

Role of Top Management Behavioral Integration in Managing Innovation Paradoxes



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Business organizations need to simultaneously pursue radical and incremental innovations for its long-term effectiveness and to sustain competitiveness in a dynamic environment. Exploitation of existing competencies leads to incremental innovation and exploration of new opportunities leads to radical innovation. Organizational ambidexterity is an organization's ability to simultaneously pursue both exploration and exploitation activities. Past researchers studying organizational ambidexterity have explored its structural and contextual antecedents and/or its relationship with innovation and firm performance. Irrespective of its structural or contextual genesis, researchers agree that the major decisions and tasks related to ambidexterity are made and implemented by the top management team (TMT) of the organizations. However research focused on TMT processes in the context of ambidexterity has been relatively few. Based on previous work, the TMT processes necessary for ambidexterity could be classified under Behavioral Integration (consisting of collaborative behavior, information exchange and joint decision making). In this paper we propose a study to address the following research question: what is the distinct effect of top management behavioral integration on ambidexterity? Unlike in larger organization, in Small and Medium Enterprises (SMEs), the TMT members adorn both strategic and operational roles and hence have a larger role in influencing the ambidexterity of their organizations. Therefore, in this paper, we propose to study the effect of top management behavioral integration on ambidexterity, in the research context of SMEs. We expect the proposed study to add to the literature on TMT by studying the processes of the top management teams necessary for organizational ambidexterity. This research is also expected to add to the literature on organizational ambidexterity by exploring the distinct influence of TMT processes on organizational ambidexterity.

Keywords: Top Management Team (TMT), Ambidexterity, Exploration, Exploitation, Behavioral Integration, Innovation paradox

1. Introduction

Business organizations are always conflicted about whether to pursue their short term or long term goals. To achieve short term goals organizations only need to exploit existing competencies. To achieve long term goals however, organizations need to explore new opportunities (Cao et al, 2009). Choosing the easier path, most often organizations gravitate towards exploiting the existing certainties for short term gains at the expense of exploring the new possibilities for long term gains (March, 1991; Levinthal & March, 1993). However, to survive in the long run with competitiveness, firms need to simultaneously pursue the contrasting short and long term goals of exploration and exploitation (Levinthal & March, 1993; Gibson & Birkinshaw, 2004; He & Wong, 2004). To sustain enhanced firm performance and be successful for long, firm needs to constantly align their business to the market needs and adapt according to the changing demands (Tushman & O'Reilly III, 1996). It has been recorded that firms which focus on alignment alone suffered early decline due to their inability to adapt to the emergent needs of the market environment (Tushman, Anderson, & O'Reilly III, 1996).

In the aftermath of the global financial crisis of 2008, the managers of business organizations have become all the more cautious and judicious in their goal settings. Therefore in this economic scenario, it is important that organizations and managers re-understand the importance of cultivating the organizational capability to simultaneously pursue the contrasting goals of short term alignment and long term adaptation. This organizational capability to simultaneously pursue the two contrasting organization level goals of exploration and exploitation is known as '**Organizational Ambidexterity**' (O'Reilly III & Tushman, 2013, Gibson & Birkinshaw, 2004).

In 2009, Raisch et al proclaimed 'organizational ambidexterity' to be a new research paradigm in organization theory. For a decade before their statement, and in the few years since, research on topics related to innovation, exploration, exploitation and organizational ambidexterity have burgeoned. Unfortunately the growing amount of literature in this area has only added to the ambiguity surrounding the concept. Since 1976, when Duncan first used the term 'Ambidextrous firm', the term has undergone very many changes. Though the germ idea of organizational ambidexterity can be traced back to innovation (Duncan, 1976) and organizational learning literature (March, 1991; Levinthal & March, 1993), over the years, they have come to be studied in different research streams as: innovation (Tushman & O'Reilly III, 1996; Smith & Tushman, 2005) strategic management (Auh & Menguc, 2005), and strategic leadership (Beckman, 2006; Lubatkin, Simsek, Ling & Veiga,

2006). In this paper, we have followed the evolution of 'organizational ambidexterity' in detail charting the changes in conceptualizations, assumptions, levels of analyses, and measurement over time. After diligent analysis of these varying conceptualizations, in this paper, we present 'organizational ambidexterity' in a way, that best signify its understanding in today's age and time.

Research on Ambidexterity has primarily focused on establishing its relationship with the various antecedents and consequences. Most of the researchers have attributed the genesis of ambidexterity to mainly two root factors namely: organizational context (Gibson & Birkinshaw, 2004; Jansen, Van Den Bosch, & Volberda, 2006; Prieto & Santana, 2012) and structural differentiation (Tushman & O'Reilly III, 1996; McGrath, 2001; Perretti & Negro, 2006). The concept of '*contextual ambidexterity*' suggests that an omnipresent organizational context steeped in the dimensions of discipline, stretch, support, and trust builds organizational ambidexterity (Gibson & Birkinshaw, 2004). Conversely, the concept of '*structural ambidexterity*' suggests that dual structures with separate organization designs are needed to build organizational ambidexterity (Tushman & O'Reilly III, 1996). On close inspection, the top management of organizations was found to play a critical role in designing ambidexterity (O'Reilly III & Tushman, 2004; Mom, Van Den Bosch, & Volberda, 2007; Birkinshaw & Gibson, 2004; Smith & Tushman, 2005, & Raisch & Birkinshaw, 2008), irrespective of whether ambidexterity was conceptualized as structural or contextual. The senior management tasks of; sensing the existing competencies, seizing new opportunities by reconfiguring tangible and intangible assets (O'Reilly III & Tushman, 2011) and decisions on; strategic goals, individual activities within the strategic boundaries, target agreements, resource allocations including time, expected results, and specialization levels in projects at employee levels (Guttel & Konlechner, 2009) are crucial in accomplishing ambidexterity. No other group of individuals in an organization is capable of doing these tasks and making these decisions. Therefore the top management members are the key players in deciding the ambidexterity level of their organizations. Even though we understand the tasks and decisions that signify the role of 'top management' in the case of ambidexterity, we are still largely unaware of the internal processes of the top management tasks and decisions that lead a firm to be ambidextrous (Smith & Tushman, 2005; O'Reilly III & Tushman, 2011; Tushman & O'Reilly III, 1996). Lately, a few researchers (Lubatkin, Simsek, Ling & Veiga, 2006; Carmeli & Halevi, 2009; Cao, Simsek & Zhang, 2010; & Mihalache et al, 2013) have explored the different group process involved in the top management's decisions regarding ambidexterity and found them to be: collaborative behavior, information exchange, and joint decision. In an extension of the upper echelons perspective Hambrick (1994), had clubbed these group processes of collaborative behavior, information exchange and joint decision into a meta-construct called 'behavioral integration'. When a top management team's behavioral integration is high, they collaborate and exchange information extensively, thereby enhancing their ability to know about different areas of knowledge expertise in the organization and trust each other to express their opinions openly (Rulke & Galaskiewicz, 2000; Carmeli & Schaubroeck, 2006; Buyl, Boone, & Matthyssens, 2012). With more information, complex issues are better addressed with divergent perspectives leading to better decision making (Evans & Butler, 2011). In this paper we propose to explore the effect of top management team processes necessary for organizational ambidexterity on the different conceptualization measures of ambidexterity.

Based on these lines of inquiry we have built a research model with supporting methods and measures. To build our research model, we have done an extensive review of the literature over a span of thirty nine years ranging through journals as Academy of Management' Journal, Academy of Management Review, Strategic Management Journal, Organization Science, Organization Studies, Strategic Organization, Leadership Quarterly, Human Resource Management Journal, Administrative Science Quarterly, Research in Organizational Behavior, Journal of Knowledge Management and Management Science. We have also searched within all the Library Databases at the Indian Institute of Management Kozhikode using the keywords, exploration, exploitation, ambidexterity, innovation, knowledge management, knowledge search/seeking, 'structure and/for innovation', 'climate and/for innovation', 'culture and/for innovation', and sustainable innovation, top management team, top management group, upper echelon, elite, firm performance, and organizational effectiveness.

This study is expected to give a clear understanding of the distinct effect of top management team processes on ambidexterity. We have divided this paper into three sections. In Section I we briefly explore the evolution of the present day understanding of ambidexterity. In Section II we develop a research model to explore the effect of specific top management processes on ambidexterity. In Section III we suggest how to collect data for the proposed research model with adequate methods and analyses. We also explain the theoretical and practical implications of our proposed model in this section.

2. Literature Review

Understanding Organizational Ambidexterity

Organizational Ambidexterity is a firm's ability to pursue any two firm level objectives simultaneously (Gibson & Birkinshaw, 2004). An 'Ambidextrous Firm' was first defined by Duncan (1976) as one that uses two different organization structures sequentially to fulfill all phases of innovation in a firm. Years later, when Tushman & O'Reilly III (1996) re-used the term 'Ambidextrous firm' again, they were referring to firms with the ability to simultaneously pursue incremental and discontinuous innovation and change, by hosting multiple contradictory structures, cultures and processes within the same firm. The authors who proceeded to research 'Ambidexterity' henceforth in the coming years, (Gibson & Birkinshaw, 2004; Raisch & Birkinshaw, 2008; O'Reilly III, & Tushman, 2008), used the term 'Ambidextrous organization' coined by Duncan (1976), yet, anchored their works on the research of March (1991) and Levinthal & March (1993), and considered

'Organizational Ambidexterity' as the capability to balance exploration and exploitation in firms. Raisch & Birkinshaw (2008, p. 375) defined organizational ambidexterity as "an organization's ability to be aligned and efficient in its management of today's business demands while simultaneously being adaptive to changes in the environment". O'Reilly III & Tushman (2013, p. 324) "Organizational ambidexterity refers to the ability of an organization to both explore and exploit—to compete in mature technologies and markets where efficiency, control, and incremental improvement are prized and to also compete in new technologies and markets where flexibility, autonomy, and experimentation are needed". This newer understanding of 'Organizational Ambidexterity' suggesting a simultaneous pursuit of exploration and exploitation was closer to the work of Tushman & O'Reilly III (1996) who had suggested a balance of adaptation and alignment. Of course, there are others (Adler, Goldoftas, & Levine, 1999) who define 'Organizational Ambidexterity' as a tradeoff between flexibility and efficiency too.

In summary, based on past literature, Organizational Ambidexterity can now be defined as the, organizational capability to pursue any two disparate firm level goals simultaneously. These firm level goals could be either organizational system capacities (adaptation/alignment or flexibility/efficiency), or learning processes in organizations (exploration and exploitation).

The majority of the present day ambidexterity researches consider exploration and exploitation to be two disparate goals being pursued by ambidextrous firms. Therefore, we need to gather a better understanding of what exploration and exploitation signifies in ambidexterity literature. Levinthal & March (1993, p. 105) defined Exploration as "The pursuit of new knowledge of things that might come to be known" and Exploitation as "The use and development of things already known". Other authors as (March, 1991, p. 71) have defined exploration to include activities as "search, variation, experimentation, risk taking, play, flexibility, discovery and innovation" and exploitation to include activities as "refinement, choice, production, efficiency, selection, implementation, and execution". While exploration results from a "relatively broad and generalized search to expand the firm's knowledge domains in to unfamiliar or novel areas and/or to establish new combinatory mechanisms, exploitation relies on a narrower, localized and in-depth search and/or a repetitive combinative mechanism in order to obtain well defined solutions pertinent to a firm's existing knowledge domains (Kang & Snell, 2009, p. 67). Neither exploration nor exploitation is limited by the boundaries of the firm (Holmqvist, 2003; Lavie, Stettner & Tushman, 2010). Therefore in summary, **exploration is the search, identification and evaluation of new possibilities from within and/or outside the organizational boundaries and exploitation is the identification, refinement and implementation of old certainties from within and/or outside the organizational boundaries.**

Therefore organizational ambidexterity is the organizational capability to search, identify, and evaluate new possibilities and identify, refine and implement old certainties from within and/or outside the organization, simultaneously.

3. Research Model

Research Objective

- To explore the top management team processes required to build Organizational Ambidexterity and understand their effects on ambidexterity.

Research Questions

1. Which are the top management team processes that can enhance organizational ambidexterity?
2. What are the distinct effects of team these top management processes on ambidexterity?

In the following paragraphs we explore who exactly constitutes the top management team, how they affect Organizational Ambidexterity, whether the top management team processes are sufficient to build Organizational Ambidexterity, and their effects on ambidexterity.

What constitutes the Top Management Teams?

When we looked at the different key individuals across organizational levels that have been studied in the past literature as responsible for 'Organizational Ambidexterity, we found that all these individuals were at least a manager in the firm being studied. Senior management members (O'Reilly III & Tushman, 2004), managers (Mom, Van Den Bosch, & Volberda, 2007; Birkinshaw & Gibson, 2004), Top Management Teams (TMT) (Smith & Tushman, 2005), and top leadership (Raisch & Birkinshaw, 2008) had been studied in the respective organizational ambidexterity studies. Thus, it can be seen that these key individuals are invariably managers or higher off executives in firms, with the ability to take decisions regarding the exploration or exploitation activities of the firm.

Hambrick & Finkelstein (1987) had decisively stated that, 'no other group including the board of directors has a greater potential for affecting the form and fate of an organization as the small group of senior executives residing at the apex of the organization'. This small group of senior executives residing at the apex of the organization is usually called the Top Management Team (TMT).

The Top Management Team (TMT) is again different from the 'leader' of a firm. A leader includes only the Chief Executing Officers (CEO) of a firm (Hage & Dewar, 1973; Lubatkin, Simske, Ling, & Veiga, 2008). Even though the leader of a firm is a part of its TMT, the leader alone does not constitute the TMT. Even in the past for operational ease, the 'elite' being studied in the firm, have been chosen based on their level of participation in the relevant decision making processes (Hage & Dewar, 1973). **Therefore in the particular case of building 'organizational ambidexterity' the TMT would include all**

managers and higher up executives, with the ability to decide on and oversee the fulfillment of the exploration or exploitation activities of the firm. A similar definition of TMT has been used by Cao, Simsek, & Zhang (2009), Simsek, Veiga, Lubatkin & Dino (2005), and Smith & Tushman (2005:1276). 'A TMT is composed of organizational members who make or are involved with decisions affecting the company's strategy'. Similar to Smith et al (1994) in their study Lubatkin, Simsek, Ling, & Veiga (2006) asked the CEOs to identify the Top Management Team members of their firm. Now let us look at the various TMT processes that have been established in the past literature to build Organizational Ambidexterity.

Top Management Team Processes That Enhance Organizational Ambidexterity

In order to understand the relationship between the various top management group processes and ambidexterity, we need to first have a clear idea of all the top management group processes that have been established to have an effect on ambidexterity in the past. Lubatkin, Simsek, Ling, & Veiga (2006) had empirically established that a 'behaviorally integrated TMT' with collaborative behavior, information exchange and joint decision making enhances Organizational Ambidexterity. Similarly, Mihalache, Jansen, Van den Bosch & Volberda (2013) had established that the TMT cooperative conflict management style and comprehensive decision making mediated the positive effect of TMT shared leadership on a firm's ambidexterity. Cao, Simsek & Zhang (2010) had established that a TMT with communication richness, functional complementarity and power decentralization positively moderated the effect of the CEO information network on Organizational Ambidexterity. Now let us explore the exact nature of the relationship of each of these TMT group processes on organizational ambidexterity

Behaviorally Integrated TMT and Organizational Ambidexterity

"Top management behavioral integration, is the degree to which the senior management group engages in mutual and collective interaction" (Hambrick, 1994, p. 188-189). In an extension of the upper echelons perspective, Hambrick (1994) had suggested that a TMT is behaviorally integrated if it exhibits collaborative behavior, information exchange and joint decision making i.e. it shares resources, information, and decisions. These three elements of a behaviorally integrated team are mutually interdependent and reinforcing in nature (Lubatkin, Simsek, Ling & Veiga, 2006). These top management group processes involved in sharing resources, information and decisions have been proposed (Carmeli & Halevi, 2009) and empirically established (Lubatkin, Simsek, Ling, & Veiga, 2006) to enhance ambidexterity. Apart from these studies, other authors (Cao, Simsek, Zhang, 2010; Mihalache, Jansen, Van den Bosch & Volberda, 2013) have individually pointed out that specific individual group processes of a behaviorally integrated TMT enhances Organizational Ambidexterity. Hambrick (1994), Simsek et al (2005), and Lubatkin et al (2006) have suggested that the three top management group processes to share; resources, information and decisions are better measured as a meta-construct with separate dimensions. This meta-construct is called a 'Behaviorally integrated TMT'.

When a top management team's behavioral integration is high, they collaborate and exchange information extensively, thereby enhancing their ability to know about different areas of knowledge expertise in the organization and trust each other to express their opinions openly (Rulke & Galaskiewicz, 2000; Carmeli & Schaubroeck, 2006; Buyl, Boone, & Matthyssens, 2012). With more information, complex issues are better addressed with divergent perspectives leading to better decision making (Evans & Butler, 2011). With effective strategic decision processes, behaviorally integrated teams reach high quality decisions which reflect the changing conditions (Carmeli & Schaubroeck, 2006). Therefore, we see that when the behavioral integration of the top management teams is high, the quality of all their strategic decisions including their decisions on 'ambidexterity' is enhanced. Guttel & Konlechner (2009) had suggested that a TMT's decisions with respect to ambidexterity included: decisions on strategic goals, individual activities within the strategic boundaries, target agreements; resource allocations including time, expected results, specialization levels in projects at employee levels, and the right balance of heterogeneous tasks in the firm. They also suggested that these TMT decisions had a pertinent bearing on the ambidexterity levels of the firm. Therefore, with a behaviorally integrated TMT capable of making high quality decisions regarding 'ambidexterity', the organizational ambidexterity of the firm is bound to increase. Let us see exactly how.

TMT behavioral integration negatively influenced the affective and cognitive conflict in the teams (Mooney & Sonnenfeld, 2001). In behaviorally integrated teams, members trust each other to express their dissenting views thus avoiding groupthink and enabling an in depth analysis of issues from different perspectives (Carmeli, 2008). A behaviorally integrated team is also able to "continuously adapt and coordinate in response to emergent needs" (Magni et al, 2009, p. 1046). A behaviorally integrated team has also been suggested to reduce a team's time spend in politics and bargaining (Li & Zhang, 2002), thus enabling them to pay more attention to decision making. Carmeli & Halevi (2009) had proposed that a behaviorally integrated TMT leads to TMT behavioral complexity and behavioral complexity in a leadership enhances its absorptive capacity and ability to change (Boal & Hooijberg, 2001). Behaviorally integrated top management teams have also been proposed to better integrate different opinions into a balanced strategic decision (Carmeli & Schaubroeck, 2006). Thus, we understand that by enabling lesser affective and cognitive conflict, lesser politics and bargaining, lesser group think, higher in depth analysis of issues, higher absorptive capacity, higher ability to integrate different opinions and a higher ability to respond to emergent changes; a behaviorally integrated TMT results in higher quality decision making. As explained earlier TMT decision making has a crucial role in building organizational ambidexterity (Guttel & Konlechner, 2009). Therefore, a higher level of behavioral integration of the TMT will signify a higher quality TMT decision making which in turn will result in higher levels of organizational ambidexterity. At this point another question crops up in our mind. Is a high level of behavioral integration of the TMT enough for a firm to exhibit high ambidexterity?

The mere presence of a behaviorally integrated TMT would not be enough to render a firm ambidextrous. An ambidextrous firm would also require either structural differentiation (Tushman & O'Reilly III, 1996; McGrath, 2001; Perretti & Negro, 2006) or a facilitating organizational context (Gibson & Birkinshaw, 2004; Jansen, Van Den Bosch, & Volberda, 2006; Prieto & Santana, 2012) or both. Though, these two factors depend on TMT decisions (Burgelman, 1983; Gibson & Birkinshaw, 2004; Ghoshal & Bartlett, 1994; & Edmondson, 2004), they are also dependent on a multitude of other factors. Therefore, a behaviorally integrated TMT with the capability to make high quality decisions on matters regarding ambidexterity is not sufficient to build an ambidextrous firm. An ambidextrous firm also requires dual structures to support the contradictory exploration and exploitation demands and/or an omnipresent organizational context where every individual employee could divide his/her time between exploration and exploitation activities.

Hambrick (1994) had suggested that with lower behavioral integration in the top management, an organization would be faced with inertia and mal-adaptation. Given, ambidexterity is the simultaneous pursuance of adaptation and alignment (Tushman & O'Reilly III, 1996), this would suggest that a top management with low behavioral integration would definitely lead to lower ambidexterity. Studies have noted an association between organization decline and inflexibility in the top management in the past too (Hambrick, 1994; Staw, Sandelands & Dutton, 1981; D'Aveni, 1989; Probst & Raisch, 2005). A top management which is not behaviorally integrated would only share distilled information. With such information exchange, the solutions and alternatives available to the firm would be incomplete. The decision making occurring in such a team would not be able to evaluate options comprehensively. In short, lower behavioral integration of the top management team would lead to affective conflicts and unnecessary politics, which in turn would be detrimental for the innovation performance of the firm. Therefore with low behavioral integration of the top management team, ambidexterity of the firm would also be low. Now we will see the intricate sequence of activities through which each of the group processes in a behaviorally integrated top management enhances ambidexterity.

TMT Collaborative Behavior

The word 'collaboration' suggests that members work with one another to achieve or do something. Collaboration suggests a high amount of cooperation with each other and asserting individual views (Levi, 2001). Our understanding of 'collaborative behavior in the TMT' dwells around the top management behaviors in sharing resources. When the top management works together more often and harmoniously to achieve common organizational goals, in resource sharing dilemmas, by giving respect and value to each other's values and opinions, their quantity and quality of social interactions is likely to increase. With increased frequency and quality of social interactions, a collaborative environment increases the chances of sensing knowledge sources within and outside the firm at multiple levels (Sinha, 2013). This in turn enhances ambidexterity which is the organizational capability to pursue new and existing knowledge simultaneously.

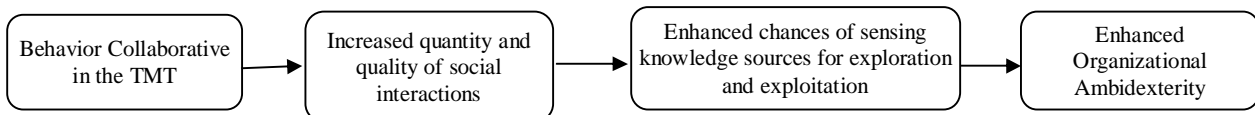


Figure 1 Effect of Collaborative behavior in the TMT on Organizational Ambidexterity

Therefore it is logical, that when a TMT practices collaborative behavior and the quantity and quality of their social interactions increase, the chances of sensing knowledge sources across different levels in the firm increases, thereby enhancing ambidexterity.

Information exchange

Increased communication within the TMT would make the members well informed of the actions of other members. This in turn would lead to seamless task coordination and well informed decision making. Thus the TMT would be able to make more wise choices regarding their knowledge searches.

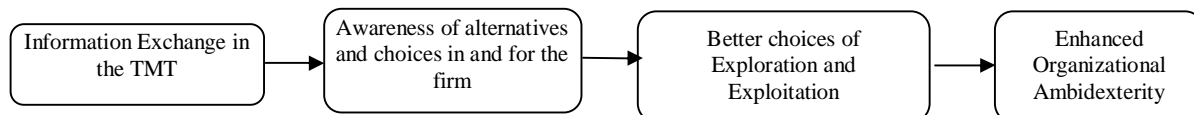


Figure 2 Effect of Information Exchange in the TMT on Organizational Ambidexterity

Ambidexterity is a firm's capability to pursue simultaneous exploration and exploitation of knowledge. Better decisions and seamless integration of knowledge searches would naturally enhance this capability. Therefore, Information exchange in the TMT can enhance ambidexterity.

Joint Decision Making

"Group decisions are better than individual decisions when there is successful pooling of resources to solve problems or make decisions" (Levi, 2001).

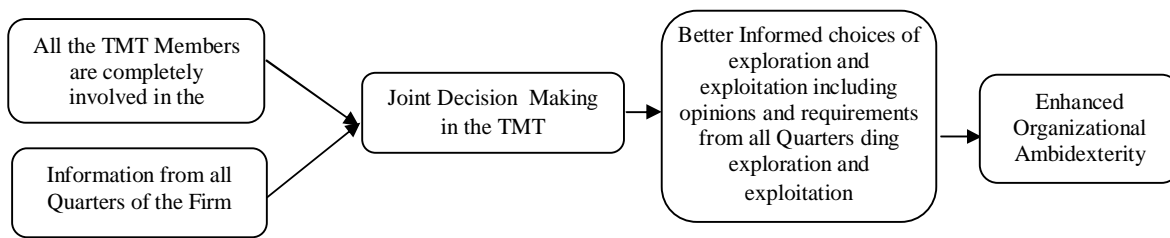


Figure 3 Effect of Joint Decision making in the TMT on Organizational Ambidexterity

When the TMT members make joint decisions after considering information from all departments on how and when to search knowledge, together by placing primary importance to the firm's growth, the decisions are bound to increase the organization's capability to pursue exploration and exploitation activities. Hence joint decision making in the TMT can also enhance organizational ambidexterity. Thus it can be hypothesized that the meta-construct of a 'Behaviorally integrated TMT' with the elements of collaborative behavior, joint decision making and information exchange enhances Organizational Ambidexterity.

H1a: A Behaviorally integrated TMT enhances the Organizational Ambidexterity of the firm.

4. Proposed Study Population

Like Lubatkin et al (2006), who had earlier studied TMT behavioral integration, we too propose to conduct this study in the context of Small and Medium Enterprises (SMEs). The definition of Small and Medium Enterprises differ across the globe. Similar to Lubatkin et al's (2006) definition of SMEs, we too consider only formal enterprises employing more than twenty and less than five hundred individuals. Sometimes, lower level business units of large corporate holdings would also have equivalent number of employees as SMEs. These subsidiary/lower level units of multi division firms would have no voice in making strategic decisions regarding exploration/exploitation or controlling the financial resources required to innovate (Kostova & Roth, 2002). Therefore, in the proposed study, we choose to investigate only stand alone SMEs with employee sizes between 20 and 495. Like previous ambidexterity studies in the SME context (Lubatkin et al, 2006; Cao et al, 2009; Jansen et al, 2009; & Mihalache et al, 2013) we too consider SMEs from different industries, but restrict our sample to product innovating organizations. The product innovations under study could be; style change in an established product, product line extensions, product improvements, new products for the current market served, new products in established markets where this vendor is unknown, and products with the potential of creating new markets and/or industries (Heany, 1983).

Primarily there are two logical arguments that have led to this choice of research context.

- The role of upper echelons is highly salient in SMEs rather than in large firms (Cao, Simsek, & Zhang, 2009). SMEs have to rely more on the ability of their TMT to attain ambidexterity because they have fewer hierarchical levels and their managers have to adorn both strategic and operational roles anyway (Lubatkin, Simsek, Ling, & Veiga, 2006). Tushman & O'Reilly III (1996) suggest senior team internal processes to be pivotal in facilitating ambidexterity. Hence, in a large firm, a study on the antecedents of Ambidexterity might do better to look at 'organizational context' antecedents than 'senior team members'. Since, the proposed study wishes to look at the effect of TMT on ambidexterity, it is important that the study be conducted in an SME environment.
- In smaller firms, the top management is likely to be more behaviorally integrated than be a loosely defined group of people who hardly know each other. When conceptualizing behavioral integration itself, Hambrick (1994) had considered that behavioral integration would be higher in organizations of smaller sizes. In the past too, TMT behavioral integration has been empirically established to facilitate ambidexterity in SMEs (Lubatkin, Simsek, Ling & Veiga, 2006).

The NKC report (2007) says that, amongst the product innovating SMEs in India, the industries of auto, pharmaceutical and IT have a better share of innovation intensity. Therefore in our study we would also be focusing on these three industries.

5. Measures

Dependent Variable: Organizational Ambidexterity

Exploration and Exploitation can either occur on a continuum, orthogonally, or complement each other. The 'continuum' view point advocated by March (1991) and Levinthal & March (1993) assumes that exploration and exploitation are traded off for each other. The 'orthogonal' view point, supported by, Raisch, Birkinshaw, Probst, & Tushman (2009) and Gibson & Birkinshaw (2004) assumes that they grow on two different platforms in the same firm. Exploration and Exploitation can be viewed as on a cycle too, one complementing the growth of the other (Gilsing & Nooteboom, 2006).

Some researchers (Blindenbach-Driessen & Ende, 2014) have found empirical evidence supporting the orthogonal existence of exploration and exploitation in firms and some others (Benner & Tushman, 2002) have found support to the continuum view of exploration and exploitation. In spite, of the contradictory empirical evidence, nowadays most researchers lean towards viewing 'exploration and exploitation' as orthogonal dimensions rather than a single dimension (Raisch, Birkinshaw,

Probst, & Tushman, 2009). In fact Birkinshaw & Gupta (2013) urge future researchers to use separate measures for exploration and exploitation.

Therefore, in this study, Organizational Ambidexterity could be measured following He & Wong's (2004) method. He & Wong (2004) used orthogonal scales to measure exploration and exploitation and calculated the balanced (absolute difference) and combined (multiplicative) dimensions to suggest 'ambidexterity', and the total magnitude of exploration and exploitation activities respectively. He & Wong (2004) had used items on exploration and exploitation in product design. Lubatkin, Simsek, Ling, & Veiga (2006), however extended He & Wong's scale to include items on technological, market and customer extensions. Based on Lubatkin, Simsek, Ling & Veiga's (2006) scale, Exploration and Exploitation of firms can be measured via survey methodology by collecting data from the TMT of the firms. We propose to use Lubatkin et al's (2006) scale to measure ambidexterity.

Independent Variable: TMT Group Processes

Similar to the study conducted by Lubatkin, Simsek, Ling & Veiga (2006); CEOs and TMTs of firms can be asked to assess the TMT's level of behavioral integration during the past three years, and the individual scores may be aggregated to get a score of the TMT's behavioral integration. A one way ANOVA with firm affiliation as the independent variable is suggested to check whether the variation in the ratings is higher within the firm or across firms. Also, inter-rater reliability can be checked. Since these are self-reported measures, the data is likely to be presented in a highly skewed manner.

Behaviorally integrated TMT can be measured as a meta-construct of collaborative behavior, information exchange, and joint decision making (Simsek, Veiga, Lubatkin & Dino, 2005).

Control Variables

In the past, authors have established contradictory results regarding the effect of heterogeneity of senior teams on organization level outcomes. While, Smith et al (1994) suggested that heterogeneity of senior teams had negative effects on performance, Wiersema & Bantel (1992) suggested senior team heterogeneity to promote creative innovative decision making at the firm level. Smith et al (1994, p. 195) suggested that "Socialization is more effective when members are homogeneous because of their similarity in backgrounds, joint experience, and shared perspective provides a common vocabulary and basis for mutual understanding". Also, Wiersema & Bantel (1992, p. 97) suggested that "a heterogeneous team would find it difficult to communicate; their communications are more likely to be conflict laden, and consensus in group decisions might be almost an impossible outcome" (Wiersema & Bantel, 1992). Hambrick (1994) had suggested that the behavioral integration in a TMT is enhanced with the homogeneity of its members only up to a certain level. After a certain level, homogeneity turns into 'too much similarities' (demographic and organizational tenure) and is detrimental to behavioral integration. To control for the effects of homogeneity of members in a TMT, we have suggested that the demographic traits (demographic and organizational tenure) of TMT members be measured as covariates in our study. Demographic homogeneity and homogeneity in tenure is also correlated with paradigm homogeneity (similarity in knowledge of assumptions of future events, alternatives, and consequences of alternatives). With low paradigm homogeneity behavioral integration is also likely to be low in a TMT (Hambrick, 1994). Therefore it is essential in this study to control for the measures of homogeneity in demographic traits and organizational tenure.

Carpenter, Geletkanycz, & Sanders (2004), had suggested that studies measuring the effect of TMT characteristics on organizational outcomes should control for TMT size. Similar studies looking at the effect of TMT demography on corporate strategic change have controlled for the effects of TMT size, firm size, and firm performance till date (Wiersema & Bantel, 1992). Wiersema & Bantel (1992) and Smith et al (1994) established that TMT demographic variables as age, organizational tenure, team tenure, educational level, and technical specialization affect the organization performance levels. Raisch & Birkinshaw (2008) had proposed resource endowment, firm scope, and market orientation of the firm and industry specific variables as the environmental dynamism and competitive dynamics of the industry to moderate the effect of organizational ambidexterity on firm performance. Hence, in this study we propose to control for TMT size, firm size, firm age, firm performance till date, industry, and demographic variables of TMT members as age, organizational tenure, team tenure, education level, and technical specialization. Heterogeneity in age and number of years of education in each TMT was measured with a coefficient of variation, where a zero score indicated perfect homogeneity (Smith et al, 1994). Similarly heterogeneity in functional specialization in each TMT was measured with Blau (1977) heterogeneity index $(1 - \sum i^2)$ where 'i' represents the proportion of top management members in the i^{th} functional background category (Smith et al, 1994).

6. Proposed Method of Analysis

We propose to use a quantitative approach to gather the data for our study. We intend to use separate survey instruments and gather responses regarding the top management behavior and mechanisms from the top management members, and ambidexterity from the CEOs and other managerial executives. Like Lubatkin et al (2006) we would ask the CEO's to identify the TMT in terms of the definition of TMT provided by the researcher. This would suggest that the number of TMT members in each firm is different. We would ask the CEO to send a memo to the TMT members introducing the research content and survey intent. A brief idea of general exploration and exploitation activities in firms would be attached with this memo.

The proposed hypotheses can be tested with a regression model. Both the independent and dependent variables are measured on interval scales. There is one independent variable (TMT behavioral integration) and one dependent variable (ambidexterity) in the analysis. To legitimize aggregation of individual scores to group means at the organization level, similar to Lubatkin, Simsek, Ling & Veiga (2006) and Jansen, George, Van Den Bosch & Volberda (2008) we too suggest the use of a one way analysis of variance. The one way ANOVA will test whether the variance within the organization is significantly lower than the variance between the organizations on each item. The convergence of ratings within the firm is signified by an ICC value greater than zero and a significant F statistic (Kenny & La Voie, 1985). Also, similar to these authors, we too suggest that the inter rater agreement score for each variable should be above 0.7 to suggest convergence within the organization (James, Demaree & Wolf, 1993). The aggregated group mean of organizational ambidexterity can then be regressed on the group mean of team group processes.

7. Implications of Research Model

Gibson & Birkinshaw (2004) had defined 'Organizational Ambidexterity' as a firm level '*Capability*'. Teece & Pisano (1994: 6) defined Dynamic Capabilities as "the subset of competencies/capabilities which allow the firm to create new products and processes, and respond to changing market circumstances". Dynamic capabilities are "the antecedent organizational and strategic routines by which managers alter their resource base to create new value creating strategies" (Eisenhardt & Martin, 2000: 1107). The view of Dynamic Capabilities emphasizes the key role of strategic leadership to; appropriately sense the opportunities and threats in the environment, seize the appropriate resource allocation and timing, and reconfigure the organizational resources to meet the shifting demands of the environment (Teece & Pisano, 1994; Eisenhardt & Martin, 2000; and O'Reilly III & Tushman, 2008). Dynamic capabilities of a firm are determined by the processes (routines, current practices, managerial/organizational processes by which things are done in the firm), paths (strategic alternatives available to the firm) and positions (current endowment of intellectual property and technology) of a firm (Teece & Pisano, 1994). Organizational Ambidexterity is a capability that is born in a firm due to the reconfiguration of structural, cultural, process, and climate elements in its organizational context (Tushman & O'Reilly III, 1996; Gibson & Birkinshaw, 2004). Eisenhardt & Martin (2000) suggested that the routines through which managers combined their varied skills and functional backgrounds to create new products is also a Dynamic Capability. Following this argument, the broad definitional umbrella of Dynamic Capabilities includes the various top management actions through which "they identify opportunities and threats and reconfigure assets in the form of people, organizational architectures and resources" to build Organizational Ambidexterity (O'Reilly III & Tushman, 2008: 30-31).

As can be seen from the definitions given above some authors consider Dynamic capability as a capacity (Teece & Pisano, 1994) and some other consider them as processes or routines (Eisenhardt & Martin). Considering Dynamic Capabilities as a firm level capacity, few researchers as Zollo & Winter (2002) and Zahra, Sapienza & Davidsson (2006) had suggested the role of learning mechanisms in the genesis of Dynamic Capabilities. Till date no research which considers Dynamic Capabilities as routines or processes has explored the antecedent mechanisms of Dynamic Capabilities. Therefore a study considering the top management group processes to build Organizational Ambidexterity as a Dynamic Capability will be a novel contribution to the Dynamic Capabilities literature.

Now that we have observed how a study exploring the TMT processes necessary for ambidexterity can contribute to the theory of dynamic capabilities, let us explore how a 'behaviorally integrated TMT' is in anyway different or better than an 'effective TMT' for Organizational Ambidexterity.

Usually any team is said to be effective if

"The productive output of the team (that is, its product, service, or decision) meets or exceeds the standards of quantity, quality, and timeliness of the team's clients—the people who receive, review, and/or use the output. The social processes the team uses in carrying out the work enhance members' capability to work together interdependently in the future. Only teams that are more capable as performing units when a piece of work is finished than they were when it was begun are called effective" (Wageman, Hackman, & Lehman, 2005). Hackman (1987) suggests that a successful team completes the required tasks, the members develop good social relations on the way, and participation in the team work is personally rewarding for each member. Therefore an effective team requires good task coordination, group cohesion and group communication (Levi, 2001).

In this paper, we had proposed that the TMT group processes of collaborative behavior, joint decision making, information exchange and TMT involvement enhance ambidexterity. Task coordination is similar to collaborative behavior in the TMT, group cohesion is similar to joint decision making in the TMT, and group communication is similar to the information exchange in the TMT. We see that, the TMT involvement proposed as a necessary group process to enhance ambidexterity is not needed to enhance Team effectiveness in general. Similarly an effective team requires that the participation in the team's work be personally rewarding for each member (Hackman, 1987), which is not necessary for a TMT to enhance ambidexterity. Also, an effective team has deciding criteria based on the quantity and quality of the output of the team, which are not applicable to the TMT enhancing ambidexterity.

As for the organization, TMT group processes alone are not sufficient to enhance ambidexterity. In addition to the TMT group processes, exploration and exploitation require separate organization designs with different structural and cultural variables. Therefore the TMT group processes are only a necessary and not a sufficient condition to build ambidexterity in the firm. Also an effective team might not enhance ambidexterity and a senior team enhancing ambidexterity need not be necessarily "effective".

8. Possible Biases and Recommended Procedural and Statistical Remedies in the Proposed Study

Common method bias is likely in the responses, because data on the mechanisms in the TMT and TMT processes are both going to be reported by the same TMT members. We could use counterbalancing question order to ward off this bias to a certain extent. If no single factor emerges in the rotated data after a Harman's single factor test, then we can assume the data does not have common method variance. The respondent might also wish to portray their firm in a good light irrespective of the truth. To avoid method bias we could balance the items the negatively worded items.

9. Conclusion

Ambidexterity is the organizational capability to simultaneously pursue the contrasting organizational goals of exploration and exploitation. In this paper we have attempted to build a research model to measure the effect of the top management team process of behavioral integration on ambidexterity. The results from the proposed study are expected to contribute to the literature on antecedents of ambidexterity. Since organizational ambidexterity is deemed a dynamic capability, we expect this study to contribute to the theory of dynamic capabilities too. The proposed study is an addition to the to the paradigm of 'theory of paradox research'. The study proposed in this paper is anticipated to give a better understanding of the theory of behavioral integration too. The results from the study proposed in this paper would enable organizations to nurture the right mix of top management processes needed to manage innovation paradoxes too.

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