyce, W. F. (eds.) (2001). *Implementing strategy: an appraisal and agenda for future research*. UK: Blackwell Business.

Huh, J., Delorme, D., & Reid, L. (2006). Perceived third-person effects and consumer attitudes on preventing and banning DTC advertising. *Journal of Consumer Affairs*, 40; 90-11.

Humphreys, J. (2004). The vision thing. *Sloan Management Review*, 45, 96.

Jaccard, J. and R. Turrisi (2003). *Interaction effects in multiple regression*, 2nd ed. London: SAGE.

Jarzabkowski, P., & Balogun, J. (2009). The practice and process of delivering integration through strategic planning. *Journal of Management Studies*, 46, 1255–1288.

Jarzabkowski, P., & Kaplan, S. (2015). Strategy tools-in-use: a framework for understanding ‘’technologies of rationality’’ in practice. *Strategic Management Journal*, 35, 537-558.

Jarzabkowski, P., Mohrman, S. A. & Scherer, A. G. (2010). Organization studies as applied science: the generation and use of academic knowledge about organizations introduction to the special issue. *Organization studies*, 31, 1189-1207.

Jarzabkowski, P. & Wilson, D. C. (2006). Actionable strategy knowledge: a practice perspective. *European Management Journal*, 24, 348-367.

Jarzabkowski, P., Giulietti, M., Oliveira, B., & Amoo, N. (2013), “We don’t need no education”—or do we? Management education and alumni adoption of strategy tools. *Journal of Management Inquiry*, 22, 4-24.

Johnson, G., Whittington, R., Scholes, K., Angwin, D. and Regnér, P. (2014), *Exploring Strategy, Text and Cases*, Pearson Education Ltd, Harlow.

Joshi, A., & Sharma, S. (2004.) 'Customer knowledge development: antecedents and impact on new product performance. *Journal of Marketing*, 68, 47-59.

Kanter, R. M. (1983). *The change masters: innovation and entrepreneurship in the American corporation*. New York: Simon & Schuster.

Kanter, R. M. (1988). *When a thousand flowers bloom: structural, collective and social conditions for innovation in organizations*., In B. M. Staw and L. L. Cummings (Eds.), Research in Organizational Behavior, 10, (pp.169–211). Greenwich, CT: JAI Press.

Kanter, R. M., Stein, B. A., & Jick, T. D. (1992). *The challenge of organizational change: how companies experience it and leaders guide it*. New York: Free Press.

Kanyurhi, E. B. (2017). Customer satisfaction with the services of microfinance institutions: Scale development and validation. *Strategic Change*, 26(6), 563-574.

Katsikeas, C., Leonidou, L., & Morgan, N. (2000). Firm-level export performance assessment: review, evaluation, and development. *Journal of the Academy of Marketing Science*, 28, 493-511.

Katsikeas, C. S., Samiee, S., & Theodosiou, M. (2006). Strategy fit and performance consequences of international marketing standardization. *Strategic Management Journal*, 27, 867–890.

Kazmi, A. (2008). A proposed framework for strategy implementation in the Indian context. *Management Decisions*, 46, 1564-1581.

Kershaw, R., & Malhotra, D. K. (2012). Implementation strategy through performance measurement: an empirical test. *International Journal of Accounting, Auditing and Performance Evaluation*, 8, 24-42.

Keshavjee, K., Bosomworth, J., Copen, J., Lai, J., Kucukyazici, B., Lilani, R., & Holbrook, A. M. (2006). *Best practices in EMR implementation: a systematic review*. AMIA Annual Symposium Process, 982, 1-15.

Khandwalla, P. N. (1977). *Design of organizations*. S.l.: Harcoutt Brace Jov.

Kianfar, M., Milana, C., & Smith. H. L. (2010). Assessing the real value of the firm: an overview. *Strategic Change*, 19(3-4), 97-102.

Kim, E., Nam, D., & Stimpert, J. L. (2004). The applicability of Porter's generic strategies in the digital age: assumptions, conjectures and suggestions. *Journal of Management*, 30, 569-589.

Kin, J., Howard, M., Pahnke, E., & Boeker, W. (2016). Understanding network formation in strategy research: exponential random graph models. *Strategic Management Journal*, 37, 22-44.

Kleinbaum, A. M., & Stuart, T. E. (2014). Inside the back box of the corporate staff social networks and the implementation of corporate strategy. *Strategic Management Journal*, 35, 24–47.

Kohtamäki, M., Kraus, S., Mäkelä, M., & Rönkkö, M. (2012). The role of personnel commitment to strategy implementation and organizational learning within the relationship between strategic planning and company performance. *International Journal of Entrepreneurial Behaviour & Research*, 18, 159-178.

Kotler, P. (1984). *Marketing management: analysis, planning and control*. Englewood Cliffs, NJ: Prentice-Hall.

Kudla, R. (1980). The effects of strategic planning on common stock returns. *Academy of Management Journa*l, 23, 5-20.

Laffan, B. (1983). Policy implementation in the European community: the European social fund as a case study. *Journal of Common Market Studies*, 21, 389-408.

Lamont, B., Williams, R., & Hoffman, J. (1994). Performance during "M-Form" reorganization and recovery time: the effects of prior strategy and implementation speed. *Academy of Management Journal*, 153-166.

Lawrence, P., & Lorsch, J. W. (1967). *Organization and environment: managing integration and differentiation*. Homewood, IL: Irwin.

Leary, M. R. (2014). *Introduction to behavioural research methods*. Boston, London: Pearson.

Lee, E., & Puranam, P. (2016). The implementation imperative: Why one should implement even imperfect strategies perfectly. *Strategic Management Journal*, 37(8), 1529-1546.

Lehtonen, M. (2014). Evaluating megaprojects: from the ‘iron triangle’ to network mapping. *Evaluation*, 20, 278-295.

Lenz, R. & Lyles, M. A. (1985). Paralysis by analysis: is your planning system becoming too rational? *Long Range Planning*, 18, 64-72.

Leonard, D. (1988). *Wellsprings of knowledge: building and sustaining the sources of innovation*. Boston: Harvard Business School Press.

Lewis, V. L. & Churchill, N. C. (1983). The five stages of small business growth. *Harvard Business Review*, 61, 30-50.

Lindblom, C. (1959). The science of "muddling through". *Public Administration Review*, 19, 79-88.

Lindblom, C. (1968). *The policy-making process*. London: Prentice-Hall.

Lindblom, C. (1979). Still muddling, not yet through. *Public Administration Review*, 39, 517-526.

Lindsay, S., Jack, G., & Ambrosini, V. (2018). A Critical Diversity Framework to Better Educate Students About Strategy Implementation. *Academy of Management Learning & Education*, 17(3), 241-258

Littlejohn, S. W., & Foss. K. A. (2010). *Theories of human communication*, 10th ed. Long Grove, IL: Waveland Press.

Litwin, H. (1995) 'The social networks of elderly immigrants: an analytic typology. *Journal of Aging Studies*, 9: 155-174.

Loonam, J., McDonagh, J., Kumar, V.,& O'Regan, N. (2014). Top managers & information systems: ‘Crossing the Rubicon!’. *Strategic Change*, 23(3-4), 205-224

Majone, G., & Wildavsky, A. B. (1978). *Implementation as evolution*. In H. E. Freeman, (Ed.) Policy Studies Annual, V2. ND, US: SAGE.

McKnight, L. L. (2013). Transformational leadership in the context of punctuated change. *Journal of Leadership, Accountability & Ethics*, 10, 103-112.

Menon, A., Bharadwaj, S., Adidam, P., & Edison, S. (1999). Antecedents and consequences of marketing strategy making: a model and a test. The Journal of marketing, 63, 18-40.

Messick, S. (1989). *Validity*. In R. L. Linn (Ed.) Educational measurement, 3rd ed. (pp. 13-103). New York: American Council on Education and MacMillan.

Miller, C., Burke, L., & Glick, W. (1998). Cognitive diversity among upper-echelon executives: implications for strategic decision processes. *Strategic Management Journal*, 19, 39-58.

Miller, C. & Cardinal, L. (1994). Strategic planning and firm performance: a synthesis of more than two decades of research. *Academy of Management Journal*, 37, 1649-1665.

Miller, D. (1987). ‘Strategy making and structure: analysis and implications for performance. *Academy of Management Journal*, 30, 7-32.

Mintzberg, H. (1973). Strategy-making in three modes. *California Management Review*, 16, 44-53.

Mintzberg, H. (1978). Patterns in strategy formation. *Management Science*, 24, 934-948.

Mintzberg, H. (1990). The design school: reconsidering the basic premises of strategic management. *Strategic Management Journal*, 11, 171-195.

Mintzberg, H. (1994a). The fall and rise of strategic planning. *Harvard Business Review*, 72, 107-114.

Mintzberg, H. (1994b). *The rise and fall of strategic planning*. New York: Free Press.

Mintzberg, H. (1994c). Rethinking strategic planning part I: pitfalls and fallacies. *Long Range Planning*, 27, 12-21.

Mintzberg, H., Ahlstrand, B., & Lampel, J. (1998). *Strategy safari: a guided tour through the wilds of strategic management*. New York: Free Press.

Mintzberg, H., & Rose, J. (2003). Strategic management upside down: tracking strategies at McGill University from 1829 to 1980. *Canadian Journal of Administrative Sciences*, 20, 270-290.

Mintzberg, H., & Waters, J. (1985). Of strategies, deliberate and emergent. *Strategic Management Journal*, 6, 257-272.

Montgomery, C., Wernerfelt, B. & Balakrishnan, S. (1989). Strategy content and the research process: a critique and commentary. *Strategic Management Journal*, 1, 89-197.

Morris, P., Patel, M., & Wearne, S. (2000). Research into revising the APM project management body of knowledge. *International Journal of Project Management*, 18, 155-164.

Neilson, G. L., Martin, K. L. & Powers, E. (2008). The secrets to successful strategy execution. *Harvard Business Review*, 86, 60-70.

Neves, P., & Eisenberger, R. (2012). Management communication and employee performance: the contribution of perceived organizational support. *Human Performance*, 25, 452-464.

Noble, C. H. (1999). The eclectic roots of strategy implementation research. Journal of *Business Research*, 45, 119-134.

Norusis, M. (2008). *SPSS 16.0 statistical procedures companion*. Prentice Hall Press.

Nunnally, J. (1978). *Psychometric theory*. New York: NcGraw-Hill.

Nutt, P. (1983). Implementation approaches for project planning. *Academy of Management Review*, 600-611.

Okumus, F. (2001). Towards a strategy implementation framework. *International Journal of Contemporary Hospitality Management*, 13, 327-338.

Okumus, F. (2003). A framework to implement strategies in organizations. *Management Decision*, 41, 871-882.

Olson, E. M, Slater, S. F. & Hult, G. T. (2005). The importance of structure and process to strategy implementation. *Business Horizons*, 48, 47-54.

Ones, D., Viswesvaran, C., & Reiss, A. (1996). Role of social desirability in personality testing for personnel selection: the red herring. *Journal of Applied Psychology*, 81, 660-679.

O'Regan, N., Kling, G., Ghobadian, A., & Perren, L. (2012). Strategic positioning and grand strategies for high-technology SMEs. *Strategic Change*, 21(5-6), 199-215.

Özleblebici, Z. & Çetin. Ş. (2015). The role of managerial perception within strategic management: an exploratory overview of the literature. *Procedia - Social and Behavioural Sciences*, 207, 296 – 305.

Parsa, H. (1999). Interaction of strategy implementation and power perceptions in franchise systems: an empirical investigation. *Journal of Business Research*, 45, 173-185.

Pearce, J. A., Freeman, E. B., & Robinson, R. B. (1987). The tenuous link between formal strategic-planning and financial performance. *Academy of Management Review*, 12, 658-675.

Peng, W., & Littlejohn, D. (2001). Organizational communication and strategy implementation – a primary inquiry. *International Journal of Contemporary Hospitality*, 13, 360-363.

Phillips, P. A., & Moutinho, L. (2000). The strategic planning index: a tool for measuring strategic planning effectiveness. *Journal of Travel Research*, 38, 369-379.

Podsakoff, P., & Organ, D. (1986). Self-reports in organizational research: problems and prospects. *Journal of Management*, 12, 531-544.

Podsakoff P., & Mackenzie, S. (1994). An examination of the psychometric properties and nomological validity of some revised and reduced substitutes for leadership scales. *Journal Applied Psychology*, 79, 702-713.

Pollanen, Raili, Abdel-Maksoud, Ahmed, Elbanna, Said & Mahama, Habib. (2017). Relationships between strategic performance measures, strategic decision-making, and organizational performance: empirical evidence from Canadian public organizations. *Public Management Review* 19: 725-746

Pryor, M., Anderson, D., Toombs, L. & Humphreys, J. (2007). Strategic implementation as a core competency: the 5P's model. *Journal of Management Research*, 7, 3-17.

Quinn, J. B. (1980a). Managing strategic change. *Sloan Management Review*, 21, 3-20.

Quinn, J. B. (1980b). *Strategies for change: logical incrementalism*. Homewood, IL: Richard D. Irwin.

Rapert, M., Velliquette, A., & Garretson, J. (2002). The strategic implementation process: evoking strategic consensus through communication. *Journal of Business Research*, 55, 301-310.

Raps, A. (2004). Implementing strategy. *Strategic Finance*, 85, 48-53.

Reed, R., & Buckley, M. R. (1988). Strategy in action—techniques for implementing strategy. *Long Range Planning*, 21, 67-74.

Ritson, G., Johansen, E., & Osborne, A. (2012). Successful programs wanted: exploring the impact of alignment. *Project Management Journal*, 43, 21-36.

Roznowski, M., & Hanisch, K. A. (1990). Building systematic heterogeneity into work attitudes & behavior measures. *Journal of Vocational Behaviour*, 36, 361-375.

Ruekert, R. W., & Walker Jr., O. C. (1987). Marketing's interaction with other functional units: a conceptual framework and empirical evidence. *The Journal of marketing*, 1-19.

Sarin, S., & Mahajan, V. (2001). The effect of reward structures on the performance of cross-functional product development teams. *Journal of Marketing*, 2, 35-53.

Sashittal, H., & Jassawalla, A. (2001). Marketing implementation in smaller organizations: definition, framework, and propositional inventory. *Journal of the Academy of Marketing Science*, 29, 50-69.

Sashittal, H. C., & Wilemon, D. (1996). Marketing implementation in small and midsized industrial firms: an exploratory study. *Industrial Marketing Management*, 25, 67-78.

Schaap, J. I. (2006). Toward strategy implementation success: an empirical study of the role of senior-level leaders in the Nevada gaming industry. *UNLV Gaming Research & Review Journal*, 10, 13-37.

Schendel, D. E., & Hofer, C. W. (1979). *Strategic management: a new view of business policy and planning*. Little Brown Boston, MA: Little Brown.

Schreyögg, G. & Steinmann, H. (1987). Strategic control: a new perspective. *Academy of Management Review*, 91-103.

Schroeder, R. G., Bates, K. A., & Junttila, M. A. (2002). A resource-based view of manufacturing strategy and the relationship to manufacturing performance. *Strategic Management Journal*, 23, 105-117.

Shapiro, D. L., Kirkman, B. L., & Courtney, H. G. (2007). Perceived causes and solutions of the translation problem in management research. *The Academy of Management Journal*, 50, 249-266.

Simons, R. (1994). How new top managers use control systems as levers of strategic renewal. *Strategic Management Journal*, 15, 169-189.

Sitkin, S. B. (1992). Learning through failure: the strategy of small losses., In B. M. Straw & L. Cummings (Eds.) *Research in Organizational Behaviour*, 14, (pp.231-236). Greenwich, CT: JAI Press.

Slater, S. F., Olson, E. M., & Hult, G. T. (2010). Worried about strategy implementation? don't overlook marketing's role. *Business Horizons*, 53, 469-479.

Slevin, D. P., & Covin, J. G. (1997). Strategy formation patterns, performance, and the significance of context. *Journal of Management*, 2, 189-209.

Smith, K., & Kofron, E. (1996). Toward a research agenda on top management teams & strategy implementation. *Irish Business and Administrative Research*, 135-52.

Snow, C. C., & Thomas, J. B. (1994). Filed-research methods in strategic management - contributions to theory building and testing. *Journal of Management Studies*, 31, 457-480.

Sørensen, O. H., Hasle, P., & Pejtersen, J. H. (2011). Trust relations in management of change. *Scandinavian Journal of Management*, 27, 405-417.

Spiro, R., & Weitz, B. (1990). Adaptive selling: conceptualization, measurement, and nomological validity. *Journal of Marketing Research*, 27, 61-69.

Steenkamp, J., & Van Trijp, H. (1991). The use of LISREL in validating marketing constructs. *International Journal of Research in Marketing*, 8, 283-299.

Steiner, G. A. (1969). *Top management planning*. New York: Macmillan Co.

Stevenson, H. H., & Gumpert, D. E. (1985). The heart of entrepreneurship. *Harvard Business Review*, 63, 85-94.

Stewart, R. (1984). 'The nature of management? a problem for management education. *Journal of Management Studies*, 21, 323-330.

Stonich, P. (1982). *Implementing strategy: making strategy happen*. Cambridge: Ballinger Pub Co.

Stopford, J., & Baden-Fuller, C. (1994). Creating corporate entrepreneurship. *Strategic Management Journal*, 15, 521-536.

Sull, Donald, Homkes, Rebecca & Sull, Charles. (2015). Why strategy execution unravels—and what to do about it. *Harvard Business Review* 93: 57-66.

Sverdrup, T. E., & Stensaker, I. G. (2017). Restoring trust in the context of strategic change. *Strategic Organization*: 1476127017739843.

Tassabehji, R., & A. Isherwood (2014). Management use of strategic tools for innovating during turbulent times. *Strategic Change*, 23(1-2), 63-80

Tanriverdi, H., & Venkatraman N. (2005). Knowledge relatedness and the performance of multibusiness firms. *Strategic Management Journal*, 26, 97-119.

Thatcher, M. (2006). Breathing life into business strategy. *Strategic Communication Management*, 10, 14-17.

Thomas, L., & Ambrosini, V. (2015). Materializing strategy: the role of comprehensiveness and management controls in strategy formation in volatile environments. *British Journal of Management*, 26, S15-S124.

Thompson, J. L., Scott, J. M., & Martin, F. (2013). *Strategic management: awareness and change*, 7th ed. Andover: Cengage Learning.

Thorpe, E., & Morgan, R. (2007). In pursuit of the "ideal approach" to successful marketing strategy implementation. *European Journal of Marketing,* 41, 659-677.

Thune, S. S., & House, R. J. (1970). 'Where long-range planning pays off - findings of a survey of formal, informal planners. *Business Horizons*, 13, 81-87.

Trochim, W. M. K. (2006). *The research methods knowledge base*, 2nd ed, Retrieved from <http//www.socialresearchmethods.net/kb/>.

Turner, J. C. (1999). 'Some current issues in research on social identity and self-categorization theories. *Social Identity, Context, Commitment & Conte*nt, 6-34.

Vaara, E., & Whittington, R. (2012). Strategy-as-practice: taking social practices seriously. *Academy of Management Annals*, 6, 285-336.

Venkatraman, N., & Grant, J. H. (1986). Construct measurement in organizational strategy research - a critique and proposal. *Academy of Management Review*, 11, 71-87.

Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance in strategy research - a comparison of approaches. *Academy of Management Review*, 11, 801-814.

Vuorinen, T., Hakala, H., Kohtamäki, M., & Uusitalo, K. (2018). Mapping the landscape of strategy tools: A review on strategy tools published in leading journals within the past 25 years. *Long Range Planning*, 51(4), 586-605

Waldersee, R., & Sheather, S. (1996). The effects of strategy type on strategy implementation actions. *Human Relations*, 49, 105-122.

Walker Jr, O. C., & Ruekert, R. W. (1987). Marketing's role in the implementation of business strategies: a critical review and conceptual framework. *Journal of Marketing*, 51, 5-33.

Wang, G., & Netemeyer, R. (2004). Salesperson creative performance: conceptualization, measurement, and nomological validity, *Journal of Business Research,* 57, 805- 812.

Waterman, R. H., Peters, T. J., & Phillips, J. R. (1980). Structure is not organization. *Business Horizons*, 23, 14-26.

Wes, S., Church, A. H., Javitch, M., Waclawski, J., Burd, S., Bazigos, M., Yang, T., &erson-Rudolph, K., & Burke, W. W. (1996). Understanding the management of change: an overview of managers' perspectives and assumptions in the 1990s. *Journal of Organizational Change Management,* 9, 54-80.

Wheelen, T. L., & Hunger, J. D. (2017). *Strategic management and business policy*. India: Pearson. Education.

Whittingon, R., & Cailluet,L. (2008). The craft of strategy: special issue introduction by the guest editors. *Long Range Planning*, 41, 241-247

Wolf, C., &. Floyd, S. W (2017). Strategic planning research: toward a theory-driven agenda. *Journal of Management*, 43, 1754-1788.

Wood, R., & Bandura, A. (1989). Social cognitive theory of organizational management. *Academy of management Review*, 14, 361-384.

Workman Jr, J. (1993). Marketing's limited role in new product development in one computer systems firm. Journal of Marketing Research, 30, 405-421.

Wrapp, H. E. (1984). Good managers don't make policy decisions. *Harvard Business Review*, 62, 8-21.

Wright, P., Kroll, M., Lado, A., & Elenkov, D. (2005). Influences of relative rewards of top managers on firm performance. *Strategic Organization*, 3, 311-335.

Yang, L., Sun, G., & Eppler, M. (2010). *Making strategy work: a literature review on the factors influencing strategy implementation*. In P. Mazzela, & W. Kellermanns, Handbook of Research on Strategy Process, (pp.165-181). Cheltenham, UK: Edward Elgar Publishing.

Zagotta, R., & Robinson, D. (2002). Keys to successful strategy execution. *Journal of Business Strategy*, 23, 30-34.

Zenger, T. R., & Marshall, C. R. (2000). Determinants of incentive intensity in group-based rewards. *Academy of Management Journal*, 43, 149-163.

Appendix 1

For the questionnaire as a whole please indicate:

Circle one number against each statement	**Low**		**Average**		**High**
How would you rate your own knowledge of your organization strategy planning and implementation capabilities?	1	2	3	4	5
How would you rate your own knowledge in general about strategy development, planning and implementation in an organization?	1	2	3	4	5
How would you rate your involvement in the decision making process about your organization's strategy development and implementation activities?	1	2	3	4	5
How would you rate your confidence in answering this questionnaire?	1	2	3	4	5

Appendix 2

Indicate the extent of your agreement about how middle managers are rewarded for developing/ testing new ideas during the implementation process:

Circle one number against each statement	No extent						High extent
Middle managers are rewarded for developing new ideas, regardless of the eventual success/failure of these ideas.	1	2	3	4	5	6	7
Middle managers are rewarded for testing new ideas, regardless of the eventual success/failure of these tests.	1	2	3	4	5	6	7
Middle managers are rewarded for codifying the knowledge that was created from idea development and testing, regardless of the eventual success/failure of these ideas.	1	2	3	4	5	6	7
Middle managers are rewarded for providing feedback to management on the failures for testing new ideas.	1	2	3	4	5	6	7
Middle managers are rewarded for inputs on alternative ways for developing the strategy.	1	2	3	4	5	6	7

Appendix 3

In general the operating management philosophy in our organization favours:

Circle the number closest to your choice for each statement								
Highly structured channels of communication and a highly restricted access to important financial and operating information.	1	2	3	4	5	6	7	Open channels of communication with important financial and operating information flowing quite freely throughout the business unit.
A strong insistence on a uniform managerial style throughout the business unit	1	2	3	4	5	6	7	Managers' operating styles allowed to range freely from the very formal to the very informal.
Strong emphases on giving the most say in decision making to formal line managers	1	2	3	4	5	6	7	A strong tendency to let the expert in a given situation has the most say in decision making even if this means even temporary bypassing of formal line authority.
A strong emphasis on holding fast to tried and true management principles despite any changes in business conditions	1	2	3	4	5	6	7	A strong emphasis on adapting freely to changing circumstances without too much concern for past practice.
A strong emphasis on always getting personnel to follow the formally laid down procedures.	1	2	3	4	5	6	7	A strong emphasis on getting things done even if it means disregarding formal procedures.

Tight formal control of most operations by means of sophisticated control and information systems	1	2	3	4	5	6	7	Loose, informal control; heavy dependence on informal relationships and the norm of cooperation for getting things done.
A strong emphasis on getting line and staff personnel to adhere closely to formal job descriptions.	1	2	3	4	5	6	7	A strong tendency to let the requirements of the situation and the individual's personality define proper on-job behaviour.

Biographies

Nii Amoo is a Senior Lecturer at Leeds Beckett University and a Senior Fellow of The Higher Education Academy (HEA). He has extensive academic experience working in various universities including University of Leeds, Aston University, University of Liverpool and Bradford University, all in the U.K. In the universities, Nii is mainly involved in the doctoral research training programme and mostly on Quantitative Research as well as Mixed Methods Research. Drawing on his Engineering training and several years working experience as an Engineer, Nii research interests are mainly on strategy, with particular emphasis on its implementation in the business environment.

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Cynthia Akwei is Senior Lecturer at Liverpool John Moore University. Her academic experience working in various universities includes Loughborough University. Cynthia also has extensive industry experience in senior management. Her research interests are mainly in Strategy, Entrepreneurship and Innovation. Within the universities, she is involved in working with postgraduate research student on research methodologies.

[i] We note here that as we had previously indicated, the purpose of this analysis is to establish association and linkages and as such the hypothesized association could go either direction. Instead of our positive association, some studies indicate strategy implementation would not necessarily be positively correlated with size or with organic structure, arguing the contrary. For example, large size could create complexities that make it less likely that formal strategy would penetrate to lower levels of the organization, and more likely units would see the world differently. Similarly, an organic structure could favour innovation and creativity (and would be related to emergent strategy), not to the implementation of strategic direction as we have hypothesized above.