Towards a framework for Innovation Orientation within Business and Management Studies: A Systematic Review and Paths for Future Research

<table>
<thead>
<tr>
<th>Journal:</th>
<th>Journal of Organizational Change Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manuscript ID</td>
<td>JOCM-02-2018-0051.R2</td>
</tr>
<tr>
<td>Manuscript Type:</td>
<td>Research Paper</td>
</tr>
<tr>
<td>Keywords:</td>
<td>innovation orientation, performance measures, antecedents, organisational capabilities</td>
</tr>
</tbody>
</table>
Towards a framework for Innovation Orientation within Business and Management Studies: A Systematic Review and Paths for Future Research

Introduction

Research shows that innovativeness and the ability to innovate are more important contributors to corporate performance than some of the more traditional business orientation approaches, including market orientation (Deshpade et al, 1997; Neely et al, 2001). It has been argued that embedding innovation into organisational behaviour is a positive way to enhance business performance (Merx–Chermin and Nijhof, 2005). It is important however how this can be assisted by the managers. One of the attempts to operationalise the concept of innovation for management purposes is the notion of innovation orientation. Innovation orientation is a sub-construct positioned within the wider field of innovation and relates to an innovation based strategic orientation, where orientation is used to describe the overall dominant approach that represents an organisation’s competitive posture and strategic focus (Human and Naude, 2010). This paper advocates a holistic perspective on innovation orientation by incorporating systematically reviewed literature. It offers updated conceptualisation of innovation orientation and discussion of the internal organisational and external factors that can help in creating innovative businesses. In doing that we are advancing innovation orientation as a distinctive theoretical field of research.

Innovation orientation is a growing field of study and has garnered much research interest in the past 11 years, with a large volume of work showing interest in the role of innovation orientation as a strategic orientation that can impact upon business performance (Antindag and Zehir 2012; Prajogo et al, 2013; Dehwanto and Sohal, 2014) and show connections with other areas of management and
innovation studies such as Knowledge Management (Fidel et al., 2015), Organisational Ambidexterity (Kortmann, 2015) and Organisational Learning (Ussahawanitchakit, 2008), Innovation (e.g. Caertling et al. 2011; Baregheh et al. 2012; Kraiczy et al. 2015; Kortmann 2015), Marketing (e.g. Theodosiou et al. 2012; Chen and Tseng 2014) and Strategic Management (e.g. Teixeira and Werther 2013; Kuan-Liang and Chao-Hung 2014; Engelen et al.).

Though there is no consistent agreed model of innovation orientation that is widely adopted however, there is an acceptance that innovation orientation is a multifaceted construct that includes a range of core common variables (Hurley and Hult, 1998; Siguaw et al, 2006). The variables often cited as overarching factors or core antecedents are variables such as creating a culture that supports innovation (Ettlie and O’Keefe, 1982; Hurley and Hult, 1998; Baregheh et al, 2012; Grundstrom et al, 2012), Competition based understanding (Dobni, 2010; Ayuso et al, 2011; Stock and Zacharias, 2011; Ergun and Kuscu, 2013), organisational flexibility (Van Muijen and Koopman, 1994; Maltz et al, 2006) and specific capital and knowledge capabilities (Chen et al, 2009; Baregheh et al, 2012; Silva et al, 2014).

Dobni (2010) suggests that innovation orientation must be viewed through an organisational behaviour perspective that is linked with an internal capabilities approach to strategy, suggesting that the strategic direction selected by a firm is determined by its internal capabilities, such as resources and knowledge base. However, other researchers consider innovation orientation from the perspective of its ability for firms to decide to create markets and customers, which is often used to highlight the linkage between innovation orientation and new technology (Berthon et al, 2012), where firms believe that if they continuously develop innovative products or services that give the organisation a perceived competitive advantage, customers will migrate towards innovation.
Much of the innovation orientation research to date often focuses on innovation orientation driving business outcomes or other aspects of the business, such as firm efficiency, customer engagement, process performance and job satisfaction – both positively and negatively (Appiah-Adu and Singh, 1998; Wang and Cheung, 2004; Olson et al, 2005; Caerteling et al, 2011; Luo and Wang, 2012). The measurements of innovation orientation on business outcomes and performance have primarily relied upon two general approaches that have involved the use of either objective or subjective measures of performance (Zehir et al, 2011). The objective approach uses the absolute values of quantitative performance measures such as profitability, sales levels and organisational growth rate (Chou and Yang, 2011; Wu et al, 2015). The second approach has often used subjective measures of performance, for example, where employees are asked to state their companies’ performance on criteria perceived measures such as profitability and market share relative to that of their competitors or perceived new product success (Zehir et al 2011; Zhang et al. 2015). In addition, much of the research within the field has focussed on business based capability development outcomes, in linking innovation orientation with other aspects of wider management studies such as process improvement (Caertling, 2011), service delivery (Chen et al, 2009) and supply chain management (Teichert and Bouncken, 2011).

Recent research into organisational wide innovation orientation has primarily utilised quantitative analysis to identify specific antecedents, or linked characteristics, but this approach has resulted in a silo effect being observed in the development of innovation orientation as a holistic construct. A minority of research to date on innovation orientation has consisted of developing a framework or model of innovation orientation, with the intention that future scholars can apply these frameworks to explore innovation orientation in practice and through empirical study (Pearson, 1993; Berthon et al.,
A larger amount of research has empirically examined innovation orientation as a holistic concept, or more specifically, a small number of its suggested antecedent factors, in researching how it relates to other aspects of various management theory (Hurley and Hult, 1998; Zhou et al., 2005; Dobni., 2010; Ayuso et al., 2011; Talke et al., 2011; Prajogo et al., 2013; Kraicz et al., 2015). Siguaw et al. (2006) did move the study of innovation orientation forward in the seminal work that provided a conceptual framework for study and integration of innovation research and gave the rise of interest and publication by researchers into innovation orientation, but a comprehensive and up to date summary of work into innovation orientation does not exist. As a method of advancing innovation orientation theory, it is argued that a systematic approach towards identifying relevant studies in this field is required.

In this paper we systematically review literature where innovation orientations is a key theoretical foundation to develop the updated framework of innovation orientation and its antecedents. In particular, we focus on the questions: what constitutes innovation orientation at the firm level and what are its potential (positive) outcomes at company’s performance, in a wide sense. Therefore, this paper offers a holistic view on innovation orientation and its broader conceptualisation.

**Method**

This article focuses on peer-reviewed journals and the adopted approach was to conducted a series of keyword searches in 3 reference databases; (1) Emerald; (2) Business Source Premier; and (3) Science Direct. The keyword combination of; ‘Innovation Orientation’, was searched for within keywords, abstract OR title. The time period for this study held no boundaries where date of publication was not added as part of the search criteria. These search criteria yielded 152 articles. Because of the overlap
between the publications contained within each database, there were 28 duplicate results. Thus, the initial database of 152 results represents 124 articles. This relatively small return represents the scope of the research within this field and stands to highlight that this area of research is still developing and has so far been under researched.

The initial database followed a range of secondary screening processes as identified by other systematic reviews (Parris and Peachey, 2013; Xiao and Nicholson, 2013) and excluded books, dissertations (Manu, 1989) and conference proceedings (Sebjan et al 2016; Nagy and Babaita, 2016). Secondly it was appropriate to exclude articles that were not written in the English Language (four articles – Gretry et al, 2013; Correa et al, 2015; ИЛЯКОВА and САВИНА, 2016; Hancioglu and Yesilaydin, 2016). Thirdly the authors reviewed all of the articles in detail to assess the remaining articles and check to see if Innovation Orientation was in fact a focus of the paper. This led to the removal of 38 articles. The excluded articles at this stage were excluded as they often only referred to Innovation Orientation but did not discuss this concept in any detail or even address this term in the main body of the article. Finally, in keeping with other systematic literature review (SLR) processes (SLR), additional articles meeting the inclusion criteria were identified by examining the reference lists of the articles (Parris and Peachey, 2013) remaining after the secondary screening process (n=2) (Parris and Peachey, 2013). The final number of articles included in this study was 82; 8 conceptual, 69 employed quantitative methods, 1 employed qualitative methods, 2 employed mixed methods and 2 utilised a case-based approach. Over three quarters of the articles (n=64) have been published since 2006. The remainder of this study focuses on categorising the empirical work within the identified sample (74 articles).
Results

Defining Innovation Orientation

Whilst a range of key definitions are utilised within the innovation orientation research field, the research has not settled on one widely accepted definition and instead much of the empirical investigations either do not define innovation orientation (n=24) (for example, Pearson, 1993; Dobni, 2006; Saenz et al, 2007; Prajogo and McDermott, 2014; Zobel et al, 2017) or utilise a range of definitions without selecting a firm single definition on which to frame the study (n=6) (for example, Grinstein, 2008; Chou and Yang, 2011; Kraczy et al, 2014; Lee et al, 2016).

Hurley and Hult (1998) state that innovation orientation refers to an organisation’s openness to new ideas and propensity to change through adopting new technologies, resources, skills, and administrative systems. Most of the studies in the sample citing Hurley and Hult’s (1998) (n=12) definition of innovation orientation do so from an innovation culture perspective, again linking innovation culture to innovation orientation based outcomes (Zhou et al, 2005; Naranjo-Valencia et al, 2011) or innovation orientation antecedent factors (Siguaw et al, 2006; Ayuso et al, 2011; Simpson et al, 2006; Ngo and O’Cass, 2011).

Siguaw et al (2006, p. 558) state that ‘long term survival through innovation appears based not on specific, discrete innovations or on a single market or learning orientation but rather on an overarching, organisation-wide knowledge structure, termed innovation orientation’. Authors in the SLR sample used Siguaw et al’s (2006) definition to help conceptualise the innovation orientation theory whilst drawing out a range of antecedent factors, for empirical investigation. Siguaw et al’s (2006) definition was cited in 11 studies (for example, Simpson et al, 2006; Stock and Zacharias, 2011; Altindag and Zehir, 2012; Baregheh et al, 2012; Engelen et al, 2014; Wang et al, 2015; Yang et al, 2016); discussing components such as learning philosophy, strategic direction, and transfunctional acclimation. Given that much of the
work in the SLR sample and the innovation orientation research field has been produced since the publication of the conceptual model presented by Siguaw et al (2006). It is important to acknowledge some key developments that have been empirically proven to impact upon innovation orientation, but that were not incorporated into the definition provided by Siguaw et al (2006). Some of these key developments are, namely the; the impact of transformational leadership (Engelen et al, 2014), the key factors of a customer centric approach (Grinstein, 2008; Chou and Yang, 2011; Stock and Zacharias, 2011; Talke et al, 2011) and firm efficacy (Ussahawanitchakit, 2008), which should be further reinforced and incorporated into a multi variable construct of innovation orientation (Dobni, 2010). For this study, innovation orientation will be defined as a multiple construct with a focus on driving innovation based practices and values throughout the organisation primarily through four core aspects; culture, flexibility in structures, capital and knowledge capabilities and understanding environmental dynamics with the aim of driving positive organisational performance. Many studies have identified the positive impact of innovation orientation on organisational performance (Zhou et al, 2005; Ngo and O’Cass, 2011) however; few studies have addressed the multivariable nature of innovation orientation and identified numerous factors and categorisation of those factors that can be identified as antecedents of this construct.

Ontological approaches

In initially reviewing the articles contributing to this study and identified throughout the conducted systematic literature review, it became apparent that different ontological perspectives existed within the breadth of the studies, as is common within management based research (Van de Ven and Poole, 2005). A key aspect worthy of consideration within innovation based research is whether we view organisations as consisting of things or processes (Tsoukas and Chia, 2002). The work of Van de Ven and
Poole (2005) that aimed to provide typologies of four approaches for studying organisational change, is useful and applicable to an innovation orientation context where we can consider whether.

This paper posits that combining the pluralistic insights from various ontological research perspectives, where innovation orientation is viewed as a ‘thing’ (Whetten, 2005) or as a ‘process’ (Tsoukas, 2005) provides a deeper understanding of innovation orientation than any one single approach. Therefore in reviewing innovation orientation from a holistic perspective the authors have taken a dual approach of categorising whether innovation orientation was considered as a ‘process’ whereby different antecedent variables were identified as antecedents towards an innovation orientation, whilst also including analysis on innovation orientation as a ‘thing’ that is fixed in existence and is used as a variable that links innovation orientation as a defined construct or ‘thing’ (Whetten, 2005) with varying organisation based outputs. The following sections review work from these perspectives.

Antecedents of Innovation Orientation

Manu (1992) identified Innovation Orientation through an environment, strategy and performance paradigm, where a range of factors in each area influence the ability of the successful implementation of innovation orientation. This approach is in keeping with the ontological stance that places innovation orientation as a process (Van De Ven and Poole, 2005). Siguaw et al (2006) presented a conceptual model that identified a range of potential antecedent factors, categorised as ‘organizational competences’ and in addition identified a range of overarching factors, that were derived from the literature, that also impact on an organisations innovation orientation. Stock and Zacharias (2011) identified patterns of innovation orientation that utilised configuration theory tradition drawn on the internal arrangements of the company’s strategy, structures, processes, systems, culture, and leadership
as fundamental variables that shape organizational design (Meyer et al. 1993; Vorhies and Morgan 2003). These variables also appear in several conceptual papers and studies related to innovation orientation (e.g., Manu, 1992; Siguaw et al., 2006) and thus appear to be important elements of innovation orientation. Like much of the literature (Manu, 1992; Hurley and Hult, 1998; Berthon et al, 1999; Nambisan, 2002; Olson et al, 2005; Zhou et al, 2005; Siguaw et al, 2006; Keskin, 2009; Wu et al, 2015), Dobni (2010) defined innovation orientation as a multi-dimensional concept that is built on four overarching areas; Intention, Infrastructure, Influence and Implementation. This paper proposes a new categorisation of antecedents as a means of allowing the multi-dimensional concept of innovation orientation to be progressed and includes recent work. The four areas of innovation culture, flexible structures, capital and knowledge capabilities and understanding environmental dynamics are used as a means of categorising the range of antecedent factors that have been empirically examined within the articles identified in the SLR (table 1). A total of 30 articles identified antecedent factors of innovation orientation that were empirically examined.

A clear bias towards examining antecedent factors grouped in the innovation culture, and capital and knowledge capabilities categories emerged with empowering employees, gathering information on customers, consumers and competitors and managing market dynamism and competitiveness being considered as central antecedents in a large number of separate studies.

Innovation culture was defined within this study as an organization’s overall innovative capability of introducing new products to the market, or opening up new markets, through combining strategic orientation with innovative behaviour and process (Wang and Ahmed, 2004). Empowering employees
was seen as central in a number of studies (Ettlie and O’Keefe, 1982; Hurley and Hult, 1998; Baregheh et al, 2012; Grundstrom et al, 2012) with this often being linked to elements of organisational innovation culture, such as encouraging new ideas (Baregheh et al 2012), leadership (Engelen et al, 2014), supporting individual creativity (Acikzog and Gunsel, 2016) and organisational commitment (Zhou et al, 2005). The work of Grundstrom et al (2012) investigated empowered employees from a different perspective and actually considered whether innovation orientation was affected by a change in leadership, where the study found that change in leadership had limited impact, so long as empowered employees were present, and this cultural factor was maintained. Engelen et al (2014) expanded on the role of the leaders within the organisation in highlighting the role of leadership as providing an appropriate model of behaviour.

Ettlie and O’Keefe (1982) considered innovation orientation as a personal trait that was present amongst individuals within an organisation that was linked with a culture of innovation, but also concluded that this individual based approach was not enough for innovation orientation to be implemented and that an environment and organisational structure was required to support this.

The concept that innovation culture requires supporting through appropriate structures was supported by Hurley and Hult (1998) who found that when members of a group are encouraged to learn and develop and are able to influence group decisions, the group has more innovativeness, but that multiple factors have an effect on an organisation’s ability to deliver this encouragement to learn and develop.

Flexibility is seen through various aspects of innovation orientation, but flexibility in structure has received interest from multiple researchers (for example, Van Muijen and Koopman, 1994; Maltz et al, 2006; Kraiczy et al, 2015; Zobel et al, 2017). Van Muijen and Koopman (1994) and Maltz et al (2006)
identified that flexibility in structure and within organisational approach were essential elements of innovation orientation. Within this innovation based study, flexible structures are defined from an organisation wide perspective, where organisations draw their innovative capabilities through capabilities of dynamic integration and change, with a focus on structures that allow for employees to be creative and feel empowered (Lazonick, 2010).

An aspect of flexible structures is the ability of the organisation to focus on multiple targets and results through organisational ambidexterity (McDermott and Prajogo, 2012). The organisational structure was considered in multiple studies with links being made with the diversity of the Top Management Team (TMT) (Talke et al, 2011) and the use of flat structures (Kraicz et al, 2015) that links heavily to supporting the innovation culture discussed previously. Three areas that were considered as essential in supporting flexibility were organisational learning, formality of mechanisms and processes, and speed of decision making. Organisational learning helps with flexibility in structure due to a shared understanding and responsibility for what is required to be done (Hurley and Hult, 1998; Saenz et al, 2007). Interestingly whilst speed of decision making is considered a benefit of flexible structures, due to a lack of bureaucracy and hierarchical centralised decision making, work by Maltz et al (2006) found that speed of decision making had limited impact on organisational innovation orientation. In addition, Zobel et al (2017) found that high speed innovation through innovation orientation often had the by-product of informal mechanisms having to be utilised and then integrated into the business over time.

The role of capital and knowledge capability factors within innovation orientation are essential (Dobni, 2010). Within this study capital and knowledge capability was defined as a set of distinct and well-defined approaches and processes, that consider the organisations internal capability to
manage positive and negative critical knowledge functions in different kinds of operations, and the availability of resource to support the organisations development (Wiig, 1998). Key antecedent factors linked with the utilisation and acquisition of capital and knowledge in innovation orientation are the utilisation of information on customers, consumers and competitors, and all of these variables are conceptually closely linked with market orientation (Grinstein, 2008; Ergun and Kuscu, 2013). This information gathering on key stakeholders, further interrelates with research that considers factors such as human capital in the form of internal and external knowledge (Stock and Zacharias, 2011; Kuan-Liang and Chao-Hung, 2014). Work focussing on using gathered information from key stakeholders (for example, Wu et al, 2015; Zacharias, 2011; Dobni, 2010) is interesting in that none of the studies consider this factor as the sole focus of the research and instead consider information utilisation alongside various other factors. The ability to allocate resource (Silva et al, 2014) to various aspects of the business is an essential aspect of knowledge and capital and links with the dynamic management of resources and also links with organisational flexibility (Maltz et al, 2006). The role of IT capability in driving and supporting capital and knowledge capability is unsurprisingly important, in the study by Chen et al (2009) it was found that IT capability was closely linked with innovation orientation and helps to facilitate a range of other core antecedent factors. The work by Roach et al (2016) is interesting in that it suggests effectuation contained within the organisation, particularly amongst staff has a mediating role on innovation orientation and performance, where, networks and the ability to leverage that network and experiment are seen to have a positive relationship on innovation orientation and ultimately firm performance, and pre-commitment in relationship to future partnerships have no role or impact on innovation orientation and firm performance.
It is argued that a positive relationship between environmental uncertainty and innovation exists (Prajogo and McDermott, 2014). This is considered to be consistent with the common argument suggesting that dynamic environments drive firms to be innovative (Stock and Zacharias, 2011; Zhang et al, 2015). The category on understanding environmental dynamics is multifaceted and not only focusses on direct competition but factors that can influence competition within a market place. It is therefore understandable that a range of studies found there to be a link between the ability of firms to manage market dynamism, competitiveness and innovation orientation (Manu, 1992; Stock and Zacharias, 2011; Prajogo and McDermott, 2014; Wu et al, 2015; Zhang et al, 2015; Sundstrom et al, 2016). Within this study, understanding environmental dynamics are based upon two key areas, technological dynamics and market dynamics, whereby technological dynamics are viewed as the rate and predictability of technological changes and market dynamics involve changes in customer preferences and market competition (Wu et al, 2015).

Early work in this antecedent area used the broad term of ‘understanding of environment’ (Manu, 1992, p. 336), whereas more recent studies have focussed on environmental dynamics (Wu et al, 2015). In recent work, environmental turbulence and an ability to manage this dynamically has gathered interest, where technological turbulence, perceived market turbulence and competitive intensity are argued to have a significant positive impact upon innovation orientation (Zhang et al, 2015).

Relationship orientation has been suggested (Zehir et al 2011) to provide a solution in mediating the impact of dynamic environments and the uncertainty that can result from them, through proactive creation, development and maintenance of relationships with customers and other parties that would result in mutual exchange and fulfilment of promises at a profit. It is argued that innovation orientation
and relationship orientation have a strong positive link in negating the impact of environmental uncertainty (Zehir et al, 2011). This link in relationship orientation is further supported through various studies that emphasise the importance of knowledge sourced from internal and external stakeholders (Ayuso et al, 2011) and the effective acquisition of information sourced from customers, consumers and competitors (Dobni, 2010; Stock and Zacharias, 2011; Baregheh, et al, 2012; Silva et al, 2014, Wu et al, 2015).

Outcomes of Innovation Orientation and Performance Measures

It is argued that the concept of performance and outcomes are often not well defined or specified (Lebas and Euske, 2004; Pollanen, 2005) and that convenience often guides the choice of measure of performance (compare Amsteus, 2011; Wiklund, 1999). Within these studies ‘innovation orientation’ is viewed from an ontological perspective as a ‘thing’, where it is accepted that innovation orientation as an existing construct that impacts on other aspects of an organisation (Tsoukas, 2005). Through the conducted SLR it appears that outcomes have been considered across many variables. Within these studies ‘innovation orientation’ is viewed from an ontological perspective as a ‘thing’, where it is accepted that innovation orientation as an existing construct that impacts on other aspects of an organisation (Tsoukas, 2005). In order to better understand the outcomes presented within the innovation orientation literature base, a simple coding system was utilised that focussed on objective and subjective measures of performance (Zehir et al, 2011) and outcomes that whilst linked with innovation orientation did not directly link innovation orientation with performance measures (for example, Appiah- Adu and Singh, 1998; Caerteling et al, 2011; Chou and Yang, 2011; N’go and O’Cass, 2011).
A range of measures have been used to measure performance in relation to innovation orientation (Altindag and Zehir, 2012; Stock and Zacharias, 2011; Kraiczy et al, 2015). Within this study 43 papers identified outcomes related to innovation orientation, with the majority linking innovation orientation to improved performance, as shown in table 2.

<insert table 2 about here>

The majority of papers focussed on objective performance measures of innovation orientation whilst a smaller number focussed on subjective performance measures of innovation orientation. This is not an unusual bias given that performance is being measured within a business context (Amsteus, 2014). However, the range of performance measures from the sample is striking and highlights a clear bias towards a small range of objective performance measures: profitability, growth rate, new product success, sales, return on investment (ROI) and market share (see table 2).

A total of 27 studies identified objective measures ‘only’ as measurements of performance with 18 studies considering organisational profitability as a key measure of organisational performance within the innovation orientation research field (for example, Chen et al, 2009; Chou and Yang, 2001; Prajogo et al, 2013). This profitability measure is considered within a range of contexts and geographical locations. However rarely is profitability used as the sole measure of innovation orientation in any single study. It is much more common that profitability is used as one variable in a matrices of financial performance measures (Altindag and Zehir, 2012; Cheung et al, 2012; Wu et al, 2015; Cheung and Lin, 2017). This combinational approach is argued as being quite common given that data for the various measures used in combination such as sales (Maltz et al, 2006; Jaakkola et al 2010), market share (Theodosiou et al, 2012; Prajogo et al, 2012) and growth rate (Altindag and Zehir, 2012; Wu et al, 2015).
are often easy to calculate and provide fixed measures that often interrelate (Amsteus, 2014). Much of the research found that innovation orientation has a strong positive effect on objective organisational performance, using a range of measures (Appiah-Adu and Singh, 1998; Cheung et al, 2012). Objective performance measures were categorised into four key areas; financial; growth; innovativeness and market position, with a range of performance measures highlighted within each category.

A smaller number of studies considered innovation orientation performance measures using subjective measurement (n=17), such as improved supplier integration (Yang et al, 2016) and employee confidence of future performance (Zhou et al, 2005). Three key categories were highlighted to aid in categorising subjective measures; organisation related, internal capability related and customer related. Organisation related subjective measures included measures such as image (Chen et al, 2009); perceived organisational performance (Olson et al, 2005; Zheir et al, 2011) and job satisfaction (Zhou et al, 2005). For each of the measures within the organisation related grouping innovation orientation positively linked with improved perceptions of the organisation, with the exception of the study by Lee et al (2016) that highlighted that innovation orientation can negatively impact on brand performance/image if used as the sole orientation driving the change, but linked with brand orientation can have a positive effect. Internal capability development was measured through organisational learning within one study (Maltz et al, 2006), where organisational learning is viewed as an output of innovation orientation, however in other studies it is considered an antecedent factor of innovation orientation (Hurley and Hult, 1998; Saenz et al, 2007). Customer related subjective performance measures emerged as a key theme through analysing the contributing studies, in that two studies (Ngo and O’Cass, 2011; Teichert
and Bouncken, 2011) identified the subjective measures of a range of variables related to customer-based measurements such as customer equity, customer recommendations and customer satisfaction.

Only 7 studies utilised wholly subjective measures of performance (Zhou et al, 2005; Ngo and O’Cass, 2011; Yang et al, 2013; Guo et al, 2015; Lee et al, 2016; Sundstrom et al, 2016; Yang et al, 2016). An equally common approach to measuring innovation orientation through subjective performance measures only was to use both subjective and objective measures of performance, where 10 studies identified a range of performance measures across the two coding areas (Olson et al, 2005; Maltz et al, 2006; Chen et al, 2009; Teichert and Bouncken, 2011; Zehir et al, 2011; Theodosiou et al, 2012; Lii and Kuo, 2016; Roach et al, 2016; Chuang and Lin, 2017; Jalilvand, 2017).

Interestingly a range of studies focussed on linking innovation orientation with a range of other outcome based factors and theories (n=25), that whilst can be thematically grouped into the same areas as the subjective performance measures; organisation related, internal capability related and customer related, do not often directly link to measures of performance (table 3). Organisation related based outcomes were highlighted within a range of studies and focussed on linking innovation orientation with a range of outcomes; 

- cCulture (Cheung et al, 2011), 
- Strategy implementation (Kortmann, 2015), 
- new product development (NPD) and 
- New Market Entry (Olson et al, 2005), 
- Relationship development (Walter, 1999), 
- Firm efficiency (Ussahawanitchakit, 2008), 
- Technology commercialisation capability (Dhewanto and Sohal (2015), 
- Supplier integration (Yang et al, 2016) 
- and e-Business Intent (Wang and Cheung, 2004). These factors commonly focussed on highlighting innovation orientation as having a positive relationship with organisation-level outcomes.

<insert table 3 about here>
Internal capability related outcomes were also well represented within the studies examined and again innovation orientation was linked with a wide range of outcomes and internal capabilities; *p*Process *p*Performance (Caerteling et al, 2011), *s*Service *d*Delivery (Chen et al, 2009), *e*Emergent *S*strategy *d*Development (Dobni, 2015), *c*Competitive *s*Strategy *d*Development (Dobni, 2010), *c*Customer *k*Knowledge *m*Management (CKM) (Fidel et al, 2015), *i*internal integration and adoption of new processes (Lii and Kuo, 2016), *h*High *s*Supply *c*Chain *m*Management competences (Hsu et al, 2011; Teichert and Bouncken, 2011), procedural and declarative memory on projects (Keskin, 2009), *i*nfluence tactics (Steensma et al, 2009), *M*marketing *c*apabilities (Theodosiou et al, 2012), *m*Mass *c*ustomisation (Wang et al, 2015) and *t*echnology *c*ommercialisation capability/R&D (Dhewanto and Sohal, 2014). Few of these studies then linked these internal capability developments to organisational performance measures (Caerteling et al, 2011; Chen et al, 2009; Dobni et al, 2015; Teichert and Bouncken, 2011; Theodosiou et al, 2012; Dhewanto and Sohal, 2014; Guo et al, 2015; Lii and Kuo, 2016; Yang et al, 2016).

The role of *i*nnovation *o*rientation as a moderating factor between concepts and performance measures was also considered in a number of studies (Bhaskaran, 2006; Cheung et al, 2012; Yang et al, 2013; Tseng and Chen, 2014; Roach et al, 2016, Wu, 2016). In the study by Bhaskaran (2006) *i*nnovation *o*rientation was empirically found to have a moderating effect on profitability in highly competitive and dynamic markets. Interestingly only a small number of studies (Jaakola et al, 2010; Olson et al, 2005; Simpson et al, 2006; Lee et al, 2016) highlighted that *i*nnovation orientation had a negative impact upon any of the measures of performance identified.
Discussion

The review presented, evidences the scope and impact of innovation orientation within innovation, marketing and management research generally. Two areas were considered of particular interest: the innovation orientation antecedent factors and their link to performance improvement.

Antecedent factors and their impact upon organisational Innovation Orientation

The work focussing on the core thematic antecedent grouping of ‘innovation culture’ has seemingly been under researched, with a focus limited thus far to; encouraging new ideas (Baregheh et al, 2012), organization commitment and group work culture” (Zhou et al, 2005; Engelen et al, 2014), leadership focus (TMT) (Zhou et al, 2005; Kraiczy et al, 2015), leadership providing appropriate value based models (Engelen et al, 2014), organisational trust and respect (Zehir et al, 2011) and most commonly studied ‘empowering employees’ (Ettlie and O’Keefe, 1982; Hurley and Hult, 1998; Baregheh et al, 2012; Grundstrom et al, 2012). Given the broad definition used to identify innovation culture, loosely considered as culture that encourages innovation that is heavily linked with employee involvement (Dobni, 2010), it is surprising to see so few articles focussing on this area as an antecedent variable, given that the majority of empirical measurement tools of innovation orientation currently adopted to investigate innovation orientation, highlight a focus on this culture of innovation and employee involvement as important contributing factors of innovation orientation (Chen et al, 2011; Ngo and O’Cass, 2011; Luo and Wang, 2012; Theodosiou et al, 2012; Fidel et al, 2015; Wang et al, 2015). One of the limitations of much of the work in these studies was that cultural factors were being investigated from only the perspective of senior managers. It is argued that respondents in the best position to have a high level of insight into “the factors that may affect firm wide innovation orientation are high level
executives and entrepreneurs instrumental in setting and monitoring firm strategy” (Simpson et al, 2006, p.1134). However, when considering elements linked with culture and organisational culture it is important to gain a wide range of views from a diverse representative sample from across an organisation (Hofstede, 2001). Tidd et al (2005) define a culture of innovation through characteristics such as: shared vision, a leader’s will to innovate, appropriate structures, effective team working, effective communication channels, employee focus and a creative outlook. It can be seen through reviewing the literature that whilst an innovative culture cannot be enforced, certain structures and values must be adhered to in order to achieve a culture of innovation (Tidd et al, 2005; Zhou et al, 2005).

Research focussing on the core thematic antecedent grouping of flexible structures was highly diverse and represented a wide range of empirically investigated contributing antecedent factors. As would be expected, a range of factors highlighted structural aspects such as flat structures (Kraiczy et al, 2015), however much more work focussed on aspects of, or related to, the concept of a learning organisation (Hurley and Hult, 1998; Saenz et al, 2007), oOrganisational Ambidexterity (McDermott and Prajogo, 2012), dDiversity of TMT (Talke et al, 2011), speed of decision making (Maltz et al, 2006) and flexibility viewed as flexibility in strategic approaches, idea sharing mechanisms and structures (Van Muijen and Koopman, 1994; Maltz et al, 2006).

The notion that to achieve a positive innovation orientation requires fFlexibility (Van Muijen and Koopman, 1994; Maltz et al, 2006) and oOrganisational Learning (Hurley and Hult, 1998; Saenz et al, 2007) as part of the infrastructure has been researched on multiple occasions and incorporated into many of the conceptual models of innovation orientation (Siguaw et al, 2006). Given the obvious requirement to find linkages within structures and between studies, it is unusual that internal flexibility
is linked with external turbulence and market dynamics in only one study (Baregheh et al, 2012). Linkages between flexibility, learning and organisational culture have been previously noted as a baseline for building innovating organisations (Achtenhagen, Melin and Mullern, 2003). Learning, both as internal sensing and development of new ideas, contributes to reshaping processes in organisations in changing contexts.

Antecedents of Innovation Orientation that are grouped thematically under the heading of ‘Capital and Knowledge capabilities’ is dominated by utilising human capital, and internal and external knowledge (Stock and Zacharias, 2011; Kuan-Liang and Chao-Hung, 2014). Capital and knowledge based antecedents also draws upon the resource based view of innovation (Silva et al, 2014). However, within this area it is important to also note the focus on the role of IT capabilities (Chen et al, 2009).

Much work clusters in the thematic grouping of understanding environmental dynamics. Within this grouping area are antecedent factors linked to the management of market dynamism (Manu, 1992; Stock and Zacharias, 2011; Prajogo and McDermott, 2014; Wu et al, 2015; Zhang et al, 2015) and competitive intensity (Zhang et al, 2015). There are also links made with market orientation directly (Grinstein, 2008; Ergun and Kuscu, 2013) and also other aspects linked with market orientation such as gathering information on customers, consumers and competitors (Dobni, 2010; Stock and Zacharias, 2011; Baregheh, et al, 2012; Silva et al, 2014, Wu et al, 2015) and adopting a cross functional approach (Baregeheh, 2012); all of which are aspects identified within seminal market orientation literature (Kohli and Jaworski, 1990; Narver and Slater, 1990).
Links between organisation performance measures and innovation orientation

Multiple studies highlight how innovation orientation is linked with organisational performance (for example, Maltz et al, 2006; Chen et al, 2009; Zehir et al, 2011; Theodosiou et al, 2012; Jalilvand, 2017) and this link with organisation wide performance is a crucial link for the development of innovation orientation as an organisational wide construct. A major focus of this study was to categorise those performance measures linked with innovation orientation, and the categories used were objective and subjective measures. None of the studies considered performance over a sustained period of time and all the studies that utilised a performance measure did so through a cross sectional approach. Only one study (Maltz et al, 2006) considered innovation orientations potential to utilise different measures through a longitudinal approach, and considered performance outputs of innovation orientation in both the short term and also the longer term. Interestingly none of the studies considered a comparative approach where innovation orientation within firms with differing performance profiles would be analysed, for example a highly profitable organisation in comparison to an organisation with smaller profitability levels, to consider the ‘implementation formulas’ for innovation orientation within those businesses to identify any key variables that had disproportionate impact within two different settings.

For each measure of organisational performance highlighted within the sample of studies, innovation orientation was found to have a mainly positive impact upon performance, with only a small number of studies linking innovation orientation with negative organisational performance (Olson et al, 2005; Simpson et al, 2006; Jaakola et al, 2010; Lee et al, 2016). One such study was the study by Olson et al (2005) where it was found that there exists a negative effect of innovation orientation on perceived performance in some organisational settings; namely slower low growth markets. This study highlights
a particular combinational approach that not only considers multiple performance measures, but also contextualises performance within different market types, for example low growth markets. This approach requires further exploration to consider the impact of innovation orientation within different contextual settings using market growth rate as a key variable to ensure that performance relates to the organisation not the industry.

**Conclusions and further research agenda**

The development of innovation orientation as a research area has been significant, particularly in the last decade; and this development shows the potential of this area to contribute in the broader areas of innovation and management studies. However, this growth could lead to inconsistency in the theoretical understanding and application of innovation orientation. The growth in the number of studies focussing on this field has largely centred on considering antecedent factors of innovation orientation, linking innovation orientation with other aspects of management studies or considering the impact of innovation orientation on organisational performance. Whilst this approach has yielded greater interest and increased publications on this topic, what has been missing has been a consolidated view of this rapidly developing research field. It is important that innovation orientation is not studied in isolation and that links between different theories and fields of research are made to advance this field of research, such as considering the role of innovation orientation and its impact upon organisational leadership and culture. A wider range of research methodologies would also enhance the research of innovation orientation, given the major bias towards cross sectional quantitative based data collection, and the notable limited application of qualitative, or mixed, methodological approaches conducted within a longitudinal framework, the utilisation of more varied methodological approaches could yield currently undiscovered phenomena within innovation orientation studies.
The application of performance measures within innovation orientation research is positive given the potential promise of the concept of innovation orientation to drive organisational improvement and enhanced performance. Whilst the approaches contained within the current literature base are useful and create insight, the lack of performance measure comparability present creates questions regarding the causal effect of innovation orientation and one major question that still remains is; does innovation orientation correlate to or cause enhanced organisational performance? Much work is required to further consider the construct of innovation orientation, so that researchers within this field of study reach an agreed basis from which innovation orientation as a holistic concept can be evaluated.

The use of thematic based groupings has been used to provide an overview of the conceptual model of innovation orientation within the existing literature base (Figure 1). This model represents consolidation and advancement in innovation orientation theory, as it provides a current and inclusive framework for future innovation orientation based research. The use of the four ‘core antecedent themes’ of innovation orientation allows for the categorisation of antecedent factors which in itself provides a consolidated view of the current research within the field.

This model presents practitioners managers with guidelines of how to implement and measure the impact of innovation orientation in their organisations. The practical approach used in innovation orientation literature seem to be targeted towards managers, who are in need for more specific advice on how to make their organisations sustainably innovative in the long term. The four pillars of innovation orientation indicate the areas in need of investment and development: innovation culture, flexible structures, capital and knowledge capabilities, and understanding environmental dynamics. The
literature provides with multiple examples of how each of those factors might be implemented in the local setting (see table 2). Particular focus should be given to development of internal capabilities: organisational, internal processes and customer orientated approaches.

The model also poses further theoretical questions for academics that can inform a future research agenda in this area. The innovation orientation research thus far has a rather practical focus and shows less interest in discussing the ontological standings. This is one of the reasons why more holistic approach is necessary to consolidate the field. For example a range of antecedent factors have been explored in isolation, some of them very complex like ‘culture of innovation’ and some having limited impact upon innovation orientation like ‘speed of decision making’ (Maltz et al, 2006). It would be productive to analyse how different factors within this area integrate and relate with one another to form a more coherent understanding of core capital and knowledge capabilities linked with innovation orientation. For instance, resource management in a wide sense can link with IT capability and human capital, however this has not been investigated and no links have been considered within the extant innovation orientation literature with reference to these variables. Zien and Buckler (1997, p.276) argue that all innovative firms have the same key practices at work, but that each firm “implementation ‘formula’ is particular and specific to that company”. What has been found through this study is that implementation variables or ‘key practices’ are often considered in isolation rather than collectively thus far in innovation orientation studies. Whilst the clustering of themes identified within this study progresses the research of innovation orientation in providing a synthesis of current research, it is important that further research is undertaken to consider the relationship between these core antecedent themes and to ensure that antecedent factors are not viewed in isolation, but instead are considered as one of a number of contributing factors or ‘formula’ in developing and facilitating
innovation orientation. Furthermore, in order to progress this area of research it would be interesting to consider all of these factors individually and collectively within one study and then link this with organisational performance measures. A longitudinal case based study would also be an advancement within the field, to see how resource allocation and cross functional operation evolves over a period of time and with what effect.

Finally, this paper looked at the wide spectrum of innovation in organisations and shows innovation as a relative concept defined with an organisational context. Further exploration of what constitute innovation in organisations and interaction between new ideas, their diffusion and adoption across organisations should also be considered.

References


Ripolles-Melia, M., Blesa Perez, A. and Roig Dobon, S. 2010. The influence of innovation orientation on
the internationalisation of SMEs in the service sector, Service Industries Journal, 30(5): 777-791.

empirical study, European Journal of Innovation Management, 19(2): 214-238

Saenz, S., Aramburu, N. and Rivera, O. 2007. Innovation focus and middle-up-down management model:

Sebjan, U., Bobek, S. and Tominc, P. 2016. Factors Influencing Attitudes Towards the Use of CRM's
Analytical Tools in Organizations, Organizacija, 49(1): 28-41

study and integration of innovation research, Journal of Product Innovation Management, 23(6): 556-
574.

Silva, G.M., Gomes, P.J., Lages, L.F. and Pereira, Z.L. 2014. The role of TQM in strategic product
innovation: an empirical assessment, International Journal of Operations & Production Management,
34(10): 1307-1337.

Simpson, P. M., Siguaw, J. A. and Enz, C. A. 2006. Innovation orientation outcomes: The good and the


Stock, R.M. and Schnarr, N.L. 2016. Exploring the Product Innovation outcomes of corporate culture and

Stock, R. M. and Zacharias, N. A. 2011. Patterns and performance outcomes of innovation orientation,


<table>
<thead>
<tr>
<th>Antecedents of Innovation Orientation</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Innovative culture</strong></td>
<td></td>
</tr>
<tr>
<td>Encouraging new ideas</td>
<td>Baregheh et al, 2012</td>
</tr>
<tr>
<td>Organization commitment, group work culture</td>
<td>Zhou et al, 2005; Engelen et al, 2014; Gundry et al, 2016; Acikzog and Gunsel, 2016</td>
</tr>
<tr>
<td>Organisational trust and respect of borders between employees</td>
<td>Engelen et al, 2014</td>
</tr>
<tr>
<td>Leadership that provides an appropriate model that is ‘consistent with the values the leader espouses’</td>
<td></td>
</tr>
<tr>
<td><strong>Learning organisation</strong></td>
<td>Hurley and Hult, 1998; Saenz et al, 2007</td>
</tr>
<tr>
<td><strong>Flexible structures</strong></td>
<td></td>
</tr>
<tr>
<td>Flat structure</td>
<td>Kraiczy et al, 2015</td>
</tr>
<tr>
<td>Flexibility</td>
<td>Van Muijen and Koopman, 1994; Maltz et al, 2006; Zobel et al, 2017</td>
</tr>
<tr>
<td>Organisational ambidexterity</td>
<td>McDermott and Prajogo, 2012</td>
</tr>
<tr>
<td>Diversity of TMT</td>
<td>Talke et al, 2011</td>
</tr>
<tr>
<td>Speed of decision making has limited impact</td>
<td>Maltz et al, 2006</td>
</tr>
<tr>
<td><strong>Capital &amp; knowledge capabilities</strong></td>
<td></td>
</tr>
<tr>
<td>Utilising human capital, internal and external knowledge</td>
<td>Stock and Zacharias, 2011; Kuan-Liang and Chao-Hung, 2014</td>
</tr>
<tr>
<td>Availability of resources</td>
<td>Silva et al, 2014</td>
</tr>
<tr>
<td>IT Capability</td>
<td>Chen et al, 2009</td>
</tr>
<tr>
<td>Effectuation</td>
<td>Roach et al, 2016</td>
</tr>
<tr>
<td><strong>Understanding Environmental Dynamics</strong></td>
<td>Baregheh et al, 2012</td>
</tr>
<tr>
<td>Innovating faster than competitors, adopting a cross functional approach</td>
<td></td>
</tr>
<tr>
<td>Market orientation</td>
<td>Grinstein, 2008; Ergun and Kuscu, 2013</td>
</tr>
<tr>
<td>Managing market dynamism and competitiveness</td>
<td>Manu, 1992; Stock and Zacharias, 2011; Prajogo and McDermott, 2014; Wu et al, 2015; Zhang et al, 2015; Sundstrom et al, 2016</td>
</tr>
<tr>
<td>Competitive intensity</td>
<td>Zhang et al, 2015</td>
</tr>
<tr>
<td>Knowledge sourced from Internal and External stakeholders</td>
<td>Ayuso et al, 2011</td>
</tr>
<tr>
<td>Relationship orientation</td>
<td>Zehir et al, 2011</td>
</tr>
<tr>
<td>Managing technological and market turbulence</td>
<td>Zhang et al, 2015</td>
</tr>
</tbody>
</table>

Table 1 – Thematic categorisation of Antecedent factors
<table>
<thead>
<tr>
<th>Category</th>
<th>Performance Areas</th>
<th>Measures</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Revenues before taxes</td>
<td>Altindag and Zehir, 2012; Grundström et al, 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Return on Sales (ROS)</td>
<td>Manu, 1992; Lii and Kuo, 2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gross margin</td>
<td>Manu, 1992; Stock and Zacharias, 2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cash flow</td>
<td>Manu, 1992; Zehir et al, 2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Employee numbers</td>
<td>Altindag and Zehir, 2012; Kraiczky et al, 2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of new customers</td>
<td>Altindag and Zehir, 2012</td>
</tr>
<tr>
<td>Innovativeness</td>
<td></td>
<td>Number of patents</td>
<td>Ayuso et al, 2011; Dhewanto and Sohal, 2014</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Number of innovations introduced</td>
<td>Bhaskaran, 2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Process improvements linked to efficiency</td>
<td>Ussahawanitchakit, 2008; Caerteling et al, 2011; Cheung et al, 2012; Ripollés-Melia et al, 2010; Gundry et al, 2016; Lii and Kuo, 2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>New Product Programme (NPP)</td>
<td>Olson et al, 2005; Appiah-Adu and Singh, 1998; Zhang and Duan, 2010; Stock and</td>
</tr>
<tr>
<td>Subjective</td>
<td>Organisation-related</td>
<td></td>
<td>Brand performance/Image</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Market position</td>
<td>Repeat Business</td>
<td></td>
<td>Teichert and Bouncken, 2011; Cheung et al, 2012</td>
</tr>
<tr>
<td>Subjective</td>
<td>Organisation-related</td>
<td></td>
<td>Brand performance/Image</td>
</tr>
<tr>
<td></td>
<td>Reputation</td>
<td></td>
<td>Chen et al, 2009; Teichert and Bouncken, 2011</td>
</tr>
<tr>
<td></td>
<td>Employee confidence of future performance</td>
<td></td>
<td>Zhou et al, 2005</td>
</tr>
<tr>
<td></td>
<td>Job Satisfaction</td>
<td></td>
<td>Zhou et al, 2005</td>
</tr>
<tr>
<td></td>
<td>Supplier Integration/relationships</td>
<td></td>
<td>Lii and Kuo, 2016; Yang et al, 2013; Yang et al, 2016</td>
</tr>
<tr>
<td>Internal Capability-related</td>
<td>Organisational learning</td>
<td></td>
<td>Maltz et al, 2006</td>
</tr>
<tr>
<td>Customer-related</td>
<td>Customer equity</td>
<td></td>
<td>Ngo and O’Cass, 2011; Teichert and Bouncken, 2011; Lii and Kuo, 2016; Jalilvand, 2017</td>
</tr>
<tr>
<td></td>
<td>Customer recommendations</td>
<td></td>
<td>Teichert and Bouncken, 2011</td>
</tr>
<tr>
<td></td>
<td>Customer satisfaction</td>
<td></td>
<td>Teichert and Bouncken, 2011; Theodosiou et al, 2012; Jalilvand, 2017</td>
</tr>
<tr>
<td></td>
<td>Service Improvement</td>
<td></td>
<td>Guo et al, 2015; Chuang and Lin, 2017; Jalilvand, 2017</td>
</tr>
</tbody>
</table>

Table 2. Thematic categorisation of performance measures
<table>
<thead>
<tr>
<th>Category</th>
<th>Outcomes</th>
<th>Measures</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capability Development</td>
<td>Organisation Related</td>
<td>Culture</td>
<td>Cheung et al, 2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strategy Implementation</td>
<td>Kortmann, 2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relationship Development</td>
<td>Walter, 1999; Lii and Kuo, 2016; Yang et al, 2016</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Firm Efficiency</td>
<td>Ussahawanitchakit, 2008</td>
</tr>
<tr>
<td></td>
<td></td>
<td>e-Business Intent</td>
<td>Wang and Cheung, 2004</td>
</tr>
<tr>
<td>Internal capability - related</td>
<td>Administrative capability</td>
<td>Gundry et al, 2016</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Process performance</td>
<td>Caerteling et al, 2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Service delivery</td>
<td>Chen et al, 2009; Guo et al, 2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Emergent strategy development</td>
<td>Dobni, 2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Competitive strategy development</td>
<td>Dobni, 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Customer knowledge management (CKM)</td>
<td>Fidel et al, 2015;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High supply chain management competences</td>
<td>Hsu et al, 2011; Teichert and Bouncken, 2011</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Procedural and declarative memory on projects</td>
<td>Keskin, 2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Influence tactics</td>
<td>Steensma et al, 2009</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marketing capabilities</td>
<td>Theodosiou et al, 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mass customisation</td>
<td>Wang et al, 2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tech commercialisation capability/R&amp;D</td>
<td>Dhewanto and Sohal, 2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Internal integration and adoption of new processes</td>
<td>Lii and Kuo, 2016</td>
</tr>
<tr>
<td>Customer related</td>
<td>Customer orientation</td>
<td>Appiah- Adu and Singh, 1998</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customer benefits</td>
<td>Caerteling et al, 2011</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Market orientation</td>
<td>Chou and Yang, 2011; Sundstrom et al, 2016</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Customer Centric Brand Values</td>
<td>Ngo and O’Cass, 2011</td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Thematic categorisation of capability development
Figure 1. Comprehensive Model of Innovation Orientation (source: the authors)