

## “Developing Innovation Capability in Small and Medium-Sized Enterprises: A Conceptual Framework and Research Propositions”

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## ABSTRACT

The purpose of this study is to investigate how transformational leadership (TL) practices encourage innovation capability (IC) in a firm to generate innovation outcomes. Despite a profusion of studies noting that TL strongly contributes to IC, there is a lack of understanding of what factors and which of a firm's mechanisms can improve IC in the dynamic market. This study will address this issue and suggests a conceptual framework that explores the path-dependent influences of: TL, an innovative climate (INC), technology orientation (TO) and organizational learning (OL) on developing IC within the specific sphere of small-and-medium-sized enterprises (SMEs). This study will contribute to the innovation literature by explicating the effect of TL on cultivation of the IC necessary for innovation outcomes. The findings of this study will offer a set of implications for practitioners to assist them to improve IC in their firms through, for instance, recruiting for and/or developing a preferred leadership style.

**KEYWORDS :** Innovation, Leadership Style, Climate, SMEs, TL, INC, TO, OL and IC

## 1. INTRODUCTION

Development of IC in a firm is an essential study area that has stimulated a considerable level of attention among academic researchers. This is due to its contribution to the improvement of organizational performance and survival (Migdadi et al., 2017; Saunila, 2016). IC can, therefore, be seen as a measure of the competence and efficiency of modern firms in terms of sustaining or improving their effectiveness in changing and challenging environments (Bledow et al., 2009; Choi et al., 2009; Hansen et al., 2009). On the evidence of the literature review, it can be seen that many firms have the capability to produce innovation. They are not, however, necessarily innovative firms if they are unable to meet such innovation requirements (capabilities) as knowledge creation, exploring ideas, resource allocation and skills development. In this sense, Herrmann et al. (2007) argue that in order to achieve sustained competitive advantage through innovation outcomes, firms need to be able to recognize, expand and maintain their resources and competencies to differentiate themselves from their competitors. This means that firms, particularly SMEs should have the ability to reconfigure, renew and redeploy their resources and capabilities to enhance the capture and exploitation of opportunities (Teece, 2016).

An extensive literature review has shown a great deal of interest in recognizing the factors that can improve IC in a firm. One significant line of research focuses on the growing recognition of the role of TL in developing IC in a firm (Le and Lei, 2019). As firms, particularly SMEs are increasingly under competitive pressure from large firms (Terziovski, 2010), transformational leaders should struggle in facing and resolving any challenges and constraints that may place limits on their firms developing the capability for innovation. There is, therefore, a real need to understand how transformational leaders in SMEs can exploit opportunities and enhance abilities as well as promote processes through which followers are positively influenced to create and develop IC in these firms.

Despite a profusion of studies noting that TL strongly contributes to the innovation outcomes, few studies that investigate how TL practically can influence and facilitate IC, resulting in numerous calls for research, particularly into what actions and mechanisms that TL can play to promote IC (Sahban, 2019; Le and Lei, 2019; Hui et al., 2018; Van et al., 2018). This study attempts to fill the gaps above by investigating how TL can improve IC in a firm. In other words, the study will focus on exposing some effective actions — dynamic capabilities — within SMEs that can be implemented by TL in order to encourage their capabilities to innovate.

The connection between a firm's size and its capability to innovate has been thoroughly investigated by many scholars and a well-founded body of literature exists (Audretsch and Acs 1991; Cohen, 1995). In this regard, authors (e.g., Eggers et al., 2013; Chesbrough and Brunswicker, 2014) highlight the inherent advantages of SMEs over large firms for developing IC in a firm. Their arguments advancing the advantages of SMEs vary and are based on various reasons, including flexibility (routines and processes) (Cyert and March, 1963), non-bureaucratic structures, greater adaptability and fast responses in terms of implementing needed changes (Ettlie et al., 1984). Nevertheless, due to several issues and difficulties, SMEs might encounter challenges in developing suitable conditions and improving their capabilities for innovation. In addition, SMEs face growth challenges and they are increasingly under competitive pressure from large firms (Terziovski, 2010). SMEs should initiate precautions to overcome these issues and difficulties, with a specific end goal to be more effective and competitive in dynamic market environments ensuring that they will proceed as the drivers to a nation's socio-economic development.

Within the proposed model, this study will explore the TL as a key driver contributing to IC as a dependent variable. A proposed conceptual model in which, INC, TO and OL have path-dependent influences on improving IC will be explored. To fill these research gaps, this study will propose a framework to answer the following research questions:

1. To what extent do practices executed by TL affect the degree of IC in a firm?
2. To what extent do INC, TO and OL mediate the impacts of TL on IC development?

By answering these questions, this study will proffer a new way of thinking about relevant management practices in SMEs.

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

It has been argued that innovation is one of the most significant dynamics that enable firms to achieve competitive advantage both in national and global market (Ertürk, 2012). In this regard, authors such as (O'Connor, 2008; Assink, 2006; Francis and Bessant, 2005) argue that instead of a narrow focus on innovation activities or processes only, they suggest a systematic understanding of innovation through all aspects that enhance the firm's capability to innovate or encourage its 'muscles for innovation' (Börjesson et al., 2012). Several authors such as (Amit and Schoemaker, 1993) define capabilities as bundles of correlated routines and processes. These capabilities are more firm-specific and more difficult to transfer than resources, and hence have larger capacity to generate superior performance for the firm (Pralhad and Hamel, 1990). In the same vein, Ngo and O'Cass (2012) clarify that a capability is the interrelated routines and behaviors used in achieving certain functional missions. More specifically, these capabilities do not reside in employee routines but instead they come out throughout integration of several correlated routines and processes and then can be built throughout managerial selections to identify, develop and integrate the routines and processes in the firm. The authors also affirm that building the capabilities in this way has significant implications to firms with regard to inimitability and value.

Based on the literature review, IC is a firm level capability and it can be one of many forms of capabilities such as technological capability, dynamic capability, marketing capability and absorptive capability (Chang et al., 2012; Carlgren et al., 2014). Therefore, defining IC is a challenging issue and the concept has received different explanations. One of the possible reasons is that IC has been discussed by a broad spectrum of aspects such as technological, economics and managerial behaviors within a firm (Carlgren et al., 2014). Hence, several authors define IC from different disciplines. For example, Burgelman et al. (2004) define innovative capability as the comprehensive set of characteristics of a firm that can facilitate and encourage innovations. In the same vein, Börjesson et al. (2012) describe IC as a firm's ability to compete utilizing a system view on innovation. This includes reconfiguration of the firm's resources, processes and value. On this front, Lawson and Samson (2001) explain that IC can be seen as the link between a firm's new stream and mainstream activities. In all these viewpoints and drawing on the resource-based view (RBV), IC can be explained in the current study as a firm's capacity to explore, search for, recognize, experiment with and commercialize innovative products or services to fulfil customers' needs (Kim et al., 2012; O'Connor and McDermott, 2004; Assink, 2006). These capabilities are the basis of generating and exploring new resources such as ideas, skills, knowledge, functional competencies etc. (internally and externally) and assist SMEs to develop these resources into marketable and effective innovation products or services.

In connection with this, DeSarbo et al. (2007) and Prange and Verdier (2011) point out that, in order to achieve success, the ability to gain resources through a distinctive innovative capability might be more significant than the resources themselves. This is because IC supports a firm to the continuous improvement of its resources and enhances the exploration and exploitation of the opportunities in developing of new products or services that needed by a market (Szeto, 2000). In addition, the development of IC in a firm is an essential factor since it encourages the firm to generate innovation outcomes, understanding market environment and improving performance (Neely et al., 2001). Similarly, Canals (2001) mentions that IC of a firm helps the firm to gain the needed flexibility in order to respond the rapidly changing markets and clients' expectations in fulfilling innovation driven prosperity.

Several empirical studies have confirmed that improving IC requires a range of different strategies, practices and different methods (Chen et al., 2014). Some firms can, therefore, fall behind start-ups in their development of IC, perhaps because they may have improper structures or systems (Junarsin, 2009), inappropriate routines and culture (McLaughlin et al., 2008) and unqualified staff and reward systems (Birkinshaw et al., 2007). This means that the development of IC includes a combination of several factors, leading us to consider direct roles and managerial practices that can be used to develop IC in a firm to facilitate innovation outcomes. In this regard, one option for firms wanting to become more

innovative is to foster and encourage the role and participation level of TL (Le and Lei, 2019; Avolio and Yammarino, 2002).

The importance of TL in fostering IC has meant that this style of leadership has been diffused both into and across all hierarchical levels of the organization (Singh, 2008). Donate and Guadamillas (2011) contend that TL has a role in the formulation of the structure and processes in an organization that can affect the actionable degree of IC in a firm. TL is defined as a type of leadership that can inspire significant positive change in followers. According to Bass (1985), TL can be determined based on the impact that it has on followers. He describes TL as a type of leadership that transforms followers to rise above their self-interests by altering their morale, ideals, interests, and values in the process and motivating them to perform better than initially expected. This kind of leadership style emphasises an intrinsic motivation and personal development among followers.

An alternative view in previous studies defines TL from the point of idealized influence, intellectual stimulation, individual consideration and inspirational motivation (Nemanich and Keller, 2007). TL can be correlated with positive individuals and organizational outcomes and are an idealized influence because of their awareness of follower requirements which are such that they support shared risk taking (Jung et al., 2008). Moreover, Bass (1998) argues that transformational leaders support their followers in ensuring higher order needs like self-esteem and self-actualization are realized by such followers, leading to positive contributions to supportive motivation for self-sacrifice and the realization of organizational goals over personal ones. Furthermore, transformational leaders support their relationship with followers in individualized ways, recognizing the need for empowerment, personal growth, achievement and enhanced self-efficacy (Jung et al., 2008). In addition, a TL style has been recognized as being the most effective at promoting cultural change (Antonakis and House, 2002; Sendjaya et al., 2008) and innovation (Jung et al., 2003; Bass and Riggio, 2006), because these types of leadership can generate learning opportunities and a supportive climate in which followers can increase (Analoui et al., 2013). Considering that IC is one of the central features of firms in rapidly changing and challenging environments, how to foster and sustain the IC should be the focus area of the firms. Thus, by stipulating IC as (a dependent variable), the study intends to show how to develop IC in a firm by way of TL (independent variable), where the constructs (INC, TO and OL) are mediating factors in its development.

At the individual level, working within a cooperative environment of organization has significant impacts on its level of IC (Rickards and Moger, 2006; Koene et al., 2002). The working atmosphere of a firm actually is inferred by its employees throughout their practices, activities, reward systems deployed and procedures. In this regard, Mumford and Gustafson (1988) mention that individuals who have innovative capabilities are unwilling to do so if the climate is not ideal for innovation. The authors argue that an ideal climate within a firm to facilitate IC is one that can create a positive cognitive psychology basis in generating ideas and motivating the desired actions in order to implement these ideas while it displays acceptance and appreciation for the individuals' works. On this front, Schneider et al. (1996) argue that climate within a firm has direct impacts on individuals' behaviors since it reflects individuals' perceptions of "relatively enduring features" of the firm that can set how they work within it. As long as climate perception can provide a reference for convenient behaviors of employees within the given setting and if they consider that their work atmosphere encourages new ideas, opinions, change and it provides the necessary resources for innovative initiatives, employees can innovate freely and frequently (Scott and Bruce, 1994).

Several definitions have been provided in the literature that attempt to describe climate. For instance, Ekvall (2008) describes climate as an observed pattern of behaviors, attitudes, contingencies, requirements, interactions in the work environment and feelings which describe working life in a firm. Contrary to this, Denison (1996) considers climate a changeable aspect, able to be controlled by leaders and managers while involving social and environmental aspects which are realized by the firm's individual employees. Thus, climate is described in different ways by different researchers. Relying on these definitions, innovative climate can be defined in this study as the cognitive representations of individuals in innovative activities encouraged by the leaders' direction, the provision of the necessary resources, rewards, autonomy and motivation, associated to its policies, practices and procedures (in all their aspects) within a firm (James et al., 1978; Scott and Bruce, 1994; Ekvall, 2008; Denison, 1996). Although earlier research has demonstrated the positive relationship between transformational leaders and INC (e.g., Sagnak et al., 2015; Jaiswal and Dhar, 2015), little in-depth literature attention has been given to the mediating role of INC on the relationship between TL and IC development. Therefore, this study will attempt to fill the above gap by deeply investigating how TL practically improves IC throughout the mediating effect of INC.

In recent years, increasing the dynamic business climate characterized by rapid technological change and globalization (Jung et al., 2003) has attracted researchers interest in how firms can adapt their capabilities and create superior business performance in improving IC in a firm (Tuominena et al., 2004). This rapid development and changes in the current business world have increased pressure on firms to search for valuable ideas and sufficient resources to develop what had been ideas into actual new products or services to provide high customer value. (Gumusluoglu et al., 2009). The changes have pushed firms to rethink about deployment and adoption of new technology as the key to grasping and exploiting opportunities that are offered by a dynamic business climate (Sharma et al., 2014). In this regard, Jobar et al. (2010) outline that adopting new technology has not only become a key driver for competition, but it also acts as the main driver for firm sustainability in the long-term. This has made the adoption of new technology unavoidable and a significant strategic consideration for firms (Gaimon, 2008). In this light, TO can be considered for the purposes of this study as those firms active in adopting new technologies to generate new resources and to enhance their capabilities to find a technical solution to satisfy the customer's new requirements (Gatignon and Xuereb, 1997; Hurley and Hult, 1998).

Chen et al. (2014) mention that from the resource-based view (RBV), adopting new technology is a key factor in facilitating a firm's decision-making and organising process, which can be considered as a valuable resource for increasing IC in a firm, which, in turn, directly affect entrepreneurial performance in the firm. According to Jung et al. (2003), TO causes renewal some processes such as reorganizing operations, units, and divisions to guarantee improved coordination and communication between business units. Furthermore, TO can assist companies to emphasise the expansion and development regarding products design, quality and avoid potential risks (Akgün et al., 2012). Previous studies predominantly focused on the relationship between TL and IC (e.g., Hui et al., 2018; Van et al., 2018), but no study in the extant literature appears to explore the influence of TL on IC through the mediating effect of TO. This study, therefore, will address this gap by identifying the mediating role of TO on the relationship between TL and IC.

The concept of OL was firstly discussed by March and Simon (1958). Since that time, the concept of OL has significantly expanded. OL has become essential in achieving competitive advantage as it involves positive cognitive and behavioral change. Most firms disappear and fail to achieve competitive advantage because of their inability to enhance learning activities in their organizations (Argyris and Schön, 1996). Previous research indicates the great benefits of the concept of OL for the firms. For example, Kandemir and Hult (2005) mention that OL is a significant factor in generating superior customer value in long-term since learning can stimulate a firm to a continuous adaptation in rapidly changing global markets and enhance the dynamic capability. Moreover, Azadegan and Dooley (2010) mention its importance in organizational performance, Santos et al. (2010) in marketing orientation and relationship, Hult et al. (2003) in service and product quality and Akgün et al. (2006) in producing innovation.

The term of OL has been applied by different researchers to different domains making this term hard to be defined (Lopez et al., 2006). For instance, Huber (1991) explains the concept from an information-processing perspective. In the same vein, Klimencki and Lasselben (1998) consider OL as a result of the changes in organizational knowledge. This new knowledge can be generated throughout information processing in a firm which leads to find new methods of sustaining and succeeding in new situations. Nonaka and Takeuchi (1995) apply the concept with produce innovation and consider OL as the capacity of an organization in facilitating the creation and acquisition of knowledge and then spread it among the organization to improve its products, services and systems. March and Olsen (1975) are interested in examining how the cognitive limitations of senior managers can impact learning. In contrast, Nevis et al. (1995) consider OL as the capacity or processes within the firms in order to sustain and improve performance depending on their experiences. These processes involve knowledge acquisition (the improvement and creation of new skills, perception and relationships), knowledge sharing (the diffusion of knowledge among others) and knowledge utilization (consolidation and integration learning to be generalized for new condition) (Dibella et al., 1996).

In all these viewpoints, OL is considered as the process of how individuals within a firm can increase an effective knowledge in organized method and spread this knowledge into the firm's knowledge system (Lopez et al., 2006). This process may take place within a firm as community of interaction (internal and external) or via the individuals and their interactions with colleagues in which the firm creates knowledge (tacit or explicit) (Nonaka and Takeuchi, 1995; Beeby and Booth, 2000). Prior studies have demonstrated the positive effect of OL on IC (e.g., Ghasemzadeh et al., 2019). However, prior studies offer very little explanation about how TL practices within an organization can shape the OL processes in order to increase IC in a firm (Jyoti et al., 2017; Imran et al., 2016; Glaveli and Karassavidou, 2011). The current study attempts to fill the gap above and develops a richer understanding of the pathways and conditions to improve

IC in a firm. In the next section, the study hypotheses based on the proposed conceptual framework will be presented and illustrated.

## 2.1 Influence of TL on INC

Numerous studies have provided a strong basis for the direct positive impact of TL on INC (e.g., Zuraik and Kelly, 2019). On this front, Burns (1978) and Bass et al. (2003) point out that TL has the ability to inspire followers to change expectations, perceptions and motivations. It allows opportunities to experiment with potentially superior methods to their work and thereby work towards common goals. As such, Scott and Bruce (1994) point out that TL plays a major role in an organizational rewards system and resource supplies. This, in turn, leads employees to be able to express their opinions and ideas freely without fear in an environment that assists employees. Furthermore, transformational leaders support their relationships with followers in individualized ways; by recognizing the need for empowerment, personal growth, achievement and enhanced self-efficacy (Bass and Avolio, 1995; Jung et al., 2008). This will increase the ability of employees to incubate new ideas and generate innovative initiatives.

Prior research has demonstrated that this style of leadership has the ability to motivate their followers intrinsically and creating a cooperative environment within the workplace (Zhang et al., 2018). When leaders encourage employees and support them to make their own decisions, employees may feel protected when they take risks and can give followers more autonomy and resources that might “stimulate risk-taking and a willingness to exceed the scope of one’s formal job description” (Bettencourt, 2004, p. 169). In addition, Kazama et al. (2002) in their studies within UK manufacturing firms, confirm that TL was a potent predictor of the formation of an INC within an organization. This is because TL has the ability to motivate and intellectually stimulate followers to perform beyond their own and others’ expectations (Northouse, 2010). Another study was conducted by Jung et al. (2008) on fifty electronics and telecommunications firms in Taiwan and the findings show evidence that the path coefficient from TL to innovation outcomes was higher in high climate variables. Therefore, in relation to TL and INC, it is possible to posit:

**Hypothesis One:** TL is positively associated with an INC.

## 2.2 The Relationship between TL and TO

A review of the literature shows that the adoption of technologies by leaders in organizations is an obvious choice as technology supports leaders in decision making with regard to organizational strategy and operations (Jobar et al., 2010). In this regard, Chen et al. (2014) supported this position arguing that if a high level of technology is present in an organization, the positive effects of TL can be more effective. This is because technology is a very useful tool in supporting the activities of sharing and applying technical knowledge. As a result, TL will be more powerful in fostering cooperation, promoting creativity and enhancing the motivation of followers. Many leaders, therefore, espouse a strategic orientation toward technology in their organizations to achieve growth and improved products and services (Akgün et al., 2012). Extending this, McMullen and Shepherd (2006) state that TO is strongly supported by TL because of its significant effect on innovation processes and in correcting problems that may arise from outdated production systems and operational inefficiency. In technology-oriented firms, argue Capon and Glazer (1987), it is easier for subordinates — under the impact of TL — to successfully implement interrelated activities and improve the processes of innovation. Leaders are then likely to strive to integrate technology within their organizations in order to gain the maximum benefit from encouraging innovation processes in a complex, highly technological knowledge-based economy. Furthermore, Hambrick et al. (1995) argue that transformational leaders idealize the influence of adopting new technology in firms in order to have more efficient resources to put towards generating new ideas and new methods of processes and operations. This should result in more use of sophisticated technologies which is very useful for innovative activities.

Furthermore, a TO can assist organizations to place emphasis on the growth and improvement of product design and quality and to avoid potential risks (Akgün et al., 2012). Consequently, transformational leaders are less likely to harbor feelings of doubt that will delay or prevent action from being taken on innovation (McMullen and Shepherd, 2006). Transformational leaders are rather more willing and convinced about their employees viewing new technologies as tools to apply during the product development process, by means such as engaging in innovative processes (Kusunoki, 1997). Therefore, in relation to TL and TO, it is possible to posit:

**Hypothesis Two:** TL is positively associated with TO.

### 2.3 The Effect of TL on OL

Previous studies have confirmed the positive impact of a TL style on OL process (e.g., Darwish, 2020; Xie, 2019; Pasamar et al., 2019). This is because TL has the ability to build teams and provides them with direction and power (Bass, 1999; McDonough, 2000). As outlined by Bass and Avolio (2000) and García et al. (2008), TL has the capability to increase the consciousness of collective interest among members of a firm and supports them in accomplishing their goals. Furthermore, this style of leadership is often seen as a significant factor in the level and quality of knowledge which is communicated and disseminated throughout a firm (Avolio et al., 2004). In the same vein, Coad and Berry (1998) state that TL can enhance OL through encouraging “intellectual stimulation”, promoting “inspirational motivation” and “self-confidence” among firm employees. As such, Senge et al. (1994) argue that TL supports “shared mental models” in a firm that favor continuous learning and assist technological learning and the use of updated technologies. In connection with this, Lei et al. (1999) and Argyris and Schön (1996) mention that communication within an organization is strongly supported by TL, since communication has an indirect impact on OL.

In addition, TL encourages its followers to learn through different channels such as exploration, dialogue and experimentation (Menguc et al., 2007; Senge et al., 1994). This method permits the leader to commit openly to learning, to become a force generator and key facilitator in overcoming internal and external difficulties to set up learning within an organization (Pasamar et al., 2019). Moreover, this leadership style emphasises emotion, motivation and values to encourage employee creativity (Bass, 1999). On a similar note, consider a study by Amitay et al. (2005) on forty four community clinics run by a health-care organization in Israel. Their findings assert that there a TL style was significantly associated with OL process. Based on these arguments, it can be clearly seen that TL is one of the most significant means of improving learning within organizations (Aragon-Correa et al., 2007; Maani and Benton, 1999). Therefore, in relation to TL and OL, it is possible to posit:

**Hypothesis Three:** TL is positively associated with OL.

### 2.4 The Relationship between INC and IC

The INC has had a significant impact on IC in a firm (e.g., Xu et al., 2019; Acosta-Prado, 2020; Koene et al., 2002), so there is extensive literature investigating the relationship between these two areas. This investigation has been undertaken as a means of understanding individual behavior because people are the key driver in encouraging IC in a firm. As long as openness, trusting relationships between all employees and psychological safety are significant indicators of an INC, employees can easily explore new methods, articulate dissimilar ideas without fear of being blamed and accept the risky ideas of others (West and Richter, 2008). In this case, employees can understand each other and new ideas will be routinely accepted and rewarded which, in turn, improves IC in a firm. In addition, employees react to these expectations by adjust their own behavior to a set of norms and values in order to recognize positive self-evaluative consequences such as self-confidence, self-satisfaction and self-pride (Bandura, 1988). In addition, employees are able to share their ideas and suggestions and the dimensions of the INC can be expanded. In a situation of this sort, the degree of IC in a firm will be enhanced (Isaksen and Ekvall, 2010).

Furthermore, Hunter et al. (2007) examined forty-two review studies using a meta-analysis that relates to workplace atmosphere with regard to IC. They argue that an INC is a key driver for IC in a firm being successful and sustainable. Whenever individuals within a firm feel a deeper sense of respect, engagement and experience a climate conducive to innovation, their capability for innovation will be increased (Bharadwaj and Menon, 2000). In the same vein, Anderson and West (1998) in their studies of twenty seven hospitals over six months, affirm that an INC was a significant indicator of IC at an organizational level, estimating a forty-six per cent variance. Another study, conducted by Hosseini et al. (2003) looked at the role workplace climate can play between organizational structure, strategic posture and external environment in some ninety Iranian firms. They concluded that despite there being considerable relationships between structure, strategic posture and environment, the organizational work environment was the main driver for IC in firms. In relation to INC and IC, therefore, it is possible to posit:

**Hypothesis Four:** An INC is positively associated with IC.

## 2.4 The Effect of TO on IC

Several studies have emphasized the importance of adopting new technology within a firm to enhance IC in a firm (e.g., Ringberg et al., 2019; Kleis et al. 2012). On this view, Zhou et al. (2005) argue that highly technology-oriented organizations have the ability to create new ideas or adopt new methods to enhance IC in a firm. Additionally, the orientation of technology includes various activities such as significant levels of investment in R&D and resource allocation (Slater et al., 2007), which will lead to greater IC within organizations. Moreover, adopting new technology can lead to some changes in an organizational structure (Woodward, 1965), procedures (Littlejohn et al., 2012) and routines (Levitt and March, 1988) which, in turn, positively influence different functions within a firm like operations, systems, and processes. This, in turn, leads the firm to be able to evaluate these in relation to the firm's requirements and resources to develop IC (Dong and Netten, 2017; Parasuraman et al., 2005). In a similar vein, Chen et al. (2014) declare that technology-oriented firms are more likely to adopt new ideas, changes and methods that lead to organizational renewal which can improve IC in a firm and its consequent successful and sustainable innovation outcomes. In addition, TO in a firm can facilitate the formation of coherent ties between employees through building networks for example. This network is important in creating an appropriate environment where the exchange of knowledge, experience and skills are all significant factors in encouraging IC (Park and Luo, 2001). From the above, it is apparent that TO has a significant direct effect on IC in a firm. It is, therefore, possible to posit:

**Hypothesis Five:** TO is positively related to increasing IC.

## 2.5 The Impact of OL on IC

The existing literature provides a considerable amount of evidence to assert the positive influence of OL on capabilities of that organization to innovate (e.g., Darwish, 2020; Choi et al., 2019; Darroch and McNaughton, 2002). For example, Child et al. (2005) propose that, in order to cope with high market turbulence and threats, firms should acquire new knowledge and skills by learning to enhance their capabilities to innovate. The authors also argue that the ability to innovate in firms can be achieved through learning faster than competitors. In the same vein, Calantone et al. (2002) in their study of American R&D managers, affirm that the degree of IC depends on the level of the learning in the organization. Furthermore, the study by Mort and Weerawardena (2006) also confirmed that the higher the level of learning in an organization, the greater the innovation levels will be. In addition, previous studies have shown that innovation is correlated to the implementation of new ideas and processes and is determined by the learning orientation of an organization (Mardani et al., 2018; Obeidat et al., 2016).

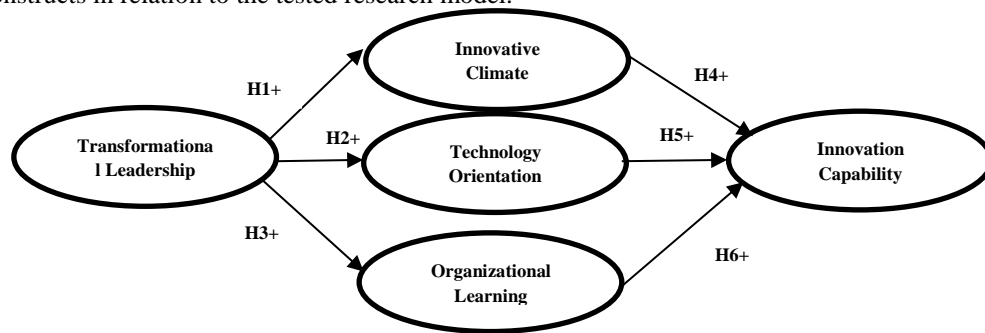
Cefis et al., (2019) state that OL can be seen as a strategic variable for organizations attempting to provide new products or look for new markets due to an incessant necessity to enhance IC. On a similar note, García et al. (2007, p. 535) argue that OL “supports creativity, inspires new knowledge and ideas and increases the potential to understand and apply them”. Furthermore, Tamayo-Torres et al., (2016) and Gomes and Wojahn (2017) point out that OL is a key factor in any attempt to enhance IC in a firm and support competitive advantage. This is because the valuable new knowledge derived from OL processes minimizes the probability that organizational competencies will become outdated. Instead, the competencies will remain dynamic and upgraded, favoring development in IC. Scholars have, therefore, unanimously confirmed that OL is a key strategic variable, one which has been called “an underlying variable explaining performance in strategic action” and can increase IC effectiveness (Richard, 1985, p. 221). From all these viewpoints, it is clearly seen that OL is regarded as a driver to enhancing IC in a firm. It is, therefore, possible to posit:



**Hypothesis Six:** OL is positively related to increasing IC.

### Proposed Conceptual Framework

Figure 1 illustrates all the expected relationships that form the basis of the hypotheses and reviews the related literature on the constructs in relation to the tested research model.



**Figure 1. The proposed model of the development of IC in SMEs**

### 3. DISCUSSION AND IMPLICATIONS

This literature review provided a number of organizational components related to a firm's capability to innovate. Based on the literature review, it has been suggested that in order to achieve a competitive advantage in highly changeable environments, SMEs must constantly evaluate and strengthen the means to sustain their capabilities to innovate. This can be done by identifying the organizational conditions that can enable them to understand and support the key drivers to developing IC. Although IC studies have been the subject of ongoing research, further studies are needed to understand which organizational components can improve IC in a firm (e.g., Saunila, 2016). The present study responds to calls for more research and contributes to the innovation literature by investigating the mechanisms and processes that affect the innovation capabilities of a firm.

Through a deep review of the related literature, TL in this study has been consistently identified as one of the most significant factors in developing IC in a firm (e.g., Le and Lei, 2019). In the existing literature, several different pathways have been proposed regarding the effect of TL on IC, although this has been identified as inadequate (e.g., Hui et al., 2018). This study goes beyond these by proposing a new combination of components through which TL can influence IC in SMEs. This study is unique in proposing three distinctive mediating components (INC, TO and OL) to build a framework that explicates how IC in SMEs can be developed.

The literature review has provided a strong basis for the direct positive impact of TL on IC development. However, few studies have been found in the literature that explore this association by utilizing some mediating factors (e.g., Van et al., 2018). Thus, it is important to identify other related factors that might connect this relationship. In the current study, a systematic literature review is conducted to explore the mediating effect of INC in the relationship between TL and IC in a firm. The proposed framework in this study indicates that TL can contribute to the creation of a supportive climate for innovation through the provision of rewards, appreciation and resources as well as through encouraging the psychological aspects (both at the individual and group levels) such as motivation, appropriate desired perceptions and confidence. As discussed in section 2.1, TL has a direct impact on organizational commitment and higher-level self-actualization needs of individuals. In the literature, it is found whenever individuals feel a deeper sense of respect and engagement, and experience a climate conducive to innovation (Isaksen and Ekvall, 2010), they are more able to obtain a significant level of power and authority to experiment with new ways of working, and create, develop and express their opinions and ideas freely without fear (Vera and Crossan, 2004; Cirella et al., 2014). This climate, therefore, provides a platform for individuals to explore externally available strategic knowledge (Srivastava et al., 2011), launch creative initiatives and integrate all the necessary mechanisms to achieve organizational outcomes at both the firm and unit levels (Wright et al., 1994) as well as increase their willingness to make the required organizational structural changes, thereby developing IC in a firm. This study identifies an important interaction between TL and the capability of a firm to innovate via INC. Therefore, an empirical study is highly recommended to test these relationships.

One of the key questions addressed in this study is the extent to which OL processes mediate the impact of TL on IC development. The proposed framework in this study, supported by previous empirical findings, indicates that TL, through behavior that inspires motivation, commitment, intellectual stimulation and individualized consideration, has a direct role in motivating and inspiring followers to participate in the process of OL, and expands the firm's existing knowledge stocks by giving individuals the confidence and opportunity to apply their newly acquired knowledge and skills to the workplace; these are factors critical to strengthening the capabilities of a firm to innovate. In addition, it has been suggested in the literature that when OL practices within a firm are encouraged by transformational leaders, individuals are more likely to create and share knowledge, generate new ideas, participate in decision making, and obtain new skills and competencies (e.g., Shanker et al., 2017; Aizpurúa et al., 2011). All these, in turn, improve the capabilities of a firm to innovate. This pattern of correlations underlines the importance of OL as a mediating variable that appears to function as a portal to enhance IC in a firm.

Prior studies have demonstrated the positive effect of TL on IC development (e.g., Sahban, 2019). However, no study has shown the causal path of the influences of TL on IC development by investigating the mediating effect of technology adoption. To the author's knowledge, this study is the first attempt in the innovation literature to establish these relationships. The model shows that if a high level of TL is present in a firm, the positive effects of TO can be more effective. This is because the adoption of new technology can be seen as a strategic option for transformational leaders as technology supports them in decision making with regard to organizational strategy and operations (Jobar et al., 2010) as well as in obtaining more efficient resources to put towards generating new ideas and new methods of processes to achieve growth and improved products and services (Akgün et al., 2012).

The findings of this study would be used in at least two ways by managers and practitioners tasked with supporting innovation in their firms. First, SMEs will gain a greater understanding the role of TL style in encouraging IC in a firm and also of the mechanisms that influence the implications for management practices to maintain a competitive advantage. Second, this study will be able to provide a practical tool in terms of recommendations for managers who seek to enhance the health of their innovation practices. The findings of this study can be expected to equip managers in SMEs with new knowledge regarding the strategic importance of the working atmosphere within firms, the adoption of new technologies and learning activities for improving innovation capabilities of firms.

### Limitations and Further Research

Despite the theoretical and practical contributions that this study would make, they are subject to a number of limitations which provide opportunities for future research and should be noted. First, the framework presented is based on the theoretical investigation, and therefore an empirical examination of the interrelationship between these variables is required to validate the hypothesized relationships between the theoretical constructs. It is, therefore, necessary to suggest that future research should emphasise validating the proposed model in terms of generalizability, usefulness and acceptability. In addition, the current study does not provide valid quantitative measures that allow these variables to be measured objectively. Future research should focus on utilizing valid quantitative measures that are related to the current study to reconfirm the findings of this study.

Secondly, while this study explores the impact of TL on IC development, the present study does not address to what extent IC contributes to organizational innovation outcomes. Although earlier studies have confirmed strong links between them (e.g., Chang et al., 2012; Martini et al., 2012), this study draws the attention of future researchers to the need for measuring and addressing the direct effect of IC on organizational innovation outcomes and performance respectively and so to the need to provide a richer understanding of the area and add credence to the expected findings of the study.

### 4. CONCLUSION

The purpose of this study is to provide a framework to expand our understanding regarding the effects of TL on IC within the specific sphere of SMEs. The model was developed from the review of the existing literature on the constructs related to the framework and shows the expected relationships that shape the basis of the six hypotheses of the study. This study will contribute to the literature on innovation performance in SMEs. Specifically, this study will expand the scope of previous studies by providing new insights into the mediating roles of INC, TO and OL for the causal path of the influences of TL on IC to increasing innovation outcomes in the context of SMEs.

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## "تحسين القدرة على الابتكار في المنشآت الصغيرة والمتوسطة: إطار مفاهيمي ومقترحات بحثية"

### ملخص الدراسة

الغرض من هذه الدراسة هو استكشاف ممارسات القيادة التحويلية في كيفية دعم القدرة على الابتكار في الشركات الصغيرة والمتوسطة لإنتاج الابتكار. على الرغم من كثرة الدراسات التي تشير إلى أن القيادة التحويلية تُساهم بقوة في دعم القدرة على الابتكار، إلا أن هناك نقصاً في فهم العوامل والآليات الداخلية للشركة التي يُمكنها تحسين القدرة على الابتكار ولا سيما في الأسواق الديناميكية. هذه الدراسة سوف تُعالج هذه المشكلة وتُقدّم إطاراً مفاهيمياً يستكشف من خلالها التأثيرات لكل من القيادة التحويلية، والمناخ الابتكاري، والتوجه التكنولوجي والتعليم التنظيمي في تطوير القدرات الابتكارية في الشركات الصغيرة والمتوسطة. تُساهم هذه الدراسة في أدبيات الابتكار من خلال شرح تأثير القيادة التحويلية على تحسين القدرات الابتكارية الضرورية لإنتاج الابتكار. هذه الدراسة سوف تُقدم مجموعة من التوصيات للممارسين والمدراء لمساعدتهم على تطوير القدرات الابتكارية في شركاتهم من خلال، على سبيل المثال إختيار أسلوب القيادة المفضلة.

**كلمات مفتاحية:** الابتكار، أسلوب القيادة، المناخ، الشركات الصغيرة والكبيرة، القيادة التحويلية، المناخ الابتكاري، التوجه التكنولوجي