Innovation culture as a driver of SMEs' dynamic capabilities

Dr B Okanga
Department of Business Management
University of Johannesburg

okanga@smresearch.co.za

Dr D Groenewald
Department of Business Management
University of Johannesburg

ABSTRACT

Since innovation is inherently ingrained in the process of dynamic capabilities' building, most theoretical postulations are often based on the assumption that by the time a firm considers improving its dynamic capabilities, it will have already built a strong innovation culture. However, this research finds that in practical sense that is often not the case. While using a mixed qualitative research method entailing a meta-synthesis of different theories and triangulation with the interview findings on the dynamic capabilities building approach used by the SMEs in the manufacturing sector, the effectiveness of Teece's inherently innovative three- steps' (sensing, seizing & reconfiguration) framework for dynamic capabilities' building was still found to be pre-conditioned by the development of a strong enterprise innovation culture. Without a strong innovation culture, further triangulation of such a finding with the interview results on the approach used by the SMEs in the manufacturing sector highlighted that whether it is Teece's three – steps' (sensing, seizing & reconfiguration), or the three steps' (analysis, improvement & evaluation) cyclical process that most SMEs were found to use, lack of innovation culture still limits the generation of new ideas for SMEs to reconfigure their value creating resources to adapt to the unfolding market and industry changes. To remedy such methodological shortfalls, the study recommends a model emphasising the creation of a strong enterprise innovative culture prior to the application of Teece's three- steps' (sensing, seizing and reconfiguration) framework for dynamic capabilities' building.

Keywords: changes in Trends; dynamic capabilities; innovation culture; SMEs' performance

During the initiatives for improving a firm's dynamic capabilities, a strong pre-existing innovation culture facilitates the generation of new ideas that enables a firm reconfigure its strategic value creating resources to adapt to the trends unfolding in its changing external business environment (Dalvi, 2014:21). Innovation culture connotes a firm's underlying believes, values, norms, practices, methods, assumptions, shared experiences and behaviours that shape its corporate personality and business approach to continuously generate new ideas and convert such ideas into new value adding products or operational systems (Wong, 2014:229). Dynamic capabilities is a strategic management process of sensing the need for change and reconfigurating a firm's value creating resources to create a strategic fit with the unfolding market and industry trends (Teece, 2007:1319). Such a view implies a pre-existing innovation culture is pivotal in all the activities for building and improving an enterprise's dynamic capabilities. Unfortunately, most of the theoretical articulations on dynamic capabilities' building are often based on the assumptions that

by the time a firm considers improving its dynamic capabilities; it will have already built a strong innovative foundation (Banterle, Carraresi & Cavaliere, 2011:3; Nedergaard & Griffith, 2011:6; Teece, 2007:1319). In a practical sense, that is often not the case (Kirsty, 2016:9; Moses, Sithole, Blankley, Labadarios, Makelane & Nkobole, 2012:5; Ramukumb, 2014:19). Most firms operate in poorly supported innovative environments in which even for the well-resourced SMEs, poor innovation and diffusion of the required changes still characterise challenges marring the necessary reconfigurations that can be undertaken to enhance a firm's dynamic capabilities (Kirsty, 2016:9; Moses, Sithole, Blankley, Labadarios, Makelane & Nkobole, 2012:5; Ramukumb, 2014:19). Such a situation limits a firm's ability to constantly sense, respond and evolve with the emerging changes. It is such a methodological shortfall that motivates this research to explore the activities critical for building a strong underlying innovation culture that in turn drives the improvement of the process for building and improving the dynamic capabilities of the SMEs in the South African manufacturing sector.

LITERATURE REVIEW

The argument that innovation culture is a pivotal antecedent for building an enterprise's dynamic capabilities is implicit in most of the conventional theories on dynamic capabilities' building (Barney, 1991:99; Barney, Ketchen & Wright, 2011:131).

Dynamic Capabilities

The notion of dynamic capabilities strives to address the weaknesses of the resource-based theory (Augier & Teece, 2009:410). It is the view in the resource-based theory that the attainment of a firm's sustainable competitive advantage is predicted by how its value creating resources are rare, inimitable and non-substitutable (Barney, 1991:99; Barney, Ketchen & Wright, 2011:131). Such value creating resources are either tangible or intangible. The tangible resources include machineries and plants, technological equipments, raw-materials, physical locations and structures (Barney, Ketchen & Wright, 2011:131). The intangible resources are a confluence of financial resources, skills, experience, management and leadership styles, intellectual property, and business relationships (Wu, 2010:27). However, the proponents of dynamic capabilities hold that it is not just enough to ensure that a firm's value creating resources cannot be easily imitated and replicated by rivals or substituted by the use of strategically equivalent value creating resources (Banterle et al. 2011:3; Nedergaard & Griffith, 2011:6; Teece, 2007:1319). Instead, they emphasise that constant sensing of the changes in trends and reconfiguration of such resources enhance an enterprise's ability to adapt and remain sustainably competitive (Augier & Teece, 2009:410). This signifies firms must continuously innovate new ways of improving their dynamic capabilities (Augier & Teece, 2009:410). To improve a firm's dynamic capabilities, Easterby-Smith and Peteraf (2009:21) argue in the micro-foundational model of dynamic capabilities' building that the development of an enterprise's dynamic capabilities is often instigated by the identification and modifications of the usually difficult to identify micro-foundations.

Micro-Foundational Model of Dynamic Capabilities

Micro-foundations are tacit organisational elements and intangibles comprising of defined routines, processes, managerial cognition and knowledge that are often difficult to identify and develop (Easterby-Smith & Peteraf 2009:21; Teece, 2007:2). Micro-foundations enable a firm sense and respond to the emerging changes (Argote & Ren, 2012:1375; Easterby-Smith & Peteraf 2009:21). With micro-foundations reconfigured to propel change, it becomes easier for the executives to initiate discontinuous innovation, and subsequently improve a firm's dynamic, adaptive, absorptive and innovative capabilities (Argote & Ren, 2012:1375; Volberda, Foss & Lyles, 2010: 931). Discontinuous innovation provokes the executives' thoughtfulness to rethink the direction of an enterprise (Easterby-Smith & Peteraf 2009:21). It also motivates the reconsideration of the suitability of the changes in its capabilities

vis-à-vis the changes that have so far taken place in the external business environment (Easterby-Smith & Peteraf 2009:21). This enhances adaptive capabilities of a firm to adjust and fit in the newly introduced changes (Augier & Teece, 2009:410). It also edifies a firm's absorptive capabilities to easily identify and assimilate the emerging new value creating changes as part of the critical knowledge and skills that in turn titivate a firm's innovative capabilities (Volberda et al. 2010:931). Innovative capabilities refer to an enterprise's ability to constantly research and develop new products and services to respond to the emerging market changes (Augier & Teece, 2009:410). It is certainly evident that in the absence of a strong innovative foundation supported by the executives and the allocation of sufficient resources, it is still often not easily practicable for firms to initiate the improvement of their micro-foundations. In contrast to the reasoning in the micro-foundational model, the articulations in the dynamic and functional capabilities' model highlight that a strategic fit of an enterprise with the changes in its external business environment is often driven by the modification of dynamic capabilities that subsequently cause changes in functional capabilities (Weerawardena & Mavondo, 2011:1220). Dynamic and functional capabilities' model holds that a firm's capabilities can be dynamic or functional (Weerawardena & Mavondo, 2011:1220). Functional capabilities are the basic competencies of a firm to utilise the value creating resources in the accomplishment of different business activities (Augier & Teece, 2009:410). The different forms of functional capabilities encompass marketing, operational, technological and managerial capabilities. Dynamic capabilities instigate and drive reconfiguration of functional capabilities to in turn edify a firm's flexibility and responsiveness to the changes in the industry and market trends (Ambrosini, Bowman, & Collier, 2009:9). To achieve such values, the model posits the process of dynamic capabilities' building to undertake a three-dimensional shape encompassing; integration, learning and strategic competitive response (Weerawardena & Mavondo, 2011:1220).

Integration capabilities facilitate the mobilisation, integration and coordination of different functions and resources to drive the enterprise towards the attainment of the desired business change and transformational outcomes (Ambrosini et al. 2009:9). In such initiatives, the activities that require effective integration are related to product development that also requires effective coordination of different skills, resources and cross-functional teams (Weerawardena & Mavondo, 2011:1220). It also entails making decisions to coherently link and unify different business units, functions, processes and teams. Learning capabilities arise from a firm's ability to generate and accumulate knowledge, ideas and know-how to edify improvement of the level of the innovation of new products or services and processes (Wilden, Gudergan, Nielsen & Lings, 2013:72).

However, learning capabilities are often only induced through improved level of cross-teams' collaboration, information exchange and sharing, and effective communication to facilitate the transfer of relevant ideas and knowledge (Wilden et al. 2013:72). Strategic competitive response capabilities are linked to the ability of the enterprise to constantly scan the environment and respond more effectively to exploit the prevailing opportunities or diffuse threats raised by the competitors (Augier & Teece, 2009:410). In other words, these dynamic capabilities instigate the need for change to drive the change and transformation of functional capabilities such as marketing, operational, technological and management capabilities that in turn influence the improvement of an enterprise's performance. Just like the other authors such as Weerawardena and Mavondo (2011:1220) and Wilden, Gudergan, Nielsen and Lings (2013:72), Teece (2007:1319) and Easterby-Smith and Peteraf's (2009:21) views imply a pre-existence of a strong innovation culture renders it easier for such microfoundations to be modified.

Teece's (2007) Explicating Dynamic Capabilities

Different views have been expressed in different models on the process for building an enterprise's dynamic capabilities (Altindag, Zehir & Acar,

2010:18; Ambrosini, Bowman, & Collier, 2009:9; Day, 2011:183). In such different views, most of the authors seem to agree with the foundational views in Teece's (2007:131) model that the process for developing a firm's dynamic capabilities flow along three steps encompassing: sensing and shaping opportunities, seizing opportunities, managing threats and reconfiguration (See Figure 1). However, it is also evident that as most of the authors agitate for such a process, they also tend to underrate the value of building a strong innovation culture prior to undertaking the initiatives for dynamic capabilities' building (Altindag, Zehir & Acar, 2010:18; Ambrosini, Bowman, & Collier, 2009:9; Day, 2011:183). Yet, in the context of the illustration in Figure 1, it is glaringly apparent that without a strong innovation culture, a firm may not have the requisite capabilities to constantly undertake the often more cyclical activities linked to sensing and seizing opportunities, and managing threats and capabilities' modifications and reconfiguration.

Sensing and Shaping Opportunities

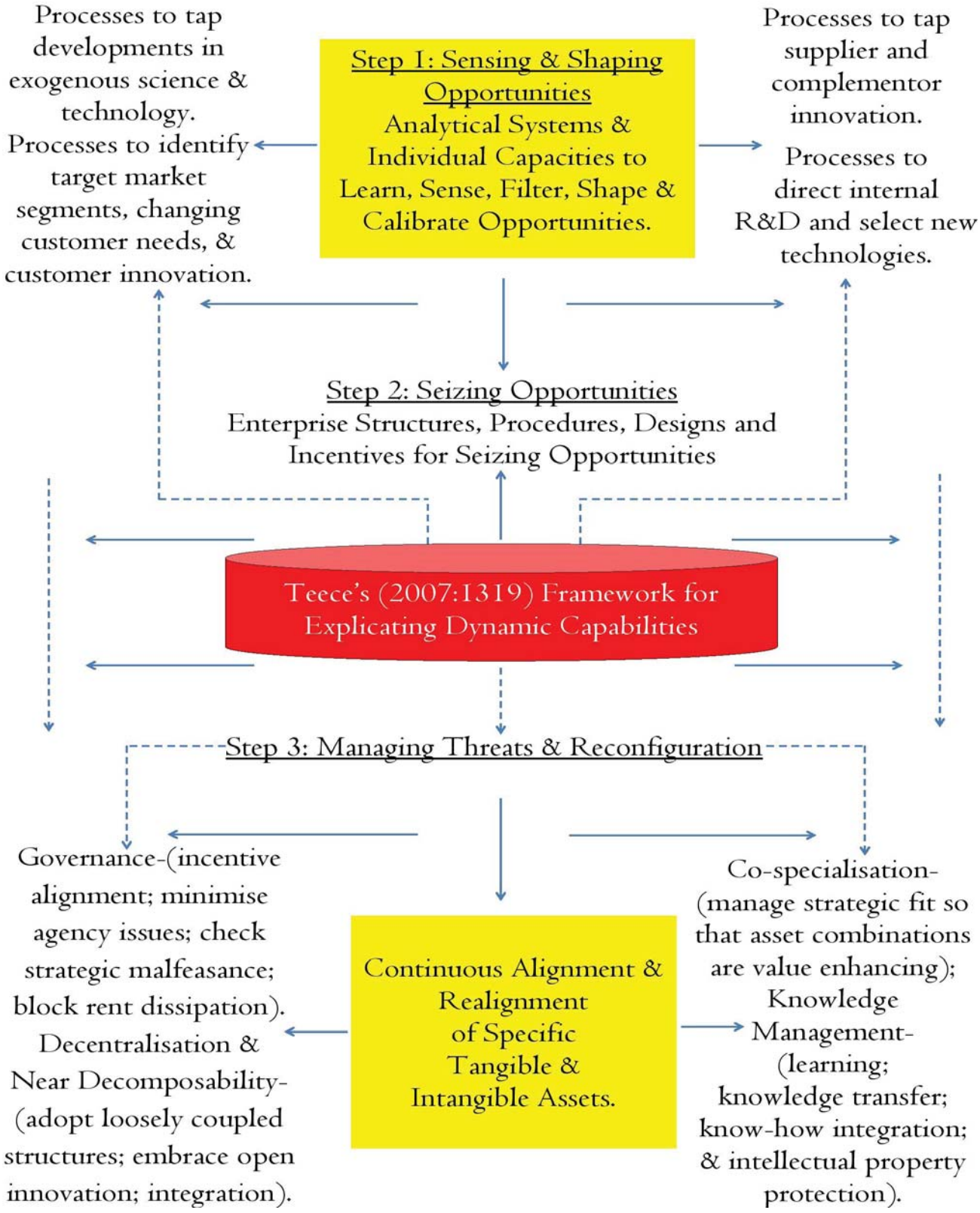
A strong enterprise innovative culture offers a strategic foundation that influences a firm's analytical systems and individual capacities to sense, filter, shape and calibrate opportunities as they unfold. This enhances identification of how its capabilities can be modified to maximise such opportunities (Altindag et al. 2010:18). It edifies analysis of the prevailing and the likely emerging trends to enable a firm to assess how it can effectively respond to such changes (Altindag et al. 2010:18). A firm's response is usually undertaken through the introduction of new products and services to meet the emerging new customer demands. It also requires modifications of a firm's structures, processes and methods to create a strategic fit between the enterprise and the changes in the external business environment (Altindag et al. 2010:18). Teece's (2007:131) approach for sensing and shaping opportunities is nevertheless based on a reactionary approach in which a firm is forced to respond to the identified emerging changes by modifying its capabilities. However, such approach contradicts Nedergaard and Griffith's (2011:6) concept design process of improving dynamic capabilities that agitates for a proactive approach. During the application of a proactive approach, a firm does not wait for changes in trends to occur, but anticipates and responds with relevant product innovation and modifications to mitigate risks before such trends occur (Nedergaard & Griffith, 2011:6). Considering the rapid precarious changes that occur in the contemporary business environment, the use of the design process model in dynamic capabilities' building implies that for firms to stay ahead of competitors, they need to be proactive (Nedergaard & Griffith, 2011:6).

A proactive approach of sensing trends entails forecasting and anticipating changes and initiating the need for change and dynamic capabilities' building to respond to such changes before they unfold (Nedergaard & Griffith, 2011:6). Such approach enables enterprises to be rather proactive and evolve with changes as compared to the over-reliance on market intelligence techniques that leave the enterprise's dynamic capabilities' building programme lagging behind market changes (Nedergaard & Griffith, 2011:6). Sensing opportunities and the need for innovation and change are often followed by the evaluation of how to seize the unfolding opportunities.

Seizing Opportunities

Seizing entails making strategic business decisions that lead to the maximisation of the identified opportunities and the diffusion of the emerging threats (Ambrosini et al. 2009:9). It deals with the actual process of undertaking new innovation investments or modifications of the existing products and processes. Some of the critical decisions involve evaluation of whether innovation investments will be outsourced or undertaken internally (Ambrosini et al. 2009:9). It also encompasses evaluation of whether the enterprise will enter into any form of strategic alliance and partnership to render the venture successful (Augier & Teece, 2009:410). In other words, seizing requires the executives to evaluate how the development of the required critical relationships and networks with relevant stakeholders would influence maximisation of the prevailing opportunities (Ambrosini et al.

FIGURE 1:
STRATEGIC FRAMEWORK: INNOVATION CULTURE AS AN ANTECEDENT FOR BUILDING AN ENTERPRISE'S DYNAMIC CAPABILITIES



Source: Derived from Teece's (2007:1319) Explicating Dynamic Capabilities

2009:9). Quite often, this leads to the assessment of the efficiency of the commercialisation and marketing of new innovations. Such evaluations often entail an analysis of the effectiveness of the present distribution networks, pricing and marketing and promotional strategies to bolster attainment of a firm's superior performance (Stefano, Peteraf & Verona, 2010:1187). It is at that stage that reconfiguration of certain specific value creating resources arises as a prerequisite for managing threats and enhancing opportunities' maximisation.

Reconfiguration and Managing Threats

Reconfiguration is the process of rethinking how the existing capabilities of the enterprise can be improved to effectively meet the unfolding new industry and market demands (Stefano et al. 2010:1187). Reconfiguration is often undertaken through product or service redesign, and creation of new processes, methods and systems to edify an enterprise's capabilities to perform more sustainably in the midst of the emerging changes. In the event that new creations are not required, reconfiguration may entail modifications of the existing products, services, processes and methods (Augier & Teece, 2009:410). In a bid to improve process efficiency and cost competitiveness, reconfiguration may also involve the review of the existing technologies or investments in new ones. Reconfiguration requires significant creativity and innovation to understand customers' needs and modify the existing value creating resources to support the meeting of the emerging new industry and market demands (Stefano et al. 2010:1187). To achieve such strategic objectives, the executives need to continuously align and realign specific tangible and intangible resources to create the desired values.

However, without a supportive environment of learning and experimentation, not many values may be gained from reconfiguration. Reconfiguration involves a lot of learning and experimentations to test and re-test ideas and prototypes before the final ideas are adopted (Stefano et al. 2010:1187). This can be costly and disrupt the normal flow of work. Without the necessary management commitment and support, it is also often at this point that the initiatives for improving a firm's dynamic capabilities fail to achieve the intended results. This implies that without a strong innovation culture that embraces constant change and transformation, the application of Teece's (2007:131) three – steps' (sensing, seizing and reconfiguration) may not influence the attainment of the desired business results. In other words, the major limitations of building a firm's dynamic capabilities are often related to the effects of path dependencies and the commitment of the executives (Bakar, & Ahmad, 2010:420; Day, 2011:183; Lin & Chen, 2013:977; Barrales-Molina & Perez-Arostegui, 2010:135; Barrales-Molina & Perez-Arostegui, 2010:135; Barney, Ketchen & Wright, 2011:129). Such constraints are not only evident in theories, but also in the initiatives undertaken by the SMEs in the South African manufacturing sector to build their dynamic capabilities (Business Environment Specialists, 2014:6 ; Small Enterprise Development Agency. 2014:4).

However, conventional theories on innovation culture indicate that although in the contemporary business practice, every business strives to innovate and change so as to remain competitive and achieve the desired business results, it is often only the enterprises that reshape their underlying culture to support constant innovation and change that are able to thrive (Kaplan & Palmer, 2015:2). All these signify that to build and improve an enterprise's dynamic capabilities, a strong innovation culture that supports constant innovation is a prerequisite for modifying and introducing new processes, methods, technologies, and products or services (Wilden et al. 2013:72).

Innovation Culture

Innovation culture constitutes strong beliefs, attitudes and practices that influence the creation of the requisite structures, processes, methods, systems and organisational environment to enhance the desired change and transformation (Coffman, 2015:6). Innovation not only responds to change, but also creates the impetus for an enterprise to undertake the necessary reconfigurations to adapt to such changes and become competitive (Barrales-Molina & Perez-

Arostegui, 2010:135). It is on that basis that it influences the effectiveness of the process of building and improving an enterprise's dynamic capabilities. The development of a culture of innovation is often predicted by whether the executives apply a top-down approach, hybrid approach or the distributed network approach (Coffman, 2015:6).

Network Structure of Innovation Culture

Although in the top-down approach, innovative ideas are solicited from different structures of the enterprise, the actual formulation of the ideas on new innovations to be undertaken is often driven by the executives only (Coffman, 2015:6). Top-down approach often discourages the entrenchment of a culture of innovation in the lower organisational structures (Coffman, 2015:6). In top-down approach, ideas generated from the lower structures are in most of the cases refined. This distorts the identification of the lower level manager or employee to whom the new successful innovations must be attributed (Barrales-Molina & Perez-Arostegui, 2010:135). As thus, it therefore discourages the use of the necessary rewards to stimulate the desired innovative behaviours from talented employees. More innovation intensive culture enterprises therefore opt for the application of hybrid and distributed network strategies. Hybrid approach involves the creation of a unique middle structure of research and innovation through which ideas are solicited from the lower level employees and developed in viable business concepts (Coffman, 2015:6).

Distributed network approach encourages the creation of a network of different teams or work groups that initiate own ideas, conduct experiments, and help transition of the idea through prototypes that are tested prior to implementation (Barrales-Molina & Perez-Arostegui, 2010:135). As compared to the top-down and hybrid approach, distributed network approach therefore motivates the lower level managers and employees to subsequently influence the evolution of a culture of an innovative enterprise (Coffman, 2015:6). Distributed network approach encourages individual participation and collaboration with other networks in the process of idea generation, experimentation, logging results, testing prototypes and implementation (Cooper, 2008:213). The development of a culture of an innovative enterprise creates a strong feeling of self-believe among the employees and the managers (Cooper, 2008:213). It is through such approach that the ordinary managers, supervisors and employees may tend to be more prepared to undertake continuous change and modifications that are often associated with improving an enterprise's dynamic capabilities (Barreto, 2010:256). Such a view reinforces the opinions of other authors who argue that fostering of the desired level of trust and self-reliance among the employees is the first critical activity that influence the development of a culture of an innovative enterprise (Barreto, 2010:256).

Some of the strategies for fostering trust as an antecedent for building innovation culture include; autonomy and making the individual managers and employees understand that the enterprise relies on them, sharing responsibilities irrespective of a failure or success, information sharing and exchange, and rewarding successful and unsuccessful innovation ideas. These strategies can instill self-believe and confidence in the employees, and as thus create the environment where innovation thrives through trials and error in which the management does not blame for failures (Cooper, 2008:213). The entrenchment of an organisational culture of innovation is also motivated by the structure of the innovation culture that the executives adopt (Hekkert & Simona Negro, 2011:6; Sarja, 2015:204). The command and control theory indicates innovation culture to often comprise of two constructs; command and control, and the networks. The command and control structures that comprise of the executives often pave the direction and rules and regulations that influence the engagement of the networks in research and innovation (Hekkert & Simona Negro, 2011:6; Sarja, 2015:204). Network structures undertake the research and initiation of new ideas and development into final products or business concepts within the directives and rules prescribed by the command and control structures (Coffman, 2015:6). If the conditions

are unfavourable or initiatives are not undertaken to build an extensive network, the effectiveness of the networks gets undermined to subsequently also limit the evolution of innovation culture (du Preez, Louw & Essmann, 2012:10).

To enhance the efficiency and efficacy of network structures, the executives must ensure efficient linkage between four types of network structures; hub and spoke, user-to-user marketplace, open-source collaboration, and project management intranet (Coffman, 2015:6). The executives must concentrate on ensuring that policies, practices and resources are directed towards encouraging free extensive interactions and collaborations between all the parties in the network (du Preez et al. 2012:10). This edifies the improvement of the intrinsic motivations of those involved in innovation, and the reduction of extrinsic motivations (Coffman, 2015:6). In other words, a culture of innovation is fostered by the development of the environment that permits every capable employee and the associated networks to explore, try and adopt new ideas. However, the strategic levers of innovation culture change imply that the development of innovation culture is often best accomplished by the analysis, identification and modifications of certain underlying levers.

Strategic Levers of Innovation Culture Change

Without reshaping the underlying culture of the enterprise, innovation may not enhance the attainment of the desired business results (Kaplan & Palmer, 2015:2). It is therefore critical to reshape the culture of the enterprise to support the development of a culture of innovation (du Preez et al. 2012:10). In the context of the views in the strategic levers for innovation culture theory, this can be accomplished using three sets of strategies; training to direct the attention and commitment of the employees towards new vision, leadership development and change management to facilitate the diffusion of new practices, processes and cultures that facilitate the improvement of an enterprise effectiveness (du Preez et al. 2012:10). In addition to the application of such strategies, the strategic levers for innovation culture also suggests that it is critical for the executives interested in developing a culture of innovation to start the process by assessing the usually difficult to identify influencers or levers of the organisational culture that include; the external environment, strategy and business model, leadership, processes, structures, people, metrics and the enabling technology (Kaplan & Palmer, 2015:2). The external environment enhances analysis of the changes in variables such as demographics, the degree of industry rivalry, consumer tastes, and technology that impact on how the internal activities of the enterprise are accomplished (Hekkert et al. 2011:6). Strategy and business models are the explicit and implicit strategies and design that the enterprise uses, and leadership connotes the strategic direction that an enterprise follows (Hekkert & Simona Negro, 2011:6). Whereas process deals with how the enterprise accomplishes its internal activities and interacts with customers and other partners, structures are the designs and principles that constitute the context within which activities are accomplished (Hekkert et al. 2011:6). People refer to the skills, experience, beliefs and competencies that shape how activities are accomplished, as metrics are the incentives, recognitions and rewards that shape behaviours and processes of activities' accomplishment (Kaplan & Palmer, 2015:2). Enabling technologies connote the scientific capabilities that facilitate how the enterprise accomplishes its activities (Hekkert et al. 2011:6). The analysis of these levers of innovation culture enables the executives identify the often mundane explicit and implicit deeply embedded practices, norms, attitudes, behaviours, processes, artefacts and methods that either influence or inhibit innovation.

However, to achieve that, the levers of innovation holds that firms must use three main techniques; envisioning, communication and sponsoring (Kaplan & Palmer, 2015:2). Envisioning is the setting of new vision and direction that guide the reshaping of the existing cultures; communication facilitates conveying relevant messages on why the adoption of innovation culture is important and sponsoring deals with the taking of the relevant actions to foster a culture of innovation

(Everatte, 2003:42; Gurau & Lasch, 2011:420). The creation of a robust innovation culture also requires a strong management commitment, the allocation of sufficient resources, the creation of a culture and environment for learning and experimentation, and diffusion management to enhance the adoption and application of the newly invented or innovated ideals (Gurau & Lasch, 2011:420; Hemert et al. 2013:425). This influences the development of an effective pre-existing innovation culture that in turn facilitates the generation of new ideas to enable a firm reconfigure its strategic value creating resources to adapt to its changing external business environment (Dalvi, 2014:21). However, unless specific measures are undertaken to change and transform employees' innovative behaviours, it may tend to be difficult to develop practices and behaviours that support the development of an enterprise innovative culture.

Change and Transformation of Employee Innovative Behaviours

Change and transformation of employees' innovative behaviours are prerequisites for businesses seeking to entrench a culture of enterprise innovative behaviours (Xerri, Brunetto & Shacklock, 2009:10). Employees are catalysts in the process of the development and evolution of a particular culture within an organisation. In effect, change and transformation of their innovative behaviours may therefore spur the development and entrenchment of practices and behaviours that in turn also facilitate the entrenchment of a culture of an innovative enterprise. To enhance change and transformation of employee innovative behaviours that support the development of an enterprise innovative culture, it is critical that executives define vision and mission of the essence for the development of an enterprise innovative culture (Martín-de Castro, Delgado-Verde, Navas-López & Cruz-González, 2012:351). This is often accompanied by clear communication and motivation of the essence for the development of an enterprise innovative culture. In the midst of the increasingly precarious contemporary business, some of the arguments for the development of a strong enterprise innovative culture are often linked to the view that innovation is the key to remaining competitive and sustainable (Efrat, 2014:12) . If the employees have subscribed to such a view, it often turns easier for them to apply individual creativity to not only develop new products, but also improve operational processes, relationships and networks to create new values that the enterprise would have not gained without employees turning to be more creative and innovative (Efrat, 2014:12).

However, unless such measures are undertaken in conjunction with the allocation of significant degree of autonomy and independence to the employees, their effects towards the achievement of the desired change and transformation of the employees' innovative behaviours may only be minimal. Improved structural and psychological empowerment of the employees influences the extent to which employees are able to feel comfortable to initiate and try new ideas (Engelen, Brettel & Wiest, 2012:52). In this process of empowerment, employees must be trained and developed to independently recognise problems, develop and try new solutions, and undertake self evaluation and monitoring to assess whether the newly adopted solutions are contributing towards the amelioration of the identified problems. It is not only such freedom to try and experiment new ideas that edify the development of an enterprise innovative culture, but also management recognition and encouragement of more innovative behaviours (Engelen et al. 2012:52). As managers use recognition and a combination of monetary and other non-monetary rewards such as promotion to encourage good behaviours, improved level of cooperation across different departments and units as well as communication, information exchange and sharing are also critical for catalysing the desired behaviours and practices across the enterprise.

However, it is still evident from theories that although innovation is often initially commenced with vigour, challenges arise from the fact that later evaluations and monitoring are often ignored (Menguc & Auh, 2010:820). This affects constant identification and elimination of newly emerging incompatible behaviours that distort the entrenchment of a culture of an innovative

enterprise. To continuously evaluate and improve behaviours that support the development of an enterprise innovative culture, Berg's (2013) innovation maturity model provides five levels for analysis and evaluation of the level of the entrenchment of an enterprise innovative culture. These five levels are level 1: entry level innovation practice, level 2: emerging innovation practice, level 3: coordinated innovation practice, level 4: innovation leadership and level 5: industry innovation leadership. Level one is often characterised by mere statements of developing an enterprise innovative culture without necessarily taking actions and committing the necessary resources towards the accomplishment of the activities that facilitate the development of an innovative culture. To reverse such a trend, it is critical that managers demonstrate leadership, and develop policies and operational frameworks that facilitate the development of behaviours that facilitate the entrenchment of innovative behaviours among the employees. In the second level, businesses often demonstrate seriousness by translating innovative ideas into actions.

However, challenges often still arise from lack of the development and application of the appropriate strategies to stimulate the success of new innovations. To deal with such challenges, more keen enterprises usually commit significant financial resources in the development of relevant skills and competencies of the employees to catalyse the overall improvement of the process for the development of an innovative enterprise culture. Nevertheless, it has still often emerged that as employee empowerment is improved, increased autonomy and the associated silos often arise to de-stabilise the effectiveness of the process for the development of an innovative enterprise. In the third level that deals with coordinated innovation practice, Berg's (2013) innovation maturity model suggests that improvement of activities coordination, information sharing and exchange by developing and establishing more effective information system can leverage the development of an enterprise innovative behaviours. This spurs the development and evolution of innovation culture to level 4 where an enterprise espouses significant innovation leadership, and subsequently industry leadership in level 5 where the business leads the innovation trends in a particular industry. It is at that level that firms that aim to modify their capabilities and improve their dynamic capabilities to effectively respond to new emerging trends are able to easily do so. Unfortunately, only limited evidence exists that most of the proponents of the contemporary dynamic capabilities' improvement strategies consider a pre-existing strong enterprise innovation culture as a pre-condition that drives the necessary modifications and reconfigurations to influence the overall effectiveness of the dynamic capabilities' building (Banterle et al. 2011:3; Nedergaard & Griffith, 2011:6; Teece, 2007:1319). It is such a methodological shortfall that this research deals with by pointing how building a strong innovative culture edifies the effectiveness of SMEs' dynamic capabilities' building and improvement.

PROBLEM STATEMENT

Lack of a methodological framework elucidating how an innovative culture can be fostered prior to building a firm's dynamic capabilities limits the ability of most of the SMEs in the South African manufacturing sector to replicate the best practices on how to improve their dynamic capabilities and perform more sustainability in the constantly changing and dynamic contemporary precarious South African business landscape.

PURPOSE OF THE RESEARCH

The main purpose of this research is to assess and identify the major inhibitors that mar the emphasis of innovation as an antecedent for building SMEs' dynamic capabilities, so as to develop an integral remedial model that can be suggested. In a bid to accomplish this, the entire research process was guided by three fundamental research questions encompassing the evaluation of:

- What innovative practices do SMEs in the South African manufacturing sector exhibit to support the development of innovation culture as an antecedent for improving their dynamic

capabilities?
- What are the inhibitors of innovation culture as a pivotal foundation for building the dynamic capabilities of the SMEs in the South African manufacturing sector?
- Which model can be suggested to enhance the development of innovation culture as a pivotal foundation for building the dynamic capabilities of the SMEs in the South African manufacturing sector?

In a bid to seek answers to these questions, the study used the methodologies described in the next section.

METHODOLOGY

The study uses the inductive research paradigm on the basis that the motive of the research was to generate and extract a new theory from data as contrasted with the deductive approach that involves testing a theory (Morse, 2010:483). It involved the use of a mixed research method entailing a meta-synthesis of the results of the empirical studies conducted on the SMEs' dynamic capabilities' building and interviews with key managers from the SMEs in the South African manufacturing sector (Clark, 2010:428).

A meta-synthesis

A meta-synthesis entailed the analysis of the dynamic capabilities theories and triangulation with the results of the empirical studies conducted on dynamic capabilities building by the SMEs in the South African manufacturing sector in the period between 2010 and 2016 (Kirsty, 2016:9; Mohsam & Van Brakel, 2011:1; Moses, Sithole, Blankley, Labadarios, Makelane & Nkobole, 2012:5; Ramukumb, 2014:19). In the first instance, a meta-synthesis aimed at assessing the extent to which theoretical articulations emphasise the importance of a strong innovative culture as a prerequisite for undertaking effective dynamic capabilities building. This involved the valuation of Teece's (2007) founding theory of "Explicating Dynamic Capabilities", and what later authors state about the essence of a strong innovation culture as a prerequisite for undertaking effective dynamic capabilities' building. This led to the analysis of the limitations associated with such theoretical views. Teece's (2007) founding theory of "Explicating Dynamic Capabilities", and later authors were found to focus on elucidating how firms can sense the need for change and reconfigure their capabilities on the assumption that the firms already held a strong innovation culture (See Figure 1). In actual sense, the major limitation was found to be latent in the fact that that is often not the case. Triangulation of these theoretical findings with the results of the empirical studies conducted on dynamic capabilities building by the SMEs in South African manufacturing sector in the period between 2010 and 2016 (Fraser, 2013:10; Chengedzai & Osayuwamen, 2013:157; Mohsam & Van Brakel, 2011:1; Naidoo & Urban, 2010:234; Neneh & van Zyl, 2014:118) also revealed a similar process and the associated limitations to characterise the dynamic capabilities building approach used by most of the SMEs in South African manufacturing sector. In a bid to assess how such a limitation can be addressed, interviews were conducted with key managers from the SMEs in the South African manufacturing sector to further unearth the challenges that they face and the approach that they have used to address such challenges and improve their dynamic capabilities.

Interviews

Interviews were conducted with 15 (fifteen) employees drawn using purposive sampling from 15 SMEs in the South African manufacturing sector in the period between September and December, 2015. Purpose sampling involved the application of five criteria: the SME had to be operating in the manufacturing sector, the SME had to be based in Gauteng in order to enhance the convenience of data collection, the SME must have attempted to implement some continuous improvement measures to build and improve their dynamic capabilities, the employee to be interviewed had to be a manager or a supervisor and in a position to understand what dynamic capabilities improvement entails. Brief interviews were conducted to ensure fulfillment of these conditions. The 15 (fifteen) SMEs were

drawn from businesses involved in different manufacturing activities such as industrial packaging materials, mineral water bottling and beverage manufacturing, frozen food and foodstuff manufacturing, clothing and shoe manufacturing, and building material manufacturing. The first interview question explored whether the participants understood the importance of dynamic capabilities' building, and the critical steps that they had used for dynamic capabilities' building. The second question evaluated whether they understood that dynamic capabilities' building requires a robust innovation culture and whether they had often undertaken the initiatives to build effective innovation culture prior to engaging in dynamic capabilities' building. Thirdly, the interview questions evaluated whether SMEs have faced any challenges when trying to build a robust innovative culture as an antecedent for improving their dynamic capabilities' building, as well as whether they had any remedial model that they wanted to suggest. The obtained interview data was analysed using thematic content analysis entailing; reading and re-reading data, identification of main-themes and sub-themes and drawing a thematic framework to enhance assessment of how the obtained data provide information relevant to the research questions (see Figure 2). The views represented in Figure 2 were triangulated with the results of a meta-synthesis of theories represented in Figure 1 to reach a logical conclusion on the model that can be suggested to enhance the development of innovation culture as a pivotal foundation for building the dynamic capabilities of the SMEs in the South African manufacturing sector (see Figure 3). Methodological and theoretical triangulations were also used as the principal techniques for enhancing the credibility, dependability and transferability of the study (Morse, 2010:483). The details of the findings are as presented and discussed in the next section.

FINDINGS

Drawing from the fundamental research questions for this study, findings are presented and discussed according to three subsections encompassing:

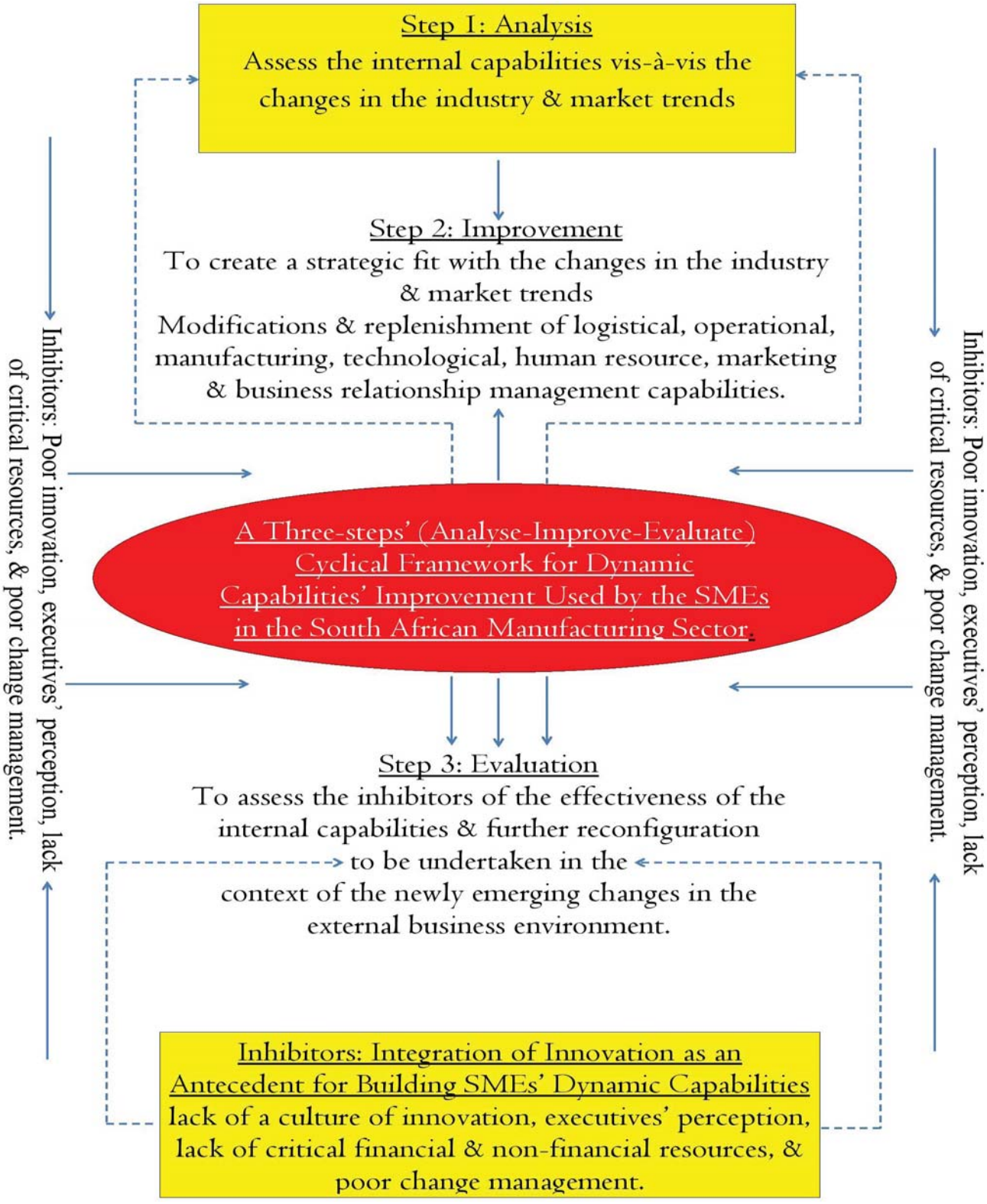
- • Innovative Practices of SMEs in South Africa: Innovation culture as an antecedent for building the dynamic capabilities of the SMEs in the manufacturing sector
- Inhibitors: Innovation Culture as Antecedent for Building SMEs' Dynamic Capabilities

The details are as follows.

Innovative Practices in South Africa: Innovation Culture as an Antecedent for Building the Dynamic Capabilities of the SMEs in the Manufacturing Sector

Just like the methodological shortfalls in theories, the analysis of the findings did not indicate whether effective initiatives are undertaken by the SMEs in the South African manufacturing sector to build an effective innovation culture prior to undertaking the initiatives for improving their dynamic capabilities. Instead, most of the managers and executives were found to use a three - steps' (analysis, improvement and evaluation) cyclical process as the main initiative for improving the capabilities of their manufacturing plants. In the context of the illustration in Figure 2, such a process was however found to be only analogous to the continuous improvement process rather than the dynamic capabilities' improvement process of sensing, seizing and reconfiguration (Teece, 2007:131). As it emerged from the findings, the motives of such initiatives are often to improve the capacity of the manufacturing plants and ensure that a firm is able to supply a larger market and increase the overall level of profitability. In terms of analysis, findings revealed most of the SMEs in the manufacturing sector to engage in different forms of analysis. Whether or not there are threatening trends unfolding in the external environment, such analysis is usually undertaken to respond to frequent operational failures. In such cases, the analysis is conducted on the effectiveness of the machineries and certain different critical areas of the manufacturing plant so as to assess whether the sources of failures are linked to machines and plant's depreciation, poor maintenance, outsourcing, employment of

FIGURE 2:
THEMES RESULTING FROM THE TRIANGULATION OF THE INTERVIEW FINDINGS AND RESULTS OF A META-SYNTHESIS OF DIFFERENT TO UNDERSTAND THE EXTENT TO WHICH EMPHASISE IS PLACED ON INNOVATION AS AN ANTECEDENT FOR BUILDING THE DYNAMIC CAPABILITIES OF THE SMES IN THE SOUTH AFRICAN MANUFACTURING SECTOR.



less creative and skilled maintenance personnel. Depending on the challenges identified to be requiring the building of dynamic capabilities, findings imply the commonly used improvement strategies for building dynamic capabilities have often involved the use of; logistical, operational, technological, human resource, marketing and business relationship management strategies.

The use of such strategies is often accompanied by constant monitoring and evaluation. Constant monitoring and evaluation is usually undertaken to enhance the identification of whether the strategies that have been undertaken are contributing towards the improvement of the dynamic capabilities of the manufacturing plant. Such a view is accentuated in the opinions of one of the managers in the SMEs involved in the manufacturing of fruit juice who stated that:

"Depending on the changes in trends, constant review and change of our capabilities is usually on top of our main agenda. We often undertake such analysis using methods such as constant review and analysis of our performance capabilities along the entire value chain so as to assess whether the identified sources of challenges are linked to the suppliers, or the internal deficiencies. The other area for assessments has also often included the technology and the overall operational capabilities in order to discern the effectiveness of the technology and operational systems to enhance the dynamic capabilities of the manufacturing plant."

In other words, following such analysis was noted by some of the managers to edify the identification and elimination of the areas of actual challenges. Besides the technological review, some of the SMEs also tend to assess the effectiveness of the application of the marketing strategies such as pricing, relationships with stores and distributions. Although the application of the three steps' cyclical framework seems to enhance the improvement of the dynamic capabilities in the SMEs in the manufacturing sector, further analysis of the findings revealed that its effectiveness is often still constrained by a number of factors presented and discussed under the next subsection.

Inhibitors: Innovation Culture as Antecedent for Building SMEs' Dynamic Capabilities

Findings indicated the inhibitors of the initiatives undertaken by most of the SMEs in the manufacturing sector to improve their innovation culture as a pivotal foundation for building of their dynamic capabilities to be linked to lack of a culture of innovation, management perception, lack of critical resources, and poor diffusion management (Kirsty, 2016:9; Moses, Sithole, Blankley, Labadarios, Makelane & Nkobole, 2012:5; Ramukumb, 2014:19). The details of these themes are explored as follows.

Lack of Innovation Culture

Whether it is Teece's (2007:131) three – steps' (sensing, seizing and reconfiguration), or it's the three - steps' (analysis, improvement and evaluation) cyclical process that the SME is using, findings imply that poor culture of innovation limits effectiveness of the initiatives for improving dynamic capabilities' building or continuous improvement. This is attributable to the fact that findings indicated that even SMEs that over-emphasis the importance of research and innovation have often not demonstrated the commitment of ensuring that innovation is effectively undertaken to enhance the development and improvement of their dynamic capabilities. Such a view is substantiated in the revelations of one of the managers from the SME engaged in the manufacturing of plastic containers in Midrand who stated that:

"Dynamic capabilities involve constant change and transformation which is not only very expensive, but also require a strong research department. Hence, it has often emerged that some of the manufacturers do not have the capacity and capabilities to establish effective research departments. In effect, some of the SMEs have not at all established research and development departments, as others just have units that are almost malfunctional to handle issues of research and development. In most of the instances, such research and development units only comprise

part of the marketing departments of which the staffs and other resources are shared across the two units. Consequently, the roles of the researchers are often only limited to marketing research. Even if some of the activities in such units result into new innovations, challenges often still arise from new innovations' commercialisation and adoption."

At the same time, it was found that a culture of sensing the need to change by undertaking the necessary modifications using original ideas from own research is still largely lacking among most of the SMEs in the Sou manufacturing sector (Kirsty, 2016:9). Instead, most of the SMEs tend to use benchmarking and copy best industry practices from rivals or the general industry operation. So, if every SME in a particular industry has adopted a particular practice, the managers often conduct necessary evaluation to gather data that can be interpreted to motivate the enterprise to change and adopt such practices. To some extent, such approach limits the emergence of competitive advantages that would have been associated with the uniqueness of the business practice and operational methods used by a particular SME. However, due to lack of skills and the necessary financial resources, some of the managers highlighted such approach to provide the best optimal rational approach for improving their dynamic capabilities. Besides poor innovation culture, it also emerged from the findings that management perception about the importance of dynamic capabilities' improvement is yet another limitation.

Management Perception

Management perception about the importance of dynamic capabilities' building is either a factor that can encourage or discourage the undertaking of the initiatives that improve an enterprise's dynamic capabilities. Unfortunately, empirical studies imply that some of the managers in some of the SMEs tend to discourage involvement in dynamic capabilities' building. Such a factor was also found to affect the development of innovation culture that usually spawns constant change and modifications of the manufacturing plants' capabilities. Reasons were found to be linked to the nature of the ownership of the business, the motives of the business and the state of the market performance of the business. SMEs in the manufacturing sector that are family owned, but that have managed to grow are found to be unwilling to undertake the necessary changes unless it is clear that such changes are important prerequisites. The negative effects of such business ownership on undermining the effectiveness of SMEs' dynamic capabilities were reiterated in the opinions of one of the managers from the manufacturers of steel who stated that:

"The executives in most of the family owned enterprises tend to strongly subscribe to the opinions of the family members, and for family members, their major concerns are usually to strive to maintain the status quo. In such instances, the application of the strategies for dynamic capabilities' improvement or any other changes leading to the distortion of the present business approach is often discouraged."

Besides the nature of the business, most of the managers are also usually less willing to engage in dynamic capabilities' building due to the fact that in certain cases, the motive of the business is not growth improvement so as to become market leaders, but merely survival (Business Environment Specialists, 2014:6; Small Enterprise Development Agency. 2014:4). In such instances, SMEs may tend to only be concerned with the present market performance. However, the drawbacks of such approach are often latent in the fact that ineffective application of proactive approach by sensing and responding to changes can easily induce a situation where the business is surprised by the emergence of sudden changes that it cannot easily deal with. Even if the managers of most of the SMEs in the manufacturing sector had keen interest of investing in innovation to improve their dynamic capabilities, findings imply that they would still have been unable to do so due to

the enormous resources that it may require.

Lack of Critical Resources

Most of the SMEs in the manufacturing sector were found to recognise the values of building an enterprise's dynamic capabilities. However, findings revealed that due to the associated financial implications, most of the SMEs tend to avoid engaging in such a practice. Some of the strategies for improving dynamic capabilities often involve costly investment in new technologies. Others require the hiring of consultants to undertake very expensive radical changes and transformations analogous to the process of business process re-engineering (Business Environment Specialists, 2014:6; Small Enterprise Development Agency. 2014:4). Such a view is echoed in the opinion of one of the managers who revealed that:

"Some of the SMEs in the manufacturing sector tend to perceive that initiating and building the dynamic capabilities of an enterprise is quite a costly adventure. In such instances, even the SMEs that strive to build and improve their dynamic capabilities tend to only do so in certain instances. If they do, they may only apply relevant measures once in a while, and not as a cyclical process improvement methodology."

This is attributable to the fact that the exercise is not only considered as financially costly, but also a burden in terms of accommodating new changes. It is also often explained by the fact that costly external consultants may have to be hired to remedy the internal challenge of skills shortage. Besides the essence of critical resources, it was also evident from the findings that the implementation of the strategies for dynamic capabilities' building is also often constrained by the fact that SMEs that attempt to do so never succeed due to the poor diffusion management of the new changes.

Poor Diffusion Management

Most of the SMEs that undertake change and transformation to improve their dynamic capabilities tend not to do so more successfully due to the poor diffusion management of the required change and transformation. In most of the instances, new technologies and methods and operational rules are introduced during the implementation of the strategies for improving dynamic capabilities. However, the participants noted that it has often turned out that whereas the employees are able to operate the newly introduced technologies more effectively, the work methods, procedures and rules often tend not to change. In effect, one of the participants stated that:

"Employees tend to use old methods and systems in new systems, thereby limiting the necessary modifications and adjustments that should have been undertaken to improve the manufacturing plant's dynamic capabilities."

It also emerged from the findings that some of the SMEs never change and transform due to the difficulties of changing work procedures and methods. Exceptions tend to arise only in instances where new structures are introduced or split or a merger of two units has been undertaken. In such cases, duties and responsibilities of the personnel were found to change and induce employees to learn new duties and responsibilities. The other forces that influence the diffusion of change are linked to the cases where restructuring and downsizing have been undertaken as the measures for improving the SME's dynamic capabilities. In such instances, managers and employees tend to act according to the new rules and work methods in order to avoid being included in the list of those to be retrenched. In other words, the diffusion management of the new changes necessary for improving SMEs' dynamic capabilities seems to be yet a challenge.

DISCUSSION

A firm's effective dynamic capabilities edify its survival and sustainability in the increasingly more precarious contemporary business environment. It enables constant review, change and transformation of the existing business' approach, practices, strategies, models and methods of doing business. This enables constant identification and utilisation of new ideas that rejuvenate the

business to in turn influence its sustainability as well as preservation and leverage of shareholder value. To improve a firm's dynamic capabilities, most of the authors agree with the foundational views in Teece's (2007:131) model that the process for developing a firm's dynamic capabilities flows along three main steps encompassing: sensing, seizing and reconfiguration. However, from the analysis of Teece's (2007) foundational theory on dynamic capabilities and the views of other authors, it was evident that innovation takes a pivotal position to facilitate the generation of new ideas that enables a firm reconfigures its strategic value creating resources to adapt to its changing external business environment. As on the other hand diffusion facilitates the adoption of new technology, methods and practices in a business' daily use and application (du Preez et al. 2012:10; Sarja, 2015:204). In an enterprise with a vibrant innovative foundation, diffusion therefore influences change of behaviours and subsequently the improvement of the process for the implementation of new strategies to edify a firm's dynamic capabilities (du Preez et al. 2012:10; Sarja, 2015:204). To create a robust innovation foundation, theories on innovation culture imply its critical predictors are often linked to management commitment, the allocation of sufficient resources, the creation of a culture and environment for learning and experimentation, and diffusion management to enhance the adoption and application of the newly invented or innovated ideals (Kirsty, 2016:9; Moses et al. 2012:5; Olawale & Garwe, 2010:729; Ramukumb, 2014:19; Scheers, 2011:504).

The application of such measures is often undertaken in conjunction with the use of Berg's (2013) Innovation Maturity Model to further develop and entrench a culture of an innovative enterprise. An entrenched culture of an innovative enterprise creates the pivotal foundation that edifies the improvement of a firm's dynamic capabilities. Unfortunately, just like the other theories, Teece's (2007) foundational theory was found to take a very ambiguous position on whether a pre-existing strong innovation foundation is a critical driver of new ideas' generation that in turn improves a firm's dynamic capabilities. Lack of a strong innovation foundation affects SMEs' effective use of Teece's (2007) model on dynamic capabilities that usually requires constant change and modification of the existing ideas and development of new ideas to improve a firm's performance. In other words, whether it is the continuous cycle process improvement methodology entailing analysis, improvement and evaluation that a business adopts, or the dynamic capabilities' improvement process of sensing, seizing and reconfiguration, lack of a culture of innovation and poor diffusion management can still constrain the achievement of the desired business outcomes. In terms of the managerial implications of the study, this signifies that for the SMEs in the manufacturing sector that aim to improve their dynamic capabilities and remain sustainable in the increasingly precarious contemporary business environment, the development of a strong enterprise innovation culture is a prerequisite.

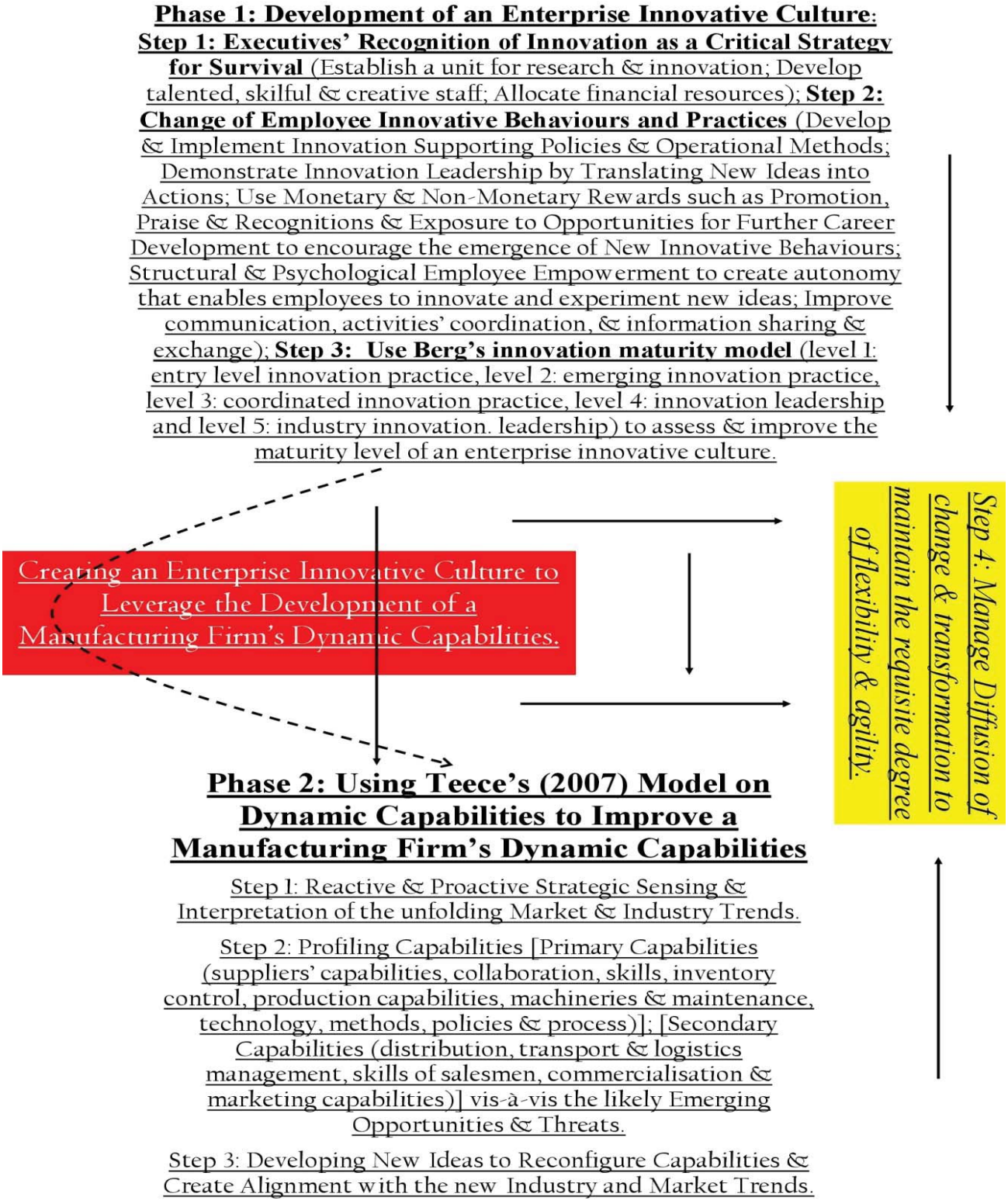
MANAGERIAL IMPLICATIONS

To create an innovative culture that subsequently drives the improvement of the dynamic capabilities of the SMEs in the manufacturing sector, Figure 3 indicates that it would require the executives to apply sets of strategies linked to two main phases of activities that include: Phase 1: Development of an Enterprise Innovative Culture, and Phase 2: Using Teece's (2007) Model on Dynamic Capabilities to Improve a Manufacturing Firm's Dynamic Capabilities.

Phase 1: Development of an Enterprise Innovative Culture

To develop an effective enterprise innovative culture that support constant change and reconfigurations linked to dynamic capabilities, the executives of the SMEs in the manufacturing sector will have to use three steps encompassing: Step 1-executives' recognition of innovation as a critical pillar for a firm's dynamic capabilities' building and survival, Step 2: change and transformation of the employee innovative behaviours and practices, and Step 3: the use of Berg's (2013) innovation maturity model.

FIGURE 3:
A STRATEGIC FRAMEWORK FOR DEVELOPING AN INNOVATIVE FOUNDATION AS AN ANTECEDENT FOR BUILDING AND IMPROVING THE DYNAMIC CAPABILITIES OF THE SMES IN THE SOUTH AFRICAN MANUFACTURING SECTOR



Source: Derived from the interpretation and triangulation of Teece's (2007) foundational theory on dynamic capabilities with the interview findings

Step 1: Executives' Recognition of Innovation as a Critical Strategy for Pillar of Dynamic Capabilities and a Firm's Survival

Figure 3 is based on the strategic logic that a stronger emphasis of a culture of innovation will drive the improvement of the initiatives of improving SMEs' dynamic capabilities. The application of such a strategy will remedy the current methodological shortfall in which most of the authors concentrate on elucidating the critical steps for dynamic capabilities' building on the assumptions that by the time a firm considers improving its dynamic capabilities, it will have already built a strong innovative foundation. The development of an enterprise innovation driven dynamic capabilities will require executives' recognition of a strong innovation culture as the critical strategy for a business' survival. Once such a culture is inculcated, it turns easier for an enterprise to be engulfed in continuous research and innovation that axiomatically impacts positively on the replenishment and continuous reconfiguration of the strategic value creating resources and microfoundations in the context of the emerging new market and industry trends. It will certainly motivate the executives to also recognise the essence for developing a unit for research and innovation, and appreciate the need for accumulating a pool of the desired talented, skillful and creative staff. Executives' stronger appreciation of the need for a strong innovation culture may also influence the allocation of sufficient financial resources to enhance the effectiveness of the enterprise's innovative systems.

The development of a strong culture of innovation is inherently associated with advantages latent in the continuous development of new products or services, and improvement of the existing product and service's features, attributes and quality. It also contributes to the development and improvement of the existing technologies, business relationships, and operational process, methods and systems. It is from that angle that the emphasis of a strong culture of innovation contributes to the integration of the notion of dynamic capabilities with enterprise innovation and development. However, for such measures to spur the creation of an entrenched enterprise innovative culture that in turn leverage improvement of a firm's dynamic capabilities, it is critical that it is accompanied by measures for changing and transforming the employees' innovative behaviours and practices.

Step 2: Change and Transformation of the Employee Innovative Behaviours and Practices

Since organisational culture depends on the behaviours and practices espoused by the employees, it is at this step that the change and transformation of the employee behaviours and practices will contribute to the inculcation of an innovative culture, behaviours and practices that in turn catalyse the development of an enterprise innovative culture. To accomplish this, the executives will have to develop a vision articulating innovation as a key for the future sustainability of the business. Although this will provide the direction to the employees on the management's expectations of the essence for the development of the employee innovative behaviours, it is still critical that it is accompanied by the development and implementation of policies and operational methods that edify the development of an innovative enterprise culture. To demonstrate their commitment, it is also of essence that leaders and managers demonstrate innovation leadership by frequently translating new ideas into actions, and using a combination of monetary and non-monetary rewards such as promotion, praise and recognitions as well as exposure to opportunities for further career development to encourage the emergence of new innovative behaviours. As structural and psychological employee empowerment measures are undertaken to create autonomy that enables employees to innovate and experiment new ideas, the executives must also develop and apply mechanisms that improve communication, activities' coordination, and information sharing and exchange to catalyse the development of a culture of an innovative enterprise. Although this can set the tone of the behaviours and practices expected by the management to influence

improvement and entrenchment of an enterprise innovative culture, it is still critical that further analysis and evaluation are undertaken to effect further improvement and entrenchment of a culture of innovation.

Step 3: Use Berg's (2013) Innovation Maturity Model

In the accomplishment of relevant analysis and evaluation, it is critical that the executives use Berg's (2013) innovation maturity model to assess the level of the entrenchment of an enterprise innovative culture according to five levels encompassing level 1: entry level innovation practice, level 2: emerging innovation practice, level 3: coordinated innovation practice, level 4: innovation leadership and level 5: industry innovation leadership. The application of Berg's (2013) innovation maturity model will enable the executives identify the level at which their approach for the development of an enterprise innovative culture has reached. It will also enable the identification and corrections of new emerging incompatible behaviours that can distort the process for the development of an enterprise innovative culture. Continuous use of Berg's (2013) innovation maturity model will not only propel the enterprise to the innovation leadership level, but also to a level of industry innovation leadership. It is at these levels that the level of the entrenchment of an enterprise innovative culture renders it possible for executives to conduct relevant analysis and undertake the necessary modifications and reconfigurations to respond to the unfolding industry and market trends using a framework akin to Teece's (2007) model for dynamic capabilities' building.

Phase 2: Using Teece's (2007) Model on Dynamic Capabilities to Improve a Manufacturing Firm's Dynamic Capabilities

With such a strong innovative foundation, it becomes easier for the executives to commence the process of improving their dynamic capabilities using four main steps that include: Step 1: strategic sensing and interpretation of market and industry trends, Step 2: profiling the tangible and intangible sources of capabilities vis-à-vis the likely emerging opportunities and threats, Step 3: developing new ideas to reconfigure and align primary and secondary functional capabilities with the changes in trends, and Step 4: diffusion of change and transformation to maintain the requisite degree of flexibility and agility. The details are as follows.

Step 1: Strategic Sensing and Interpretation of Market and Industry Trends

Just like dynamic capabilities, innovation that leads to the development or modifications of the existing products and processes commences with strategic sensing to assess the changes that are occurring or most likely to emerge and undertake the relevant modifications. To ensure that the SMEs in the manufacturing sector are able to take reactive and proactive improvement of the dynamic capabilities of their enterprises, they will have to use the reactive and proactive techniques of environmental analysis. The reactive approach may require the application of techniques like PESTEL analysis, SWOT analysis, and Poster's five forces (the degree of industry rivalry, threats of substitutes, and threats of new entrants, suppliers and buyers' growing bargaining power) of industry analysis. A reactive approach facilitates the identification of the prevailing industry opportunities and threats so as to assess how the value creating resources of the manufacturing plant can be replenished and modified to edify the maximisation of such opportunities and the diffusion of the emerging threats. However, it often leads to the undertaking of the dynamic capabilities that may still be ineffective for aiding the manufacturing plant maximise all the opportunities and diffuse all the threats. Sudden unidentified trends can easily emerge to distort the extent to which an enterprise is agile and responsive to newly emerging changes. To deal with such situations, the executives of the SMEs in the manufacturing sector will have to use the proactive techniques for industry analysis that include; forecasting, cognitive sensing and analysis and Porter's (1986) four corners (motives, strategy, assumptions and capabilities) of industry analysis. Forecasting can be accomplished using the qualitative and quantitative techniques. The use of cognitive sensing and analysis will require the executives to use conceptual logic to read the

present trends and interpret the next trends that may easily emerge. The areas for attention may include the likely technological changes and the changes in customers' needs and preferences. Such approach will enable the executives prepare contingent dynamic capabilities to maximise sudden emerging opportunities whilst also remaining capable to diffuse sudden threats that can arise. After a thorough understanding of the prevailing and likely emerging trends, the executives of the SMEs in the manufacturing sector will have to profile their capabilities and determine resource reconfigurations that can be undertaken to create a strategic fit.

Step 2: Profiling the Tangible and Intangible Sources of Capabilities vis-à-vis the likely Emerging Opportunities and Threats

Before undertaking reconfiguration, the executives must profile the tangible and intangible capabilities that they have at their disposal. The tangible sources of capabilities include machineries and plants, technological equipments, transportation assets, physical distribution networks, quality of inputs, location, structures and infrastructures. Intangible sources of capabilities to be profiled encompass liquid cash, skills, experience, knowledge, management and leadership styles, management and individual employee creativity, policies, process and business relationships. After profiling the available capabilities, it is a question of logic for the executives to ask themselves whether considering the available capabilities and competencies, they would be able to react to the emerging changes and optimise the associated opportunities or diffuse all the emerging threats. If the answer is yes, the executives will have to evaluate which capabilities are not effective and undertake the necessary modifications. If the answer is no, it signifies that the executives must undertake a significant radical overhaul of the business' capabilities to ensure that its capabilities are renewed and strengthen to facilitate effective reaction to the changes so far identified. It is at this point that a strong foundation of innovation culture plays significant roles to provide the enterprise with relevant creativity and new ideas on how not only products or services can be improved, but also new processes, methods and technologies that can be introduced.

Step 3: Develop New Ideas to Reconfigure and Align Primary and Secondary Functional Capabilities with the Changes in Trends

While relying on a strong innovation culture, the executives of the SMEs in the manufacturing sector can use value chain analysis to facilitate identification of the areas of changes and how dynamic capabilities can be improved. This will involve the analysis of how to improve the dynamic capabilities of the primary and secondary functions. In order to improve the dynamic capabilities of the primary functions, the areas to focus on include; suppliers' capabilities, collaboration, skills, inventory control, production capabilities, machineries and maintenance, technology, methods, policies and process. The dynamic capabilities of the secondary functions to be evaluated and improved include distribution, transport and logistics management, skills of salesmen, commercialisation and marketing capabilities. Even if the primary and secondary capabilities are found to be dynamic, further modifications must be undertaken to ensure that their capabilities are responsive effectively to the continuously unfolding changes. Such a view is attributable to the view that the process of developing dynamic capabilities is a continuous incremental process and not an event. As such strategies are being implemented; the executives will have to discern how the diffusion of the newly introduced changes and transformation can be effectively managed to maintain the requisite degree of flexibility and agility.

Step 4: Diffusion of Change and Transformation to Maintain the Requisite Degree of Flexibility and Agility

The completion of the implementation of change and transformations associated with the radical modifications of the primary and secondary functional capabilities must be accompanied by

the use of the appropriate framework to manage the diffusion of such changes. With a strong innovation culture already embraced by the SME, it is unlikely that the lower level managers and employees can face challenges to adapt and sail through the required new changes. Nonetheless, the use of relevant diffusion management framework will still facilitate ensuring the holistic change and transformation for the reason that effective diffusion management can enable managers identify areas of challenges and undertake necessary strategies to ensure that change is fostered. Quite often, the failure of innovation to influence the improvement of a firm's dynamic capabilities is linked to the ineffective diffusion of change and transformations to enable the employees adapt to new changes. In this instance, it is however, only through the effectiveness of diffusion management that the executives will be able to ensure that their production plants remain agile and flexible to respond to all the present and future emerging changes.

SUGGESTION FOR FURTHER RESEARCH

Since Teece's (2007) articulation of the importance of dynamic capabilities' building, his foundational theory of "Explicating Dynamic Capabilities" has been subjected to different interpretations by different authors. In these interpretations, most of the authors concentrate on elucidating the critical steps for dynamic capabilities' building on the assumptions that by the time a firm considers improving its dynamic capabilities, it will have already built a strong innovative culture. In practical sense, findings revealed that that is often not the case. Instead, findings imply that the effectiveness of the process of dynamic capabilities' building is preconditioned by the existence of a solid innovative foundation that enables a firm axiomatically generate enormous new ideas, reconfigure its value creating resources, and adapt to the changing external business environment. This research solves such a methodological shortfall by postulating a model emphasising the creation of a strong innovative foundation as a pivotal antecedent that drives the axiomatic generation of new ideas that in turn improve a firm's dynamic capabilities. However, it is still critical that the executives must buy into the idea that innovation and dynamic capabilities' building are important for improving an enterprise's performance. Hence, future studies can either evaluate the strategies for enhancing management buy-in or scientifically test the validity of the model postulated in Figure 3.

REFERENCES

Altindag, E., Zehir, C. & Acar, A. 2010. Strategic Orientations and their Effects on Enterprise Competitive Advantage in Turkish Family Owned Enterprises. Journal Eurasian Business Review, 1(1):18-36.

Ambrosini, V., Bowman, C. & Collier, N. 2009. Dynamic Capabilities: An Exploration of How Firms Renew their Resource Base. British Journal of Management, 20 (1):9-24.

Argote, L. & Ren, Y. 2012. Transactive Memory Systems: A Micro Foundation of Dynamic Capabilities. Journal of Management Studies, 49(8):1375-1382.

Augier, M. & Teece, D.J. 2009. Dynamic Capabilities and the Role of Retailers in Business Strategy and Economic Competitive Advantage. Organization Science, 20(2):410-421.

Bakar, L.J.A. & Ahmad, H. 2010. Assessing the Relationship between Firm Resources and Product Innovation Performance: A Resource-Based View. Business Process Management Journal, 16(3): 420-435.

Banterle, A., Carraresi, L. & Cavaliere, A. 2011. What is the Role of Strategic Capability to be a Price Maker? An Empirical Analysis in Italian Food SMEs. Economia e Diritto Agroalimentare, 16 (2): 245-286.

Barney, J. 1991. Firm Resources and Sustained Competitive Advantage. Journal of Management, 17 (1):99-120.

Barney, J.B., Ketchen, D.J. & Wright, M. 2011. The Future of Resource-Based Theory: Revitalization or Decline? Journal of Management, 37(5):1299-1315.

Barrales-Molina, V.J. & Perez-Arostegui, M. 2010. Managerial Perceptions of the Competitive Environment and Dynamic Capabilities Generation. Industrial Management & Data Systems, 110(9):1355-1384.

Barreto, I. 2010. Dynamic Capabilities: A Review of Past Research and an Agenda for the Future. Journal of Management, 36(1):256-280.

Berg, R. 2013. The Innovation Maturity Model. The strategic and capability building steps for creating an innovative organisation. London: Berg Consulting.

Business Environment Specialists. 2014. Small Business Development in South Africa. Johannesburg: SBP.

Chengedzai, M. & Osayuwamen , O. 2013. Logistics Benefits and Challenges: The case of SMEs in a South African Local Municipality. SAJESBM, 6(1):145-167.

Clark, V.L. 2010. The Adoption and Practice of Mixed Methods: U.S. Trends in Federally Funded Health-Related Research. Qualitative Inquiry, 16(1):428-440.

Coffman, B. 2015. Building the Innovation Culture Some Notes on Adaptation and Change in Network-Centric Organizations. Walnut, CA: InnovationLabs.

Cooper, G. 2008. The Stage-Gate Idea-to-Launch Process-Update. What is New and NexGen Systems. Journal of Production Innovation Management, 25(3):213-234.

Dalvi, M.R. 2014. The Study of the Effects of Strategic Orientations and Strategic Capabilities on Strategic Unit Competitive Advantage. Case study: Petrochemical industry, 4(2):21-33.

Day, G.S. 2011. Closing the Strategic Capabilities Gap. Journal of Global Strategic, 75(2):183-195.

Du Preez, N., Louw, L. & Essmann, H. 2012. An Innovation Capability Maturity Model-Development and Initial Application. Journal of Knowledge Acquisition, 15(3):37-57.

Easterby-Smith, M., Lyles, M.A. & Peteraf, M.A. 2009. Dynamic Capabilities: Current Debates and Future Directions. British Journal of Management, 21(1):1-8.

Efrat, K. 2014. The direct and indirect impact of culture on innovation, Technovation, 34(1):12-20.

Engelen, A., Brettel, M. & Wiest, G. 2012. Cross-functional integration and new product performance: The impact of national and corporate culture, Journal of International Management, 18(1):52-65.

Fatoki, O.O. & Garwe, D. 2010. Obstacles to the Growth of New SMEs in South Africa: A Principal Component Analysis Approach. African Journal of Business Management, 4(2):729-738.

Fraser , J.A. 2013. Exploring the Marketing Metrics used in Innovative Companies. Pretoria: Gordon Institute of Business Science.

Godin, B. 2006. The Linear Model of Innovation: The Historical Construction of an Analytical Framework. Project on the History and Sociology of S &T Statistics Working Paper No. 30, Montreal: Canada.

Gurau, C.L. & Lasch, F. 2011. Open Innovation Strategies in the UK Biopharmaceutical Sector. International Journal of Entrepreneurial Venturing, 3(4):420-434.

Hekkert, M. & Simona Negro, S. 2011. Understanding Technological Change Explanation of Different Perspectives on Innovation and Technological Change. Utrecht: Utrecht University.

Hemert, P, Nijkamp, P. & Masurel, E. 2013. From Innovation to Commercialization through Networks and Agglomerations: Analysis of Sources of Innovation, Innovation Capabilities and Performance of Dutch SMEs. The Annals of Regional Science, 50(2):425-452.

Hine, D. & Kapeleris, J. 2006. Innovation and Entrepreneurship in Biotechnology, An International Perspective: Concepts, Theories and Cases. London: Edward Elgar Publishing.

Hoang, P. 2010. Business and Management. Melton, Vic: IBID Press.

Kaplan, S. & Palmer, D. 2015. Building a Culture of Innovation Driving Long-term Profitable Growth through Organizational Cultural Change. Geneva: Innovation Point

Kirsty, D. 2016. The State of Entrepreneurship in South Africa. The key Archetypes of an Entrepreneurial Culture. Bryston: Endeavor South Africa.

Lin, L.H. & Chen, C.T. 2013. Overcoming Organizational inertia to Strengthen Business Model Innovation: An Open Innovation Perspective. Journal of Organizational Change Management, 26(6):977-1002.

Love, J. & Roper, S. 2013. SME Innovation, Exporting and Growth. Enterprise Research Centre, White Paper No. 5.

Martín-de Castro, G., Delgado-Verde, M., Navas-López, J.E., & Cruz-González, J. 2012. The moderating role of innovation culture in the

relationship between knowledge assets and product innovation, Technological Forecasting and Social Change, 80(2):351-363.

Menguc, B. & Auh, S. 2010. Development and return on execution of product innovation capabilities: The role of organisational structure, Industrial Marketing Management, 39(5):820-831.

Mohsam, F. & Van Brakel, P.A. 2011. Information and Knowledge Sharing Trends of Small and Medium-Sized Enterprises in the Western Cape, South Africa. South African Journal of Information Management, 13(1):1-10.

Moses, C., Sithole, M.M., Blankley, W., Labadarios, D., Makelane, H. & Nkobole, N. 2012. The State of Innovation in South Africa: Findings from the South African National Innovation Survey. South African Journal of Science, 108(8):1-5.

Morse, J.M. 2010. Simultaneous and Sequential Qualitative Mixed Method Designs. Qualitative Inquiry, 16:483-491.

Naidoo R. & Urban, B. 2010. The Relevance of Operational Skills towards Business Sustainability: A Focus on SMME Manufacturers in the Vaal Triangle Region. Acta Commercii, 1(1):234-248.

Nedergaard, N. & Griffith, R.J. 2011. Implementing Firm Dynamic Capabilities through the Concept Design Process: A Conceptual Model for Creating Sustainable Competitive Advantage. Denmark: Proceedings of the ANZMAC 2011 Conference.

Neneh, N.B. & Van Zyl, J. H. 2014. Achieving Optimal Business Performance through Business Practices: Evidence from SMEs in selected areas in South Africa. Bloemfontein: University of the Free State.

Olawale, F. & Garwe, D. 2010. Obstacles to the Growth of New SMEs in South Africa: A Principal Component Analysis Approach. African Journal of Business Management 1(3):729-738.

Pillay, K. 2016. South Africa Manufacturing Industry Leader. Johannesburg: Deloitte.

Ramukumb, T. 2014. Overcoming SMEs Challenges through Critical Success Factors: A Case of SMEs in the Western Cape Province, South Africa. Economic and Business Review, 16(1):19–38.

Rogers, M. R. 2003. Diffusion of Innovation. London: Macmillan.

Sarja, J. 2015. Explanatory Definitions of the Technology Push Success Factors. Journal of Technology Management & Innovation, 10(1):204-214.

Scheers, L.V. 2011. SMEs Marketing Skills Challenges in South Africa. African Journal of Business Management 4(1):504-525.

Small Enterprise Development Agency. 2014. SDP Research Report. Johannesburg: FEM Research.

Stefano, G., Peteraf, M. A. & Verona, G. 2010. Dynamic Capabilities Deconstructed. Industrial and Corporate Change, 19(4):1187-1204.

Teece, D. J. 2007. Explicating Dynamic Capabilities: The Nature and Microfoundations of (Sustainable) Enterprise Performance. Strategic Management Journal, 28(2):1319-1350.

UNIDO. 2014. Facilitating International Market Access for Small and Medium sized Manufacturers in the Automotive Component Industry in South Africa. Pretoria: UNIDO.

Volberda, H.W., Foss, N. J. & Lyles, M. A. 2010. Absorbing the Concept of Absorptive Capacity: How to realize its Potential in the Organization Field. Organisational Science, 21(2):931-951.

Weerawardena, J. & Mavondo, F.T. 2011. Capabilities, Innovation and Competitive Advantage. Industrial Marketing Management, 40(8):1220-1223.

Wilden, R., Gudergan, S.P., Nielsen, B.B. & Lings, I. 2013. Dynamic Capabilities and Performance: Strategy, Structure and Environment. Long Range Planning, 46(2):72-96.

Wong, S.K.S. 2014. Impacts of Environmental Turbulence on Entrepreneurial Orientation and New Product Success. European Journal of Innovation Management, 17(2):229-249.

Wu, L.Y. 2010. Applicability of the Resource-Based and Dynamic-Capability Views under Environmental Volatility. Journal of Business Research, 63(1):27-31.

Xerri, M., Brunetto, Y. & Shacklock, K. 2009. The innovative behaviour of employees within a small to medium sized enterprise: a Social Capital Perspective. Tweed, Australia: Southern Cross University.