

## A HAND ON THE RUDDER OF INNOVATION: INVESTIGATING THE INFLUENCE OF BOARD OF DIRECTORS AND TOP MANAGEMENT TEAMS.

Ramzi Belkacemi, Laval University, Québec, Qc, Canada

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### ABSTRACT

*This study provides one of the rare evidences based on a field study regarding the influence of corporate governance on innovation. Drawing on semi-structured interviews, it investigates how the internal governance chain (board of directors and top management teams) contribute to foster innovation in their organization. The interviewees' statements highlight the considerable impact that directors and managers can have on innovation, and in that sense that they certainly have "a hand on the rudder of innovation". However, the collected data also shows that other factors such as organizational characteristics (e.g. sector of the firm and partners) play a major role, thus revealing that many other aspects and stakeholders also have "a hand on the rudder of innovation". The in-depth analysis contained in the present paper gave rise to a conceptual framework that includes 5 dimensions and 19 sub-dimensions. This framework promotes a more holistic approach when studying the link between the internal governance chain and innovation. It also emphasises the complexity of this relationship and thus helps to better tackle it.*

**Keywords:** *Board of directors, top management teams, innovation, resource dependency theory, resource-based view.*

### 1. INTRODUCTION

Corporate governance is a research area that has generated many contributions since the founding article by Berle and Means (1932). The literature has established many links between this theme, notably through the three main governance bodies (shareholders, board of directors and top management teams) and various organizational outcomes such as financial (Carter *et al.*, 2010, Certo *et al.*, 2006, Erhardt *et al.*, 2003, Thomsen and Pedersen, 2000) and social performance (Coffey and Wang, 1998, Hafsi and Turgut, 2013), internationalization (Nielsen, 2010, Pearce and Zahra, 1992, Sanders and Carpenter, 1998) and innovation (Choi *et al.*, 2011; Midavaine *et al.*, 2016; Miller and Triana, 2009). The "omnipotence" of board of directors (BoD) and top management teams (TMT) in strategic terms (Hambrick *et al.*, 1996, Stiles, 2001) partly justifies most of these relationships, and therefore the choice to limit ourselves to the consideration of these two corporate groups in this study.

For its part, innovation is a theme that emerged at the same time as that of corporate governance thanks to precursors like Schumpeter (1934). Here again, its influence on financial performance, whether in purely financial terms, productivity or increased market share (Andresen *et al.*, 2002, Banbury and Mitchell, 1995; Gök and Peker, 2017; Black and Lynch, 2004; Cassiman and Golovko, 2011), is not unrelated to the popularity of this area of research during the last years. In addition, these findings help to better understand why innovation is sometimes presented as a guarantee of sustainability (Kor, 2006). It should be noted that in this work, the definition adopted for innovation is that of the Oslo Manual (2018, p.60), which includes the four main types of innovation. It states that "*an innovation is a new of improved product or process (or combination thereof) that differs significantly from the unit's previous products or processes and that has been made available to potential users (product) or brought into use by the unit (process).*"

The literature has distinguished a significant number of determinants of innovation. The size of the firm, organizational structure and culture, technical knowledge, communication and information technology are just a few examples (Damanpour 1991, Divisekera and Nguyen 2018, Scott and al. Wan and al., 2005). Among the other elements that can affect the degree of innovation of organizations, the role of the internal governance chain (IGC) has also produced interesting results. Indeed, several characteristics of the TMT (Alexiev et al., 2010, Bantel and Jackson, 1989, Kor, 2006, Nielsen and Nielsen, 2013, Talke et al., 2011) and the BoD (Balsmeier *et al.*, 2017, Jaskyte, 2012, Robeson and O'Connor 2013, Zona et al., 2013) have proven to be factors that can influence innovation. Thus, as aptly pointed out by Talke et al. (2010), it is particularly interesting to consider corporate governance to explain organizational outcomes such as innovation. However, most of the previous work on the relationship between IGC and innovation focuses on a very small number of dimensions (e.g. gender diversity or the independence of directors) (McNulty et al., 2013; Midavaine *et al.*, 2016). By definition, this means that they omit the presence of several other factors that may better explain how these two governance bodies affect innovation.

By the same fact, this condemns these studies to capture only a small part of the reality of the phenomenon under study. In addition, despite major advances regarding the influence of BoD and TMT on innovation, many issues remain. Among these is the inconsistency of the empirical results (Kumar and Zattoni, 2018, Zona et al., 2013).

Another element that inspires and legitimizes the approach pursued in this article concerns the difficulty of accessing administrators (Leblanc and Shwartz, 2007, McNulty et al., 2013). This can largely explain the paucity of governance studies that advocate a qualitative approach (McNulty et al., 2013). This implies that the understanding of the link between the IGC and innovation is so far almost exclusively based on statistical links. However, they provide only a limited understanding of this relationship. Moreover, previous studies have mobilized almost systematically the same independent variables and theories (Kumar and Zattoni, 2019). This has led some authors to appeal to the creativity of the scientific community interested in corporate governance when building their conceptual (Kumar and Zattoni, 2019) and/or methodological frameworks (McNulty and al., 2013). The originality of the theoretical framework mobilized in the present study, and which is the result of a combination between the RDT and the RBV, also contributes to its originality.

The preceding lines demonstrate that the interest of investigating the relationship between the IGC and innovation is of several kinds. This paper therefore seeks to answer the following main research question: How does the IGC influence innovation? In order to answer this question, this work is structured as follows: the next section will present our theoretical framework based on the RDT and the RBV as well as the sub-questions that it has allowed to emerge. Then, after presenting our methodology, we will expose our results in detail before mentioning the limits and avenues for future research as well as a discussion and a conclusion, which will enable us to review our main contributions.

## 2. THEORETICAL BACKGROUND

Resource dependency theory (RDT) emphasizes the importance of the organization's external environment, from which the organization is dependent (Pfeffer and Salancik, 2003, p.225). In this respect, the IGC is a mechanism that helps to better manage this dependency. Indeed, the hierarchical position of the BoD and the TMT gives them the ability to make strategic decisions (Kor, 2006; Tang *et al.*, 2011; Pearce and Zahra, 1992; Pugliese et al., 2009), which will allow their firm to better cope with external pressures and uncertainty related to the environment in which it evolves. As a result, the IGC can put the organization in a position that can facilitate innovation.

Otherwise, the influence of the IGC on innovation has been established through several dimensions. Among these is the size of the group. In this regard, some advocate rather a small size in order to maintain a good cohesion (Cheng, 2008; Goodstein et al., 1994) and more frequent interactions between the BoD and the TMT (Zahra et al., 2000). This could partly explain the results reflecting, for example, that a smaller board would lead to better innovation performance (Zona et al., 2013). Yet the opposite has also been proven. Indeed, a larger size would imply that the firm has better access to resources (Ntim et al., 2015), which could be an asset in order to innovate. As a result, a larger BoD has also been positively associated with innovation (Wincent et al., 2009). Thus, the lack of consensus of researchers evoked by Dalton et al. (1999) more than twenty years ago about the idea that a larger BoD would be associated with better performance still lasts.

Even though proponents of RDT suggest that the greater the need for external links, the larger the size (Pfeffer and Salancik, 2003, p.172), this theory is at times much more nuanced. Indeed, it argues that the size of the board should be consistent with its resource requirements (Pfeffer and Salancik, 2003, p.167). As a result, a larger size can't be considered as a guarantee of performance or innovation. This logic applies to both the size of the BoD and that of the TMT. Moreover, the RBV makes it possible to reach a similar conclusion, because this theory focuses on the value of resources within organizations (Wernerfelt, 1984) and not their quantity. Thus, if the IGC is considered a set of social capital resources (Barney, 1991), a larger or smaller size of the BoD or TMT is not a decisive criterion for performance purposes. Rather, the challenge for an organization is to ensure the strategic nature of its resources, notably by assessing whether they constitute a competitive advantage (Barney, 1991).

In addition to the "size characteristic", the RDT and the RBV also make it possible to examine the relevance of the composition of the BoD more broadly. The first presents the directors as prestigious and legitimate persons who would allow their organization to confirm its value to the rest of the world (Pfeffer and Salancik, 2003, p.145). This could also apply to TMT, because its members also participate in the control of the organization (Pfeffer and Salancik, 2003, p.228). Thus, the IGC would help to strengthen the attraction of the organization by giving it access to various sources of information (Pfeffer and Salancik, 2003, p.164). Since these aspects can all be useful for growth purposes (Pfeffer and Salancik, 2003, p.135), they could also be potential sources of innovation.

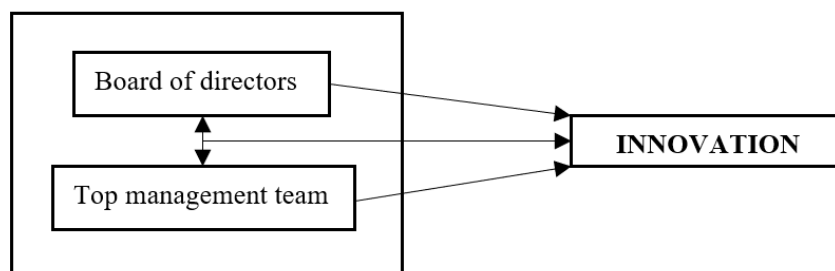
When it comes to composition of the board and the TMT, diversity is one of the key concepts. The latter can be split into two main categories: demographic diversity (e.g. gender diversity) and cognitive diversity (e.g. functional diversity). Regarding the first one, gender diversity within the IGC has been associated with innovation (Miller and Triana, 2009; Ruiz-Jiménez; *et al.*, 2016) especially because women would contribute to improve the decision-making (Adams and Ferreira 2009, Bear et al., 2010, Ruiz-Jiménez *et al.*, 2016). The fact that innovation is closely linked to the IGC's decision-making capacity therefore implies that a greater gender parity could have a great influence on it. Di Tomaso et al. (2007) argued that a diverse group is preferable for innovation purposes, suggesting that both gender diversity, ethnic diversity and age diversity would be desirable when the goal is to innovate. The RBV supports this position, as this theory states that the search for a sustainable competitive advantage for an organization depends, among other things, on the heterogeneity of its resources (Barney, 1991). In the same vein, the RDT suggests that each member of the IGC is important (Pfeffer and Salancik, 2003, p.275). In this sense, demographical diversity within the IGC, regardless of its form, could thus be considered as a resource for innovation.

Concerning cognitive diversity, the heterogeneity across the BoD in terms of career path would enable the organization to obtain functional knowledge that would contribute to the company's strategy and will lead to the emergence of new ideas (Heyden et al., 2015). At the TMT level, similar findings were made with respect to the contribution of functional diversity to the strategy (Talke et al., 2010) and concluded that it would provide the opportunity to enrich the discussions (Bantel and Jackson, 1989). This allowed some authors, like Wu (2008), to associate all the BoD cognitive dimensions with product innovation while Qian et al. (2013) pointed out that cognitive conflicts within TMT were beneficial to the organization. Thus, from the point of view of the RDT and the RBV, each expertise and knowledge of the members of the IGC is a resource available to the organization that could improve its innovation capabilities. Furthermore, the combination of IGC's diverse knowledge and skills could lead to a competitive advantage, as it meets all the criteria of a strategic resource. Indeed, this combination of resources would be of great value to the organization, rare, difficult to imitate and non-substitutable (Barney, 1991).

Size and diversity in its many forms are not the only elements related to the IGC that are likely to affect innovation. The implication (Wu and Wu, 2014) and independence (Balsmeir, 2014, 2017, Chen and Hsu, 2009) of the BoD as well as engagement (Daellenbach et al., 1999) and consensus (Mihalache et al., 2012) within the TMT have also proven to have an influence on innovation. These findings are supported by RDT and RBV, in the sense that these theories suggest that a multitude of factors can contribute to increasing the degree of innovation as they provide privileged access to external resources for RDT and help to build strategic internal resources for RBV. In this continuity, it seems fundamental to go beyond the influence that each group composing the IGC could have on innovation by examining their interactions. Indeed, not only can each of these two governance bodies affect innovation, but the relationship between them could also represent an interesting avenue of investigation. Several elements justify this observation. First, despite its lower hierarchical position, the TMT can have control over the BoD because it decides what information about the organization and its operations will be shared with it (Pfeffer and Salancik, 2003, p.161). In addition, directors are associated with the firm only on a "part-time basis" (Pfeffer and Salancik, 2003, p.161). This power game within the IGC itself could have consequences on innovation. The conceptual model exposed in Figure 1 summarises our theoretical development.

**FIGURE 1. A THEORETICAL FRAMEWORK TO STUDY THE LINK BETWEEN THE INTERNAL GOVERNANCE CHAIN AND INNOVATION.**

#### INTERNAL GOVERNANCE CHAIN



This proposed conceptual model allows to consider the multi-dimensionality that characterizes the BoD and the TMT. In this sense, it offers the possibility of not only leaning on concepts that have already been documented (e.g. size and diversity), but also to be faithful to the goal stipulating the need to broaden the analytical framework. By the same token, this is consistent with the inductive approach advocated by this study. Finally, the theoretical framework is not limited to considering the link between each of the groups studied (BoD and TMT) and innovation but goes further by considering the influence interactions between them might have. Throughout this theoretical development, three major questions emerge to add to the main research question:

- Based on their experience, how are BoD members able to affect innovation?
- Based on their experience, how are TMT members able to affect innovation?
- Based on their experience, how do interactions between the BoD and TMT impact innovation?

### 3. METHODOLOGY

#### 3.1. Research Strategy

The qualitative approach was chosen in coherence with the research object which aims at explaining the link between IGC and innovation. Moreover, the choice of a qualitative study is particularly appropriate given the inherent complexity of this relationship, especially given the flexibility it provides (Miles *et al.*, 2013; Miles and Huberman, 2003; Yin, 2017) and the fact that the goal is to gain a better understanding of a phenomenon (Merriam and Tisdell, 2015).

The recommended research strategy is that of case study. This is justified by the fact that we are interested in the "how" of the relationship between IGC and innovation (Yin, 2017). The definition of a case is faithful to the one of Miles and Huberman (2003): A given phenomenon that occurs in a specific context. Thus, this strategy offers the possibility of investigating a contemporary phenomenon (the "case") in depth and in a real context (Yin, 2017).

It is more precisely the multiple case study for which we have opted. One of the benefits of this strategy is that the results are based on more solid foundations (Yin, 2017). Moreover, this choice makes it possible to compare the cases by not only establishing the convergences, but also the divergences (Yin, 2017). This comparison also has the advantage of facilitating the replication of results across cases based on a "cross-case analysis" (Yin, 2017).

As for the definition of our cases, we are faithful to what Yin (2017) presents as the "classic case", namely that at the level of individuals. This author gives several examples of founding papers based on case studies, which have, for example, considered clinical patients, teachers, or what fits perfectly in the context of this study: leaders (Yin, 2017). Our cases are the members of the IGC, which is composed of the members of the BoD and the TMT.

#### 3.2. Choice of Methods

In terms of choice of methods, we opted for the interview, which is the most commonly used in qualitative research (DiCicco-Bloom and Crabtree, 2006, Merriam and Tisdell, 2015). Conducting interviews is even more relevant because they provide quality information and ultimately contribute to the depth of the analysis (Yin, 2017). In addition, this method contributes to the richness of the data collected by incorporating elements based on the participants' point of view (Kvale & Brinkman, 2009, Yin, 2017).

The interviews were semi-structured and thorough. This choice makes it possible to orient the interviewees towards certain themes based on open questions and to go into detail, while favoring the emergence of new themes (DiCicco-Bloom and Crabtree, 2006). This is consistent with the iterative nature of qualitative research, which is reflected, among other things, in the simultaneous conduct of data collection and analysis (DiCicco-Bloom and Crabtree 2006, Merriam and Tisdell 2015). On the other hand, this provides some flexibility that can potentially result in question changes during interviews (DiCicco-Bloom and Crabtree, 2006).

Despite this flexibility, we considered it essential to design an interview guide to ensure a certain fluidity during interviews as advised by several authors (e.g. Fortin, 2010, Yin, 2017). In particular, it helps to define the topics and questions that will be asked (Fortin 2010, Merriam and Tisdell 2015, Yin 2017). Note that no other method is relevant to the phenomenon studied, except observation. However, the confidentiality of the information exchanged during meetings involving high executives explains the very limited number of studies that have been able to rely on this method and that the few who have succeeded have done so only on the based on a unique case study (Leblanc and Shwartz, 2007).

### 3.3. Information about the sample

The notion of "sample" is more applicable to quantitative research, because for qualitative research, the goal is to reflect the number of cases we want or need to analyse through the principles of literal and theoretical replication (Yin, 2017). It is therefore the quality of the cases and not their quantity that matters (Eisenhardt, 1989).

In the same vein, Miles and Huberman (2003) have pointed out that qualitative research generally chooses a small "sample" of people in a specific context, which allows them to be studied in depth. In addition, the choice of a small "sample" may be justified by the fact that the interviews will be more in-depth and richer information can be extracted from each case (Yin, 2017).

In order to access the members of the BoD and the TMT, we first contacted a person who is part of our network. This strategy addresses the issue of access to senior management, which has been widely documented in the literature (e.g. Leblanc, 2004, McNulty et al., 2013). A "snowball effect", also called the network sample (Merriam and Tisdell, 2015), was then used to recruit three other participants.

We intentionally started with a participant from a very reputable company. The goal was to "use him" as a gatekeeper (Leblanc and Schwartz, 2007). This approach gives the opportunity to benefit from the credibility of this participant to secure other interviews and makes it a very effective strategy to access the members of the IGC despite its informal nature (Leblanc and Schwartz, 2007). Table 1 summarizes the conduct of the interviews. Note that the length does not include the 10-minutes break taken in the middle of each interview.

**TABLE 1. SUMMARY OF THE INTERVIEWS**

<b>Participant</b>	<b>Function</b>	<b>Lenght of the interview 1</b>	<b>Lenght of the interview 2</b>
Participant 1	Director	42 min	1h and 12 min
Participant 2	Director	1h and 12 min	1h and 07 min
Participant 3	Vice-president	53 min	1h and 02 min
Participant 4	Vice-president	58 min	1h and 07 min

### 3.4. Explanations of the classification of collected materials

Consistent with the inductive approach required by the qualitative approach (Blais and Martineau, 2006, Merriam and Tisdell, 2015), the transcript of each interview was re-read. We did several re-readings at the same time as listening to the recordings. This has the advantage of ensuring that the verbatim is faithful to the comments of the interviewees. During these re-readings and replays, notes were also taken (Merriam and Tisdell, 2015) to document, for example, the moments during which it appeared that the interviewee gave signs that suggested that the topic was of particular interest. It was a question of anticipating the possibility of establishing a hierarchy of concepts.

Once this analysis "on the merits" completed, we looked at the form. Following the recommendations of Blais and Martineau (2006) we proceeded to the standardization of the verbatims to form four files (one file for each interview). Once this step has been completed, each of the files has been incorporated into the NVivo 11 software to create "case nodes". Thus, four files were created, corresponding to the verbatim of the four interviews. Each "case node" also included the logbook notes for each interview. It was also an opportunity to incorporate information about the function of the participants (director or member of the management team), which was the only element of the profile relevant to this study.

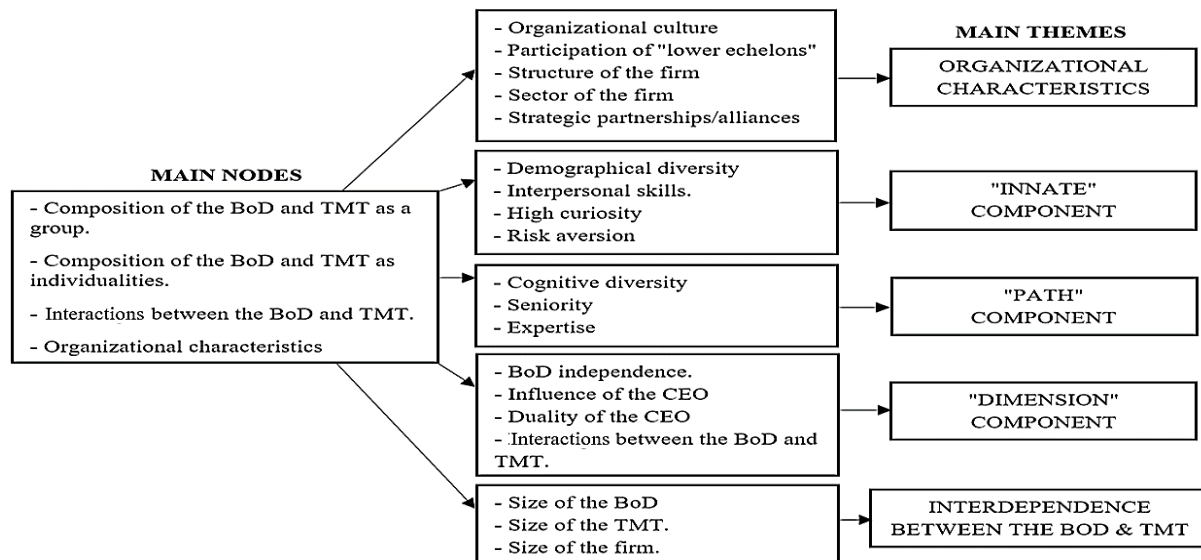
It was therefore possible to start building our categorization (Merriam and Tisdell, 2015). As a first step, the coding closely followed the structure of the interview guide. That is, we grouped the segments of text in relation to the themes that were represented within it. This exercise was done for the four cases. At this point, we had four major themes for each of them: (1) The composition of the BoD and the TMT as a group, (2) The composition of the BoD and the TMT in terms of individualities, (3) The exchanges between the BoD and the TMT and (4) The organizational characteristics.

Once this step was completed, it was possible to create sub-themes for each major theme as well as to link some sub-themes that are close together. In other words, we were able to highlight the fact that certain major themes (node representatives) are fed by various "sub-themes". This exercise was repeated for each of the four "case nodes". This step made it possible to note the emergence of certain concepts that were not initially planned to address (e.g. the influence of the sector on innovation). A memo was added for each new concept to clearly indicate that it was an aspect that went beyond what was in the interview guide. Then, as suggested by Blais and Martineau (2006), we thought it appropriate to write a brief summary for each of the "major categories" to extract the essential points. Based on these summaries, the different categories were analyzed to confirm the uniqueness of each. This procedure was followed for each "case node" individually. This marked the end of case coding separately and it was therefore possible to follow the variable-oriented strategy (Miles and Huberman, 2003) to identify the relationships between all cases.

Many of the dimensions (nodes) were "exploded" because some of their sub-themes seemed closer to other sub-themes contained in other dimensions. An example is the subtopic "size" which was contained in the topic "composition of the BoD and the TMT" as well as that in "organizational characteristics". Even though the categorization was consistent with the literature, the interviewees' responses suggested that it would be more appropriate to group together all the elements related to the "size" within the same category. This gave rise to the "node" bearing the name "Notion of dimension", which included three "sub-nodes": (1) Size of the BoD, (2) Size of the TMT and (3) Size of the organization. In addition, some nodes have been transformed into "sub-themes" (e.g. interactions between the BoD and the TMT), which is not unusual in qualitative research (Merriam and Tisdell, 2015). This refining, or condensation work, was done to obtain between three and eight categories (Blais and Martineau, 2006, Siccama and Penna, 2008), or a number of "manageable categories" (Merriam and Tisdell, 2015). The objective was to identify key aspects that may be considered as the most important in relation to the research question.

Finally, in addition to focus on similarities and differences (Ryan and Bernard, 2003, Yin, 2017), we analyzed the frequency of certain words using the tool provided by NVivo 11 (Ryan and Bernard, 2003). We considered that this exercise could be particularly interesting for themes such as diversity in order to see what kind of diversity was the most often mentioned and was therefore potentially the one that could most affect innovation. The set of results inspired by the systematic approach carried out with the N'vivo 11 software led to the construction of the diagram presented in Figure 2. It includes five categories (each with several sub-categories), which makes it possible to be in the suggested range (three to eight categories) by several authors (e.g. Blais and Martineau, 2007, Siccama and Penna, 2008). Moreover, Figure 2 supports the relevance of having taken advantage of the flexibility that offers the qualitative approach by building a theoretical framework that is not too rigid, which leaves room for the emergence of new concepts.

**FIGURE 2. MAPPING OF THE CODIFICATION PROCESS**  
"SUB-NODES"



### 3.5. Quality criteria including ethical considerations

Qualitative research fully assumes that it is not possible to capture "all the reality" and be "purely objective" (Maxwell 2013, Merriam and Tisdell 2015). That being said, several strategies exist to ensure the internal validity and credibility of the data, such as validation by participants (Merriam and Tisdell, 2015). This is also the most effective way to be faithful to the participants' comments (Maxwell, 2013).

Specifically, each participant was interviewed a second time to clarify what appeared to be unclear points, as well as to provide additional information and to confirm that the raw data collected during the first interview matched what they meant. Furthermore, the reliability of our study is reflected in the transparency of our data collection approach, which also helps to ensure that a replication would lead to similar results (Yin, 2017).

As for the ethical dimension, it is always of crucial importance in qualitative research, but even more in our study given the confidential nature of the information that the interviewees have access to. As a result, we first insured to complete a form to document each participant's consent while informing them of the purpose of the study (DiCicco-Bloom and Crabtree 2006, Merriam and Tisdell 2015). The necessary measures have also been taken to ensure the confidentiality of the participants by not disclosing any information about their profile other than their function. Finally, it was clarified that we do not wish to gain any personal gain from the collected information (DiCicco-Bloom and Crabtree 2006, Merriam and Tisdell 2015) and that their participation was strictly in keeping with a desire to advance knowledge about the relationship between IGC and innovation.

## 4. ANALYSIS OF THE RESULTS

The analysis of the results was conducted according to the five main themes that emerged from our interviews: (1) The notion of "dimension", (2) The interdependence between the BoD and the TMT, (3) The "path" component (4) The "innate" component and (5) The organizational characteristics. We will also put them in perspective with the RDT and the RBV, which showed that some of the themes are supported by these theories while others are contradictory.



#### 4.1. The notion of "dimension"

The notion of dimension concerns the size and includes three sub-aspects: (1) The size of the BoD, (2) The size of the TMT and (3) The size of the organization. According to one participant, " *having a greater number of directors and executives would make it possible to have more skills that could be leveraged to innovate*". In this continuity, he said: " *To innovate, it is better to have a larger number of employees because that way we have a bigger workforce. It makes sense to me, more people to govern the company and more employees to work on it can just increase innovation.* "

In contrast, one of the participants rather supported that " *if there is an increase in the people who are in charge of governing the company, there is a good chance that it will cause problems of communication and decisions so we will spend time getting along rather than innovating.* As for organizational size, he told us: " *I do not want to be the leader who just thinks in terms of costs, but the more employees there are, the more wages there are to pay and the less money can be put on innovation.* "

Our "dimension" level results are consistent with RDT and RBV which suggest that size should be consistent with the resource needs of the organization (Pfeffer and Salancik, 2003, p.167) and that its value which counts and not the quantity (Wemerfelt, 1984). Indeed, while some participants mentioned the lack of cohesion that could result from a too large size, others were rather of opinion that a small size could become more problematic. On the other hand, those who supported the relevance of a larger size in the composition of the BoD and the TMT advanced the same logic in terms of organizational size, likewise for the proponents of the other position (that suggesting that a reduced size would be preferable).

#### 4.2. The interdependence between the BoD and the TMT

This aspect concerns the independence of the BoD, the influence of the CEO, the duality of the CEO and the interactions between the BoD and the TMT. With respect to the degree of independence of the BoD, this characteristic has produced a consensus that can be translated, as explicitly stated by one of the interviewees, " *by a need for balance*". The comments of another participant allow to have even more detail on this subject and to summarize the comments of all the participants. These go as follows: " *It's good to have people who come from outside, it brings a new look, but it's also good to have people from the intern who are more familiar with the firm. Basically, it takes both, on the one hand we could end up with a BoD that knows how the company works but does not bring a new vision. On the other side, we could end up with directors who bring a new look, but who will not be able to use it because they do not know how it works in the company.* »

The interviews highlighted the importance of the CEO but also qualified it. The statements collected indicate that his influence is evident on the ability of an organization to innovate, especially through its choice to make it a priority or not. In this regard, one of the participants said: " *He is the boss, it's certain that the big decisions go through him, so generally when it comes to innovation, there is not much that can be done without his approval.* Nevertheless, another participant said that the CEO " *may not have a real influence on innovation given all the things he has to deal with*". This last statement leads to another point which is that of its duality. On this subject, one of the interviewees affirmed that it would allow him to make better decisions because he can be " *pretty much everywhere* ". On the other hand, two of the interviewees were rather opposed to this combination of functions. One of them even ironized by talking about " *organizational dictatorship* and " *concentration of power which would make decisions and ideas more homogeneous* ".

In addition, there was a consensus among interviewees that interactions between directors and management would be crucial for innovation. The main arguments were that the most important decisions are made precisely through these discussions and that there is in this sense a complementarity between these two groups that could help a firm to innovate. This is particularly reflected by the difference in terms of role. In this regard, one of the participants told us *that the board of directors would not have the capacity of actions of the management team, but that the management team would not have the decision-making power of the board of directors.* " In the same vein, another participant stated that *"in order to innovate, each of these groups must effectively assume its role and there must be some understanding, otherwise it is not just the innovation that will be affected, but the entire organization."*

All in all, our results are in line with RDT and RBV. Indeed, these theories underline the importance of each member of the IGC regarding the control of the organization (Pfeffer and Salancik, 2003, p.228) and make it a potential strategic resource (Barney, 1991). Thus, it shows that when it comes to innovation, the close relationship between the two internal governance bodies is crucial and implies that one could hardly affect innovation without the support of the other.

#### 4.3. The "path" component

The path component refers to expertise, seniority and cognitive diversity. On this aspect, the participants' comments do not support RDT and RBV, both of which promote the benefits of having a range of expertise (Barney, 1991; Hillman *et al.*, 2002) to explain organizational benefits such as innovation. Based on the cases analysed, *"expertise would not automatically lead to results"*. In general, it seems that there is no specific experience that can lead the IGC to increase the capacity of its firm to innovate. One of the interviewees even indicates that *"there is an innate character to contributing to the degree of innovation"*, and added that *"there are qualities like creativity, but no degree or profession that can be associated with innovation"*.

In this continuity, seniority would not be a pledge of performance in innovation and could even lead to the opposite effect by installing a certain routine that would make people become rather risk averse. In this regard, one of the participants pointed out that *"the more people age in an organization, the more they would become trapped by the organization's culture and routine"*. In the same vein, another interviewee suggested that *"new blood is needed to innovate, because at a certain point, seniority makes us satisfied of doing the bare minimum and it becomes difficult to contribute to innovation with this state of mind"*. These findings do not seem to support either RDT or RBV. Indeed, the premises of these theories suggest that more experienced members of the IGC could better link their organization to its external environment (Pfeffer and Salancik, 2003, p.225) and expand social capital within it (Barney, 1991); which could have an influence on innovation.

The responses obtained as to the influence of the functional diversity, sector of predilection, fields of study and levels of study are similar. The statement of one interviewee summarizes their position: *"The more diversity there is, the more it enriches the discussions and the more chance to innovate"*. Nevertheless, we also noticed a more nuanced position when one of the interviewees mentioned the emergence a "too much diversity problem". According to him, *"if you have too many differences in the BoD or the TMT, it may slow down the decision-making process and even create conflicts if everyone is locked in their certainties"*. These findings are therefore in contradiction with RDT and RBV, which advocate greater diversity (Pfeffer and Slancik, 1978, Barney, 1991) without establishing a limit. Indeed, the aspect of "excess of diversity" raised by one of the participants is not supported by these two theories.

#### 4.4. The "innate" component

The innate component refers to demographic diversity, interpersonal skills, risk aversion and curiosity. The innate term is used in the sense that we are talking about "natural" characteristics. All participants mentioned the need for more diversity, whether in terms of gender, ethnicity/nationality or age. The most recurrent benefit was that it provides "more open communication". With respect to ethnic diversity, participants responded that the BoD and the TMT were not places in which differences from country of origin or ethnicity were factors of conflict. One of them even said that "it was rather a wealth given that the

people who arrive at these positions are always seasoned professionals, regardless of their ethnicity or nationality, and that is what matters". However, one of the participants pointed out the need not to fall into "excess of diversity", as it was the case for cognitive diversity. When asked what he meant by this statement, the participant said: " It cannot really be quantified, it does not just depend on diversity, but on the assimilation of individuals. You can have a lot of diversity, and if the individuals are assimilated to the culture not only of the society, but also of the organization, it will go well. You may also have little diversity, but if the little you have is not in line with the culture of the organization, it may create a lot of trouble". For age diversity, it seems that it is also likely to influence innovation in the presence of a combination of experience and dynamism. In this regard, one participant said: "Young people bring creativity and the older ones have an experience that allows them to make decisions that are well-considered and based on a great deal of expertise built over time. I would say that according to what I saw during my career, if we could have BoD and TMT that are mixed in terms age, it would be ideal. The work to do is mainly to take measures to include young members; take any business and look at the average age of the BoD and the TMT, you will notice that it is on this side that we must evolve." In line with the results obtained for cognitive diversity, comments for cognitive diversity seemed at first sight to be in line with RDT and RBV regarding the need to increase diversity in the BoD and TMT on a demographical level. Nevertheless, again, a more in depth analysis has highlighted the "flip side of the coin" that translates into the fact that diversity may become harmful at a certain point, which these theories fail to address.

In addition to demographic diversity, interpersonal skills and international experience could be valuable resources to innovate according to the interviewees, while the organizational context would also be important. Even more, elements such as curiosity and risk aversion would be crucial for innovation purposes. For the first, one of the participants gave a concrete example of the benefits that can be linked to it: "*One of our most beautiful innovations is due to one of our vice-presidents who travel a lot and who is always very curious. During one of his trips, he was fascinated by the way a business he visited was managed, and when he returned home, he was able to apply this same management technique to our organization. Of course, he did not just "copy and paste" the way of doing things because there is all the cultural aspect that comes into play. He worked on its adaptation to our company. Our hierarchical structure has almost completely changed, in a positive way of course. If he didn't have the curiosity to learn more about the operation of the firm he visited, we would have missed a great discovery.*" As for the second element (risk aversion), it is important to specify that the risk was not considered in a pejorative sense by the interviewees. In this regard, one participant said that " *they have to be comfortable with the risk, otherwise they would be condemned to follow the routine, and the routine is boring, and when it's boring we don't innovate* ". One of the interviewees also told us: "*When you talk to me about risk, I can tell you that you must be ready to take some if you want to innovate. But, it must be a calculated risk, it is not about leaping into the void either.*" These elements are particularly interesting because these capabilities, often referred to as " *soft skills*" are missing in the governance literature, and that theories like RDT and RBV make it difficult to address.

#### 4.5. Organizational characteristics

Another element that has been relevant to innovation is to create an organizational climate that communicates openly. Indeed, as stated by one of the interviewees: "*It is difficult to see how individuals could innovate if they are not put in good conditions.*" When respondents were asked about the ways in which this organizational culture conducive to innovation could be established, access to the latest technology and communication between employees and their superiors were key elements. Surprisingly, no respondents mentioned compensation. In this regard, one of the interviewees stated: "*There are factors that go far beyond governance when we talk about innovation. I am thinking, for example, of the administrative rigidity that can really represent a barrier on innovation* ".

One of the participants also told us that *"innovation is not exclusively in the hands of senior management, so initiatives to engage the workforce must be pursued"*. Another one even admitted that the influence of governance is rather indirect when it comes to innovating, in this sense *"that directors and management must play on the conditions of employees to innovate, because they themselves will never be directly involved in innovation"*. Regarding the involvement of middle managers and employees in strategic decisions, even if everyone agrees on the need to involve more the "lower echelons", all are *"aware of the feasibility aspect that refers to limits and a certain realism that must be preserved in order not to fall into anarchy"*.

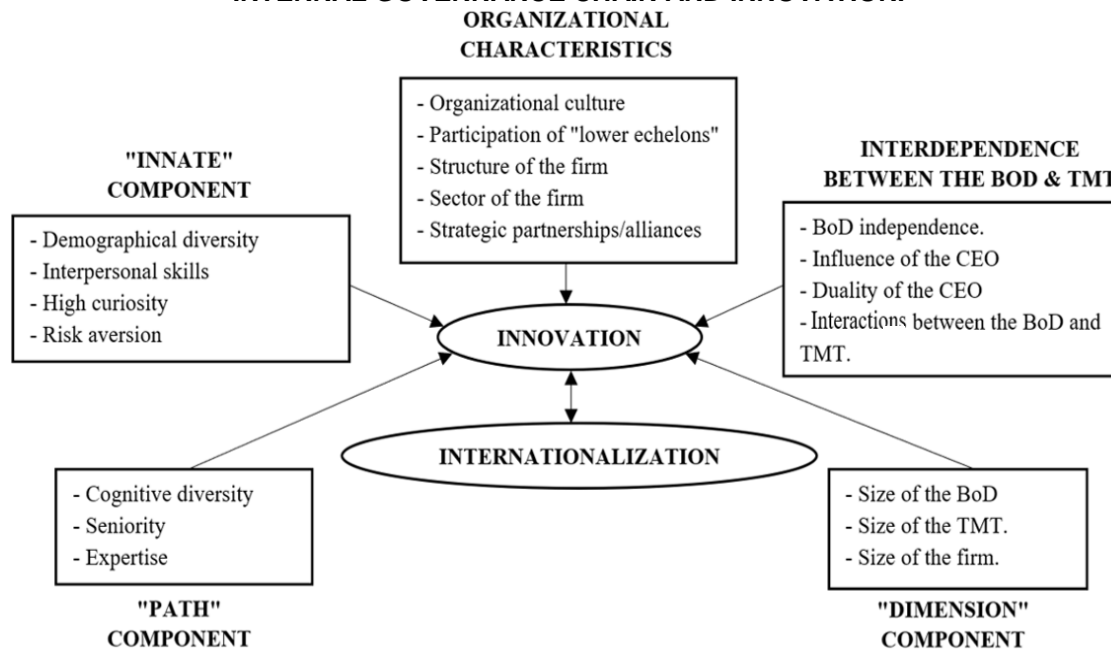
When it comes to structure, the interviews highlighted the need for flexibility *"to create the right conditions to innovate"*. For example, a diminution of hierarchical levels would make it possible to optimize communication and potentially contribute to innovation. In this regard, the words of one of the participants are particularly enriching: *" We have been working for months to reduce hierarchical levels by cutting in middle frames. It does not make us happy to fire, but it's the price we have pay to be closer to our employees. It has been noticed that in the departments where there were fewer levels, it gave rise to more innovation. Let's be clear, we do not talk about major innovation, but many small innovations could be more interesting than one big innovation."*

One of the participants also made an interesting observation, mentioning that the structure would be linked to the sector in which the firm operates, and that depending on the competition, it could largely explain the degree of innovation of organizations. *" If in our sector there is a lot of competition, we must forget innovation and focus on survival. We think about innovating when the competition in the sector is stable, otherwise it is the last of our concerns."*

The interviews also raised the need for organizations to partner with other firms to innovate. One of the participants mentioned that *"collaborative innovation (open innovation) would allow firms to get help, and at the end, all parties to benefit from it"*. On the other hand, one of the interviewees was more reserved and stated that *"we should make sure that partnerships do not benefit one party over another, which is often impossible"*. However, all agreed on the fundamental role that stakeholders can play in the degree of innovation of a firm and the importance of *"tying the interests of one another"*.

The concept of "organizational characteristics" is supported by RDT and RBV. The first emphasizes the involvement of management to reduce the degree of dependence of the organization on its external environment (Pfeffer and Salancik, 1978) while the second indicates that the value of resources depends on several contextual elements (e.g. allowing the firm to neutralize threats related to its environment) (Barney, 1991). The participants' statements and these two theories thus agree on the importance of not limiting the analysis to the composition of the BoD and the TMT, but also considering factors such as the sector and organizational culture when studying the link between the IGC and innovation. Figure 3 illustrates the conceptual framework that emerges in light of ours results. It also makes it possible to mention an interesting element that emerged during the interviews, which consists in identifying the internationalization strategy as being antagonistic to the innovation strategy. In this regard, one of the executives interviewed said: *"The last few years have been very good because we signed contracts abroad, but at the same time we did not innovate."* On the same subject, another participant said: *"The shareholders do not want us to stay local anymore, so the concern right now is more to move beyond our borders rather than to innovate."* Thus, it seems that innovation is not compatible with internationalization, and vice versa.

**FIGURE 3. A HOLISTIC CONCEPTUAL FRAMEWORK TO ANALYZE THE LINK BETWEEN THE INTERNAL GOVERNANCE CHAIN AND INNOVATION.**



## 5. LIMITS AND PATHS FOR FUTURE RESEARCH

Despite interesting results, our study is not without limits. First, even if the qualitative approach assumes that the study of a phenomenon takes place in a specific context and does not claim to produce results that can be generalized (Miles and Huberman, 2003), it should be noted that a similar research conducted in a country other than Canada could produce different results. We therefore invite researchers to conduct similar research in other geographical contexts so that the literature can show a certain diversity in terms of regions in which the relationship between IGC and innovation is studied.

Secondly, sampling is not relevant in qualitative studies (Yin, 2017), but the number of cases considered is quite limited (two directors and two managers). It would therefore be interesting that future studies analyse a larger number of cases, and thus push the concept of saturation (Eisenhard, 1989) much further in order to generate even richer information and enable comparisons that bring out more convergences and differences.

Thirdly, the theoretical framework mobilized is articulated around the internal and external resources that the members of the IGC can acquire or constitute in order to innovate. Thus, it provides a rather broad, but also highly focused analytical framework. It implies that we may be missing other factors that influence innovation. Future studies would therefore benefit from relying on new theoretical frameworks, especially through theories going beyond the field of governance, in order to opt for a more original angle.

Fourthly, the simultaneous consideration of the BoD and the TMT can lead to a better understanding of the link between governance to innovation, but there is a gap regarding the influence that ownership could have. Indeed, shareholders represent the highest governance body and could also greatly affect the degree of innovation of their organization. As such, a study considering the entire governance chain (shareholders, BoD and TMT) would be particularly rewarding both in terms of practical and theoretical contributions.

Fifthly, interviews help to gather an important a rich amount of information. However, other qualitative methods such as observation could lead to a much deeper understanding of the influence directors and managers have on innovation. This is even more important given the reluctance that people, and maybe even more top executives, can have in communicating information during a face to face interview. Surely, gaining access to top board meetings is great challenge (Leblanc and Shwartz, 2007), but some authors have been successful (e.g. Nicholson and Geoffrey, 2007). Therefore, the literature investigating the link between the IGC and innovation would greatly benefit from studies that use this method.

## 6. DISCUSSION AND CONCLUSION

This work highlighted IGC's influence on innovation based on the ability of directors and management to provide internal and external resources to their organization. To do this, two directors and two members of the top management team working in Canadian firms were interviewed twice each.

Our approach has brought out a conceptual framework that includes five dimensions, some of which do not directly concern the IGC (e.g. organizational characteristics). This multi-dimensionality demonstrates the complexity of the relationship between IGC and innovation, which is also clearly visible in the holistic model presented in the results (refer to Figure 3).

Our results go, in many ways, beyond the empirical and theoretical evidences. Moreover, two of the five concepts included in our conceptual model, the "Path component" and the "Innate component", contradict the assumptions of RDT and RBV. These "counter-theoretical" findings support our suggestion regarding the need to mobilize new theoretical frameworks that go beyond classical theories of corporate governance

In addition to this theoretical contribution, our results are associated with several empirical contributions. First, it is one of the few studies that documents the link between governance and innovation based on a "field study".

Moreover, not only have the previous researches predominantly advocated a quantitative approach, but they have often considered each of the two internal governance bodies (BoD and TMT) separately and recurrently use the agency theory.

Thirdly, our approach has identified 5 dimensions and 19 "sub-dimensions" that are likely to affect innovation. This is a particularly relevant contribution given that many authors have criticized previous studies for considering only a few dimensions when it comes to analysing the relationship between governance and innovation (e.g. Midavaine et al., 2016).

In this continuity, the multi-dimensionality that characterizes the relationship between the IGC and innovation, and which has particularly demonstrated the importance of organizational characteristics, underlines the importance of the context. Indeed, the elements related to this dimension are often used to "control" the effects of certain explanatory variables on innovation, which do not allow to measure their real impact. However, our results reveal that when it comes to affecting innovation, the component "organizational characteristics" is at least as important as those directly related to IGC (e.g. the "path component").

From a more practical point of view, our results could help organizations to increase their ability to innovate. First, they can put in place measures inspired by our conceptual framework. Specifically, firms could organize activities or provide tools to facilitate communication between the BoD and TMT given the importance of interactions between these two groups to innovate.

This work also teaches that diversity should not be considered as a necessarily positive aspect and a guarantee of benefits such as a better capacity to innovate. In this sense, our results can be used to guide the process of recruiting new directors or managers. It does so by suggesting that firms ensure the increase in diversity is not solely based on a need for heterogeneity, but that it is coherent with the needs of the company and that certain limits are defined to help maintaining a certain harmony.

Our study also helps to encourage companies not to consider corporate governance as "providential" for innovation. On the contrary, it calls on firms to decentralize, which would mean, for example, to seek the participation of middle managers and employees in decisions related to innovative projects. In this sense, innovation should not be confined to a certain hierarchical level. Employees would be as important, if not more important, as the CEO, the directors and the managers when it comes to innovation. The influence on innovation of R&D teams (e.g. Díaz-García *et al.*, 2013) is particularly revealing of this reality.

Based our results, we also find that organizations with an ambition to innovate do not necessarily have to embark on an infinite race for growth. This applies to the number of directors (BoD size), managers (TMT size) and employees (firm size). Rather, firms would be better off conducting audits to assess its people are at an optimal number on every hierarchical level so that it does not compromise coordination, and most importantly that the size of each group is in line with the resources needed by the organization.

Finally, another contribution resulting from the interviews conducted is that it is particularly complex for firms to simultaneously pursue a strategy of innovation and internationalization. Indeed, these strategies would be so demanding in terms of resources that the pursuit of one would imply the abandonment of the other. This suggests that firms wishing to internationalize as well as innovate should be patient by deploying one of these strategies downstream and the other upstream, not in parallel.

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#### **AUTHOR PROFILE:**

**Ramzi Belkacemi** is a currently a Ph.D. student in management at Laval University. He holds a Bachelor's Degree in Business Administration (BBA) with a specialization in international business, a Master's Degree in Management Science (Msc) with a specialization in strategy and a Master of Business Administration (MBA) with a specialization in project management.