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HOW HAS THE PERFORMANCE MANAGEMENT SYSTEM CHANGED IN A FAMILY FIRM WITH THE ENTRY OF A PRIVATE EQUITY FUND?

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Resumo/Abstract

This study investigates the process of implementing, developing, and adjusting a Performance Management System (PMS) in a family business that operates in the port segment, triggered by the investment from a private equity (PE) fund. This paper focuses on the role and changes of the PMS over time being the PMS a mitigator to the agency problems derived from principal-agent relationships in a family business and, particularly, from the interaction between the family and the PE fund in the post deal phase. This study adopts a case study approach being the main sources of data the internal documents of the Company (i.e., documents about the PMS development, firm ownership, governance, and executive structure) and two interviews. Through the data analysis we observe the key role of the PMS in maintaining the success of the relationship between the family and the PE fund by mitigating agency problems between family members and professional executives (agency problem I) and, mostly, between family members and PE fund managers (agency problem II). This case study contributes to prior literature through the presentation of why cooperative and successful interaction between family members and PE fund is linked to monitoring approaches and management incentive systems. Considering that the current literature that addresses the relationship between family members and PE fund is scarce, this study contributes by presenting a real case of the family relationship with a PE fund in a corporate structure, highlighting the role of the PMS in maintaining the balance of this relationship.

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ABSTRACT

This study investigates the process of implementing, developing, and adjusting a Performance Management System (PMS) in a family business that operates in the port segment, triggered by the investment from a private equity (PE) fund. This paper focuses on the role and changes of the PMS over time being the PMS a mitigator to the agency problems derived from principal-agent relationships in a family business and, particularly, from the interaction between the family and the PE fund in the post deal phase. This study adopts a case study approach being the main sources of data the internal documents of the Company (i.e., documents about the PMS development, firm ownership, governance, and executive structure) and two interviews. Through the data analysis we observe the key role of the PMS in maintaining the success of the relationship between the family and the PE fund by mitigating agency problems between family members and professional executives (agency problem I) and, mostly, between family members and PE fund managers (agency problem II). This case study contributes to prior literature through the presentation of why cooperative and successful interaction between family members and PE fund is linked to monitoring approaches and management incentive systems. Considering that the current literature that addresses the relationship between family members and PE fund is scarce, this study contributes by presenting a real case of the family relationship with a PE fund in a corporate structure, highlighting the role of the PMS in maintaining the balance of this relationship.

Keywords: Agency theory; Performance management systems; Family business; Private equity; Case study.

1. INTRODUCTION

This study examines through a single case study the process of implementing, developing, and adjusting a performance management system (PMS) in a family business which received an investment of a private equity (PE) fund. PE funds provide corporate financing and invest in mature privately held firms. The main goal of PE funds is to disinvest their equity investments and obtain returns as higher as possible after a short investment period (Wright & Robbie, 1998). Family firms are prevailing around the world and seem to be an opportunity for PE funds to make their investments (La Porta, Lopez-de-Silanes, Shleifer & Vishny, 1999). For family firms, the lack of capital for growth seems to be the main driver for the decision to accept splitting ownership with PE funds (Michaelas, Chittenden, & Poutziouris, 1999).

The relationship between PE funds and family firms, however, is not without problems. Family members usually influence decisions in the family business through ownership, governance and management (Anderson & Reeb, 2003; Chrisman et al., 2012). With the entry of a PE fund in the business, the goals of the PE fund and the family members may conflict, that is, while family members are averse to events/decisions that risk their socioemotional wealth usually linked to non-financial family-centered goals (Gómez-Mejía et al., 2007; Berrone et al., 2012), PE funds are mostly concerned with financial and business-centric motives (Dawson, 2011). This potential conflict between family members and PE funds in terms of their preferences through ownership can be characterized as agency problem II (principal-principal problem) derived from the fact that the ownership structure is divided between family and nonfamily shareholders (Chrisman et al., 2004; Schickinger, Leitterstorf, & Kammerlander, 2018; Zellweger & Kammerlander, 2015).

Agency problems II differ from conventional agency problems I. The latter is associated with agency problems between shareholders and managers and have being extensively debated

around some seminal papers (e.g., Jensen & Meckling, 1976; Fama & Jensen, 1983); while the former concerns about agency problems between controlling shareholders (i.e., family owners) and noncontrolling shareholders (i.e., PE fund) (Villalonga et al. 2015). These two agency problems can coexist and the firm has to face they both (Villalonga et al., 2015; Songini & Gnan, 2015). One way for firms to simultaneously mitigate the consequences of the two types of agency problems to their operations is through the design of the PMS.

PMSs act as motivational devices to induce individual behavior towards firm goals (i.e., goal alignment) and, thus, obtain desirable levels of performance (Merchant & Van der Stede, 2007). Family firms typically do not make an intensive use of monitoring and control systems such as PMS (Duréndez et al., 2016). With the entry of a PE fund, PE funded family firms are encouraged to implement PMSs to align the interests of family members and PE fund managers (Bacon et al., 2010; Schickinger et al., 2018). The PMS can be seen under different dimensions and, in this paper, we focus on the changes a PMS design suffers over time and their relationship to changes in the governance structure (Ferreira & Otley, 2009). As such, to understand the process of implementing, developing, and adjusting a PMS in a PE funded family firm, we first seek to understand the changes in the governance structure that occurred over time in the family firm with the entry of the PE fund, highlighting the motivations for bringing in a PE fund to the family business. Second, we look at the motivations for the implementation and subsequent changes of the PMS to deal with agency problems arising from the new governance structure.

We conduct a case study in a family firm that has changed its governance structure and implemented a PMS as a consequence of the entry of the PE fund. In this single case study, we triangulate internal documents provided by the firm comprising a period of more than 10 years and interviews conducted with key players in the process of the PMS implementation.

This study provides theoretical and practical contributions. We provide evidence about implications of PE funds investment in the family business, particularly, in terms of the design and use of a PMS (Schickinger et al., 2018). We show the key role of the PMS in keeping a collaborative interaction between family members and PE fund managers over the years. In particular, the case study provides insights on the PMS role in aligning the new corporate and management structure and on the need of constant PMS adaptation over time to allow the PMS to be continuously effective to mitigate agency problems.

We also contribute to practitioners by revealing the PMS role in measuring and guiding performance on a family business (Songini & Gnan, 2015; Duréndez. et al., 2016). Prior studies have addressed the importance of monitoring and control systems such as PMS to boost family business performance (Dekker et al., 2015; Polat & Benligiray, 2022). Yet, obtaining access to primary data on how and why a PMS is implemented in family firms is challenging. With this single case study, practitioners can see why and how a PMS has been implemented, developed, and adjusted over time in a PE funded family firm. We contribute to professionals by revealing the PMS role in a corporate structure composed of family members and PE fund managers.

2. THEORETICAL FRAMEWORK

2.1 Agency problems in family firms

Studies that use agency theory as the main theoretical framework typically focus on the conventional agency problem concerned with the relationship between principal (i.e., owner) and agents (i.e., managers) (Jensen & Meckling, 1976; Fama & Jensen, 1983). However, recent studies point out the occurrence of other types of agency problems derived from the relationship among other actors in the firm at the levels of management, governance and ownership. The presence of different types of agency problems are crucial for family firms that are increasingly

bringing in to their business actors that are outside the family due to either capital needs for growth or lack of successors in the family (Schickinger et al., 2018).

Figure 1 shows the existence of four types of agency problems (Songini & Gnan, 2015; Villalonga et al., 2015): (i) between shareholders and managers (agency problem I), (ii) between controlling/family shareholders and noncontrolling/minority shareholders (agency problem II), (iii) between shareholders and creditors (agency problem III), and (iv) between family shareholders and family outsiders (non-shareholders, non-managers) (agency problem IV).

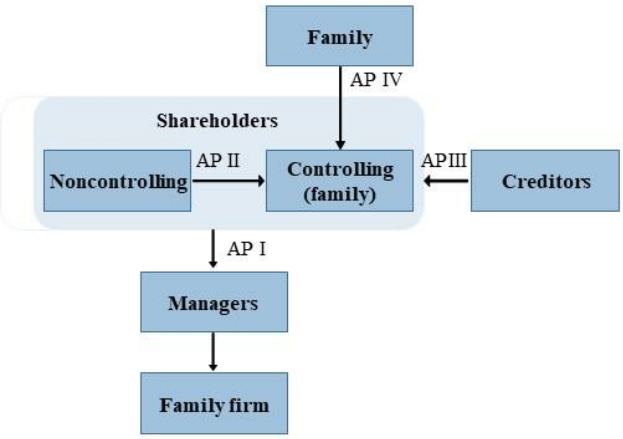

Figure 1 - Agency problems (APs) in Family Firms. Source: Villalonga et al. (2015)

Family firms retain ownership control in family hands (Anderson & Reeb, 2003). The presence of family members in the management tends to mitigate agency problems I as they stay very close to day-to-day decisions (Villalonga & Amit, 2006); in others words, there is no separation between ownership and management. As company grows in complexity and hires outside managers, other types of agency problems may arise. In particular, when the shareholder structure is no longer exclusively held by family members, agency problems II can appear at the shareholders level involving controlling shareholders (e.g., family members) and minority shareholders (non-family members) (Setia-Atmaja et al 2011).

Agency problems II derive from the fact that controlling shareholders use their favored position to appropriate what has been labeled as “private benefits of control” at the expense of the minority shareholders (Grossman & Hart, 1980; Villalonga et al. 2015). If the controlling shareholder is an institution like a bank, state or corporation, the incentive to appropriate private benefits is mitigated because decision makers are not residual claimants. Yet, if the controlling shareholder is a family, its incentive for expropriation is enhanced (Villalonga et al. 2015).

Overall, agency problems II can overshadow agency problems I in family firms (Andres, 2008; Caprio & Croci, 2008). In our case study, this may have happened since the family firm has brought in a PE fund to the business. This study focuses on agency problems I and, mostly, agency problems II derived from the entry of a PE fund in the family business and examine the role of the PMS to align the interests between family members and PE fund managers.

2.2 Family business and PE funds

Family firms accept to become partners of PE funds for different reasons, with the lack of successors to continue with the business and the lack of capital to finance business growth the two main reasons (Schickinger et al., 2018). Particularly, business growth has been shown as the key motivation for external equity financing through a PE fund (Michaelas et al., 1999).

PE funds provide corporate financing and invest in mature privately held firms. Their main goal is to disinvest equity investments and obtain a maximum return possible after limited investment periods (Wright & Robbie, 1998). The main drivers for PE funds to invest in family

business include its number and attractiveness, loyal and committed human capital, mainly if professional nonfamily managers are present, growth potential, and attractive profitability and financial returns (e.g., low hanging fruits) (Dawson, 2006; Schickinger et al., 2018).

The investment in family business is, however, not without problems. In particular, PE funds face challenges in terms of family's non-economic interests to reduce firm attractiveness and, more generally, family firms' non-financial goals that contrast with PE investors' purely financial motives (Gómez-Mejía et al., 2007; Dawson, 2011). Then, the entry of a PE fund in a family firm can cause the owner-owner agency problem II to arise (Schickinger et al., 2018).

The PE fund provides not only financial resources to invested companies, but also non-financial resources, such as management tools that can help companies improve their financial performance (Bloom, Sadun, & Van Reenen, 2015). Family firms look not only at the financial value that the presence of a PE fund can promote, but also the non-financial value associated with the implementation of a PMS (Achleitner et al., 2008). For the PE fund, with a portfolio of investments in different companies, the development of experience, know-how, network, and superior managerial resources is natural and, more importantly, the design of a PMS is vital to mitigate agency problems (Achleitner et al., 2008). Overall, cooperative and successful interaction of family firm and PE fund is linked to the use of monitoring and incentive systems and outside board members (Schickinger et al., 2018). Particularly, the use of a PMS in a family funded firm can be helpful to deal with conventional agency problems I and, most importantly, agency problems II that may arise with the new governance structure (Kloeckner, 2009).

2.3 PMS as a mitigator of agency problems

Agency theory suggests that to mitigate agency costs management control tools should be introduced (Eisenhardt, 1989). These tools include auditing, formal control systems, budget restrictions and incentive systems to align managers' interests more closely with outside equity holders' interests (Jensen & Meckling, 1976). Specifically, PMSs are an important motivational control mechanism to induce managers' behavior towards the achievement of organizational goals and the attainment of a minimum level of performance (Merchant & Van der Stede, 2007).

PMS includes several formal and informal tools such as mission statement, strategy, and incentives to help organizations achieve their goals "through analysis, planning, measurement, control, rewarding, and broadly speaking managing performance" (Ferreira & Otley, 2009, p. 264). The main expectation with the use of a PMS and the consequent incentives it provides is to increase and guide managers effort and, ultimately, boost company's performance (Bonner & Sprinkle, 2002). In particular, agency theory suggests that the provision of incentives aligns managers' (agents) and owners' (principal) interests (Jensen & Meckling, 1976). Incentives are a key element in the design of a PMS (Ferreira & Otley, 2009) and can then support the role of a PMS in mitigating agency problems.

In this paper, we rely on the PMS framework proposed by Ferreira and Otley (2009) to examine the changes a PMS suffers over time with the entry of a PE fund in a family firm and the associated new governance structure. The framework proposed by Ferreira and Otley (2009) integrates various dimensions of managerial activity with the control system and by that extends Otley's PMS framework (Otley, 1999). We focus our attention on the dimension of changes to evaluate the development of the PMS over time. The dimension of change is related to the PMS design (e.g., control techniques and key performance measures) and to how performance information is used (Ferreira & Otley, 2009). For the dimension of changes, the key aspect to be analyzed is the extent and type of change in the PMS design and the relation of those changes to changes in the organization and its environment. Put differently, the framework assumes that changes in the PMS are linked to company's current life cycle and strategy. Then, the PMS framework proposed by Ferreira and Otley (2009) is appropriate for the purposes of this paper

of understanding the implementation and subsequent changes of a PMS in a family firm with the entry of a PE fund to deal with agency problems arising from the new governance structure.

3. METHODOLOGY

3.1 Case study

Based on Yin (2003), we conduct in this paper a single case study to describe why and how the PMS was implemented in a family firm, and what were the changes over time on the PMS along with their context. The unit of analysis is the process of implementation and changes over the years of the PMS, including the reasons behind the introduction of the PMS into the company and the reasons of the frequent changes over time.

Company Logistic (fictitious name) is a large-sized firm, dedicated to the transportation of raw material in one of the most important ports in Brazil. A case study with this level of depth on this topic is unusual due to the difficulty of access that researchers have to companies' internal information and key executives. The access of information in this study was possible since one of the coauthors was involved part of the period as the PE fund analyst responsible for monitoring the investment. This professional network was important to obtain access to data sources for the purposes of this study.

3.2 Data sources

We collected data from different sources to rebuild the history of implementation and development of the case throughout the years. Figure 2 describes the sources of information that supported each period of the PMS implementation and adjustments.

Sources / Data	Historical Reconstitution of:		PMS Structure over the years (2010-Current)
	Company	PMS Implementation Process	
Company's Website	X		
Public Institutional Presentation and News	X		
Interviews	X	X	2010
Internal Presentation			2011-Current

Figure 2. Data sources

We had access to different secondary information such as the firm website, public presentations and news, and internal presentations, which are the main source of data for this study. Internal presentations were provided by the Company upon a consent form signed by the company's Chief Executive Officer (CEO) regulating the use of this data source. The protocol listed the required internal documents and established that their use would be exclusively for the development of this research, following ethical standards of scientific research.

Internal presentations were essential to provide detailed information on the PMS design, that is: (i) what was the rationale for deploying the strategy into goals, (ii) which key performance measures (KPIs) were used, (iii) what was the relative importance of each KPI within the system and (iv) how each management level was treated in the PMS. Moreover, internal presentations supported the study of the evolution of the PMS design over time, enabling us to identify key points of change, so that we could provide detailed view of the reasons behind the changes. Internal presentations were the base material for the board of directors to annually approve the PMS design. Thus, the PMS design is fully covered in these presentations, which are updated annually.

We also conducted interviews with two executives that had close participation in the implementation and development of the PMS in the company. Participants received a consent form with information on access to the interview recorded data and confidentiality agreement. Interviewee 1 was an advisor of the PE fund who participated in the implementation of the first

PMS design in the company. He was interviewed on January 20th, 2021 and the interview last about 37 minutes. Interviewee 1 started working for the PE fund six months after the investment in Company Logistic, as part of the team in charge of the management of the investment inside the PE fund. The data provided by interviewee 1 was essential because he participated in the forefront of the implementation process of the first formal PMS in the company. Interviewee 1 remained a member of the management team after the PMS implementation. Then, he provided valuable information from the perspective of the shareholder that was leading this process.

Interviewee 2 is part of the executive team of company Logistic. He was interviewed on January 24th, 2021 and the interview lasted about 20 minutes. Interviewee 2 started working in the company three years prior to the PE fund investment and was key on the management team. Interviewee 2 provided relevant information on the context of the PMS implementation and development from the perspective of company's executives. In Interviewee 2 own words:

> I joined the company in X, as the controller and planning manager. I came in through an executive "headhunter" for that company. In the first year, with the entry of an investment fund in our company, I became superintendent of new businesses, and in the third year, I became the CFO of the company. A year ago, I became the CEO of the company, a position that I currently hold.

3.3 Data analyses

By aggregating the data collected in internal documents and interviews, we developed the chronologies of the events regarding the PMS implementation in the company. Then, the study is about the analysis of a phenomenon in a longitudinal way, looking in detail at the main events involved in the unit of analysis, separated in three key phases: (i) pre-implementation, (ii) PMS implementation and (iii) development of the PMS concurrently with the development of Company's business. The use of multiple data sources is a strength of a case study and we triangulate information from the different sources to obtain validity (De Massis & Kotlar 2014).

4. THE CASE STUDY

4.1 Case study timeline

Figure 3 outlines the timeline with the main phases examined in this study, depicting changes in ownership and management structure as well as PMS implementation and changes.

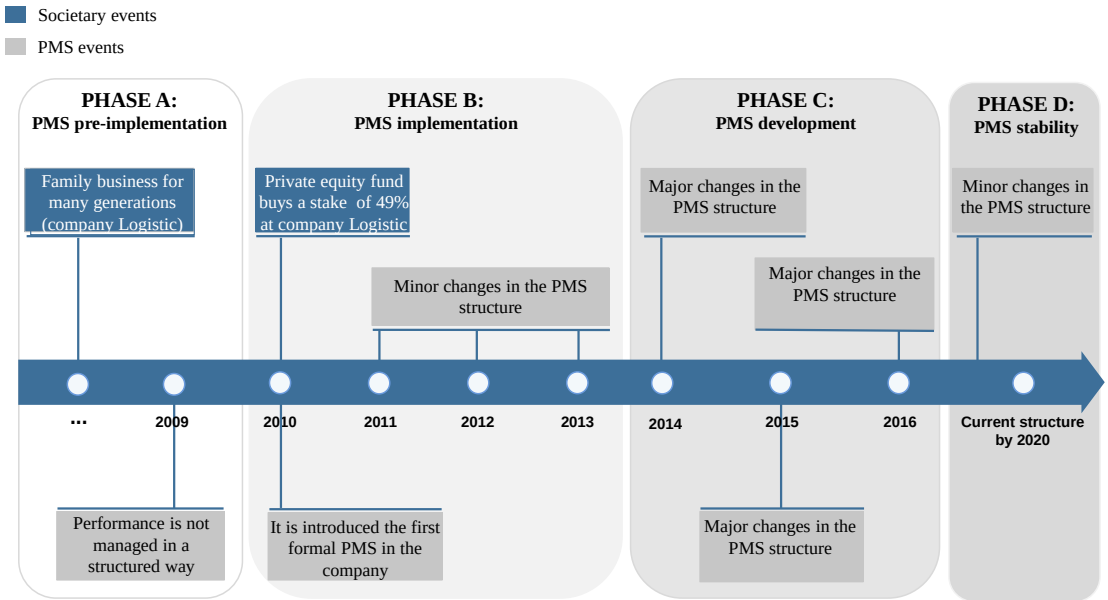

Figure 3. Case study timeline.

Phase A relates to the period prior to the PE fund investment in the family firm, the moment in which performance management occurred in a more informal and unstructured way. Phase B starts with the PE investment in the business. Immediately after the investment, the first PMS was implemented. We highlight this phase to discuss the PMS implementation process proposed by the PE fund and, particularly, the links with agency problems I and II and the role of the PMS as a mitigator of agency problems in the new ownership and management structure. In Phase C, we discuss changes in the PMS design in the post implementation period, a moment in which most of the projects defined at the initial business plan had been developed and their operations ramped up. The categorization of this phase makes it possible to understand why changes in the PMS were necessary to be aligned with changes in the family business after the deployment of the capital invested by the PE fund. Phase D shows the moment in which the PMS became stable alongside ownership, governance, and management structures. Considering the investment cycle of the PE fund, this phase can be seen as the period of disinvestment; thus, the moment prior to a new societal structure with likely changes in governance, management, and PMS structures, possibly restarting the cycle proposed by Figure 3.

4.2 Phase A: PMS pre-implementation

Company Logistic was founded many decades ago dedicated to the transportation of raw material in a large Brazilian port. The company was set up by a Brazilian entrepreneur who had previous knowledge of the market. The entrepreneur and his family managed the company for seven decades, when the equity control was transferred to another family, named Family C. Family C acquired real estate assets over time aiming at expanding the logistics business of Company Logistic. The first generation of Family C was responsible for taking over the control from the founder's family. The second generation oversaw the service diversification provided by the company and, the third generation was responsible for placing the company in a leading position, as well as transforming the company into a national rather than a local player. The last wave of growth was possible not only because of the leadership of Family C, but also because of the partnership that was formed with a new shareholder that helped financing the equity necessary to execute the company's new projects.

The third generation of Family C started in the company four decades ago and for almost three decades has been in charge of top management positions, although there were top management positions occupied by nonfamily managers as well. The management structure was not so well established at that moment, preventing us to recreate with precision positions and responsibilities, though being clear that Family C had an executive role at the company.

According to the interviews, the PMS tools that were used to manage Company Logistic prior to the PE investment were not well structured, either because it was not a necessity of the family due to its involvement in the day to day business operations, or because the family did not have technical knowledge to use more sophisticated tools. Interviewee 1 pointed out that before the PMS implementation the family firm implemented an array of not structured and simple PMS tools such as financial routines, performance measures, cash flow management, income statement, and balance sheet to manage the business and report to the board of directors. Interviewee 1 summarizes this issue as following: "*[...] so, a well-managed company, but on the other hand, with a very homely management*". As to performance-based compensation, interviewee 2 highlighted the existence of a discretionary bonus.

4.3 Phase B: PMS implementation

Phase B starts at the moment that Company Logistic receives the investment of the PE fund. As part of a one-hundred-day plan, the company implemented the first PMS. For the first time in the family business history company's performance and the performance of non-family, professional managers were measured using a formal PMS. We detail this process next.

4.3.1 PE fund investment

After decades getting knowledge about its industry and acquiring strategic real estate properties, Family C was approached by a PE fund willing to become a shareholder of Company Logistic. The PE fund was launched sixteen years before the deal and was managed by a group of financial market executives. It took a while for Family C to be convinced that having a partner would be good for the company's growth and, after months of negotiation and due diligence, the deal was closed and the PE fund became a minority shareholder of the company. The shareholder structure after the deal was 51% to Family C and 49% to the PE fund.

The PE fund and Family C negotiated key points to make the deal feasible, including the creation of a board of directors and the implementation of a PMS into the company. This aspect was described by the interviewee 2 as follows:

> Yes, the idea was brought up by the new investor, right. The model had already been practiced in its other investee companies, and it was presented to Family C, who at the time had 100% of the capital [...] they understood the reasons, right? The reasons were that [the model] would improve results of the company and make the engagement of executives to improve.

It is possible to analyze the situation above through the perspective of agency theory. The PMS implementation in Company Logistic can be seen as a mitigator of potential agency problems involving the professional managers, the PE fund and Family C. As the company hired professional managers to run the most important management positions, agency problems I could arise due to the fact that the business was not anymore in the absolute control of Family C. Given that, it was important to create a tool to align the efforts of non-family, professional managers with the interests of family members and thus mitigate agency problems I. At the same time, the PMS could be seen by the PE fund as a mechanism to mitigate agency problems II as well. Analyzing this situation with the theoretical lens of the model proposed by Villalonga et al. (2015), the new arrangement would result in the coexistence of agency problems I and II.

Family C maintained intense presence in the day to day business operations, and the PMS was an important tool to align professional managers' effort with PE goals. The PMS was an information source and a tool to keep executives focused on maximizing company's results and pursuing the goals set by family members, thus reducing the chances of the controlling shareholder to take any individual advantage for itself. By theory, the professional or independent managers would possibly reduce agency problems II. Figure 4 depicts the modified governance structure and associated agency problems.

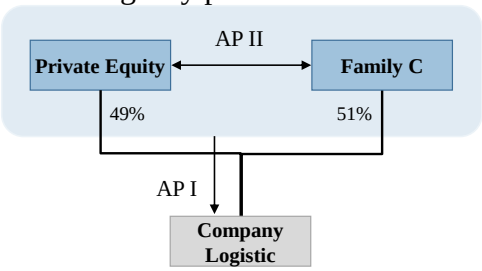

Figure 4. Agency problems (APs) in company Logistic.

4.3.2 Implementation of a formal PMS

The PMS implementation was triggered by the PE fund. As stated by the interviewees, the PE fund was responsible for the PMS idea and its proposed design. According to interviewee 1, the PMS was aligned with what the PE fund implemented in other invested companies:

> There was a guide, not as structured as I am talking about, but a guide of good practices. So, much part of a 100-day plan that started to be implemented after the private equity fund investment. And this was the fund's fifth investment, so it already had some relatively mature practices. So, it was very clear in the first few months

> what was going to be done with the company, right? What I wanted to see in terms of the report, performance indicators, governance policies, manuals, compliance etc. There was a whole script to be followed [...] so, that was a very busy agenda for the fund, ok? The fund played a very strong role in this.

The initial formal PMS design was introduced into the company in the first year of the PE investment. A board of directors was put in place, containing five positions, three nominated by the family and two by the PE fund. Also, a CEO and a CFO (Chief Financial Officer) were hired to be in charge of the top management team of Company Logistic. From the beginning, the annual budget was a central tool linked to the PMS. Basically, the budget encompassed the main financial targets (e.g., revenue, operating expenditures) aligned with the incentive system as well as the projects to be implemented (capital expenditures—CAPEX) within a detailed and individual schedule. Following interviewee 1:

> We were very demanding in setting budgets. We were anxious about the fund, wanting to accelerate the company growth, wanting the budget to reflect the business plan that was drawn up […] and it was very aggressive, but yes, the objective (of the PMS) was to align the executives with the attainment of the budget [...] to bring that sense of ownership to the executive [...] a greater commitment to the company.

4.3.3 Overview of the initial PMS design

Based on internal presentations, the four PMS guidelines were: (i) to obtain alignment of the executives with business goals; (ii) to control results through key metrics monitoring; (iii) to obtain transparency and visibility through clearly established and well communicated goals and periodic monitoring; and (iv) to enhance competitiveness and motivation through competitive compensation, differentiated according to individual contribution and ability to influence results. In addition, aligned with the PMS framework (Otley, 1999; Ferreira & Otley, 2009), internal presentations of the PMS design (Figure 5) provide details on how the strategy was deployed within the organization, supported by the PMS.

Figure 5. Strategy deployment. Source: Company Logistic internal presentation.

The PMS was composed of several elements that includes an incentive scheme in the form of performance-based bonus to eligible executives. Below, we provide detailed description of the incentive scheme, as well as other elements that were part of the PMS. With regards to **eligibility**, only managers who held a position with managerial leadership responsibilities were part of the group evaluated by the PMS. To be eligible, a manager should occupy one of the following positions in the company organizational chart: Director, Superintendent, Manager, or Coordinator. There were two statutory directors, the CEO and the CFO. Directors and superintendent were responsible for their respective business units (BUs) and were subordinate to the CEO. Each director/superintendent, as well as the CFO, were responsible for one or more managers. Likewise, managers were responsible for supervising coordinators.

The incentive scheme had a **trigger**, which is a value for a KPI that set the minimum level of performance that the company should achieve so that a bonus would be paid to eligible executives. The trigger was equal to 80 percent of budgeted EBITDA (Earnings Before Interests, Taxes, Depreciation, and Amortization) achievement. The **target bonus** for 100 percent of goal achievement was set as three to ten salaries. This bonus could vary depending on the level of goal achievement for each KPI and the position of the executive. For instance, the CEO and CFO bonuses were calculated as base salary multiplied by ten and eight, respectively. For superintendents, managers, and coordinators base salary was multiplied by six, four, and three, respectively.

The **weight** placed on each goal level (global, units, and individual) depended on the position. For CEO, CFO, managers, and coordinators allocated in the administrative, 70 percent of performance evaluation was based on global goal attainment. For directors, superintendents, managers, and coordinators allocated in BUs, 30 percent of performance evaluation was based on global goal achievement. Figure 6 illustrates the weights placed by goal level and position held by the executives in the company.

Goal Level / Position	CEO / CFO	Directors	Superintendents	Managers	Coordinators
Global Goals	70 percent	40 percent	30 percent	30-70 percent	30-70 percent
Unit Goals	-	30 percent	40 percent	0-40 percent	0-40 percent
Inidividual Goals	30 percent	30 percent	30 percent	30 percent	30 percent

Figure 6. Weight placed by goal level and position. Source: Company Logistic's internal presentation

The weights were developed in a way that top-level executives had greater exposure to the global goal (CEO and CFO). Directors and superintendents, as they were responsible for BUs, had greater exposure to unit's goals. For managers and coordinators, the weights applied to the respective KPIs would depend on whether they had BU or administrative responsibilities.

Global goals set in the first year were calculated based on consolidated financial results, including two KPIs—net income and EBITDA. In the composition of global goal attainment, a weight of 30 percent was placed on net income and 70 percent on EBITDA. On top of that, there was a relation between the KPIs used for monitoring global goals and the bonuses to be paid. For example, the attainment of 80 percent of budgeted EBITDA would account for 70 percent on bonus calculation. Similar procedure would apply to net income.

As an example, consider that 80 percent of the budgeted EBITDA was achieved and 90 percent of the budgeted net income was achieved, the composition of the global goal would be: 30%*90%+70%*80=83%. In this example, 83 percent of the global goal was achieved and this percentage would be multiplied by the weight placed on the global goal for each position. If we look at the CEO, global goal would be worth 58 percent of the total bonus (70%*83%). There was a cap for the achievement of the performed KPIs over which no extra bonus would be paid. There was no threshold for the attainment of the performed KPI once the trigger was achieved.

BU goals were linked to global goals so that the KPIs used as unit goals were also Net Income and EBITDA. In fact, consolidated unit goals should amount the same value as global goals. Company Logistic also used Subjective Performance Evaluation for the definition of individual goals, which were based on three dimensions with respective weights: (i) individual skills such as value creation, problem solving, resource management and management skills (50 percent); (ii) team performance such as leadership and people management and teamwork (30 percent); and (iii) strengthening of the company captured by organizational impact and innovation (20 percent). The individual evaluation was carried out by direct supervisors of each professional, who were guided to follow the guidelines for each dimension. Regarding the CEO, the assessment was proposed by himself and reviewed by the board of directors.

Overall, considering the structure presented above, an annual evaluation process was carried out, bonuses were paid (if applicable) and feedbacks were provided based on individual performance. There were two moments of feedback, one in the middle of the year, and other at the end of the year when the performance was fully evaluated, and bonuses were calculated.

Given the description of the PMS implemented in Company Logistic, we can highlight key design points based on Ferreira & Otley (2009) framework. First, objectives were clearly connected with the business plan elaborated during the negotiation with the PE fund before the investment. It seems that the majority of the milestones established by the PMS considered the PE life cycle as investor of the company. Second, performance targets were established considering the execution of the projects defined on the business plan. There was no specific targets for the projects themselves in the initial PMS design; however, this point was adapted later as we describe next. The absence of specific targets of return may signal the PE fund initial focus on growth through the execution of new projects. Third, rewards were linked to the attainment of budgeted financial targets, as well as individual performance. Fourth, goals were monitored periodically by the board of directors, even though access to information on goal achievement might be restricted to managerial levels who participated in review meetings. Fifth, goals and underlying KPIs were mainly focused on growth measures, what was also evident with the fact that targets were set considering the execution and launching of the new projects. The company pursued a growth strategy with the usage of investment capital from the PE fund to finance new projects.

4.4 Phase C: PMS development (adjusting and readjusting the PMS)

4.4.1 Main changes in the Board of Directors

We can draw a parallel in relation to changes in the governance structure of the family business and changes in the PMS. Considering information collected in the interviews, we can set forth that changes in the PMS were triggered by internal changes in the governance structure. One characteristic of family shareholders is that their representatives are more stable (Tsai, Hung, Kuo, & Kuo, 2006; Visintin, Pittino, & Minichilli, 2017). In our case study, the family board members have been the same all over the period of analysis. The same is not true regarding PE managers because they are investment professionals hired to represent a group of investors (using a PE fund as a vehicle) on those investments. Accordingly, PE representatives in the board of directors changed twice over the period of analysis, as presented in Figure 7, at the end of year 3 and year 5:

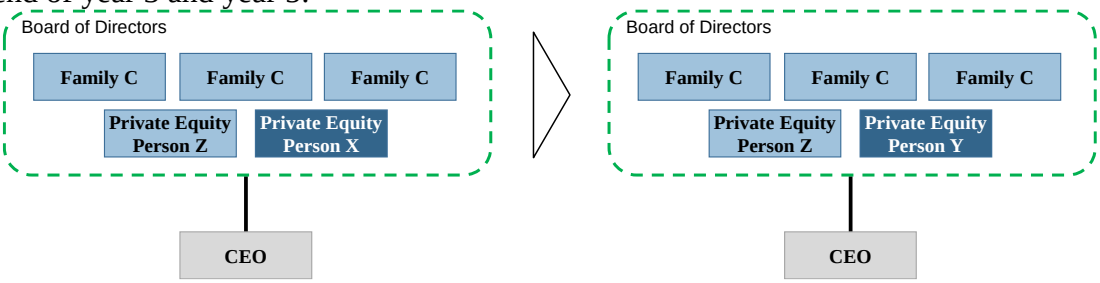

Figure 7. Change in the composition of the board of directors. Source: Interviews

At the end of year 3, the PMS suffered changes after changes in the board of director committee. The interviews pointed out the relation between changing a person in one of the PE positions on the board and changes in the PMS design. Interviewee 1 describes this moment and makes the link between changes in the board of directors' representative.

> [...] There were adaptations. I think that the structure has been maintained, so I think that this macro, global, individual goals, and the professional's assessment in a way has remained as a structure. […] The fund ended up changing a lot, with a certain frequency, the directors, so each director who arrived, arrived with a new vision, with

> a new guideline, right? 'Ah, now I want to see RONA [Return on Net Assets]'. Then the other: 'No, I want to see ROIC [Return on Investment Capital]'. So, each board member arrived with a slightly different view. Eventually, some triggers changed, right? The trigger is no longer EBITDA, now it is ROIC.

At the end of year 5, again, one of the representatives of the PE fund in the board of directors of Company Logistic has changed: Person X to Person Y as indicated in Figure 7. Consequently, the PMS changed one more time. From the interviews, we can link changes in the PMS with the change in the PE fund representative who held this position on the board of director of Company Logistic. Another interesting point to note is that the change in year 5 particularly about the use of RONA as one of the KPIs composing the global and individual goals, was implemented after the entry of the fund's new director. Still, according to interviewee 1, the new representative of the PE fund was the one who led the discussion on the introduction of ROIC as a KPI within the composition of the PMS. However, triangulating with company's presentations on the PMS design, we notice this change occurred only in the following year, when ROIC was adopted as the most relevant KPI in the PMS from that moment on.

4.4.2 Main changes in the PMS design

During phase C, the PMS has gone through a series of changes. In Figure 8, we compare the PMS and, particularly, the incentive scheme between Phase B and Phase C, and two main changes stand out: (i) the KPI changed from EBITDA to net income; and (ii) the inclusion of a return performance measure in the composition of global and business unit goals (RONA).

The first change relates to the KPI used to calculate the trigger from EBITDA to Net Income. This change can be attributed to an effort to mitigate the risk of agents in financial management positions to classify operational costs or expenses as non-recurring items, increasing performed EBITDA and, consequently, the performance-based compensation. In other words, this change aimed at mitigating agency problem I.

The second change seems to be a way to measure return on the assets employed, in addition to those measures of potential operational cash generation (EBITDA) and net income. Considering that, at that moment, all capital invested by the PE fund had been deployed on new projects of Company C, this change suggests that shareholders were moving the focus to monetize the capital invested. This is a situation in which the PMS acts as a possible tool for mitigating agency problems I and II at the same time, because this change aligns the utility of family members and professional hired managers as well as the utility of the PE fund with the family. This change made it possible for the PE fund to increase its focus on return on capital employed, and for the family to maintain a harmonious relationship with the partner and a clear focus on the business profitability.

Period	End Phase B	Phase C
KPIs / Years	*Year 3*	*Year 4*
Trigger / KPI	70 percent of EBITDA	70 percent of Net Income
Salary Multiples	(x)	(x)
CEO	10	10
CFO	8	8
Directors	8	8
Superintendents	6	6
Managers	4	4
Coordinators	3	4
Global Goals	-	-
Formula Weight	CEO / CFO – 60 percent Directors – 40 percent Superintendent – 30 percent Managers / Coordinators – 70 or 30 percent*	CEO / CFO – 70 percent Directors – 70 percent Superintendent – 30 percent Managers / Coordinators – 70 or 30 percent*
KPIs and weights place on each one to composse the global goal	Net Revenue – 30 percent EBITDA – 70 percent	Net Revenue – 30 percent Net Income – 50 percent RONA – 20 percent
Incentive Zone	No	No
Unity Goals	-	-
Formula Weight	CEO / CFO – 10 percent Directors – 30 percent Superintendent – 40 percent Managers / Coordinators – 0 or 40 percent*	CEO / CFO – 0 percent Directors – 0 percent Superintendent – 40 percent Managers / Coordinators – 0 or 40 percent*
KPIs and weights place on each one to composse the global goal	Net Revenue – 30 percent EBITDA – 70 percent Projects - 0, 10, or 30 percent**	Net Revenue – 30 percent Net Income – 50 percent RONA – 20 percent
Incentive Zone	No	No
Individual Goals	-	-
Formula Weight	CEO / CFO – 30 percent Directors – 30 percent Superintendent – 30 percent Managers / Coordinators – 30 percent	CEO / CFO – 30 percent Directors – 30 percent Superintendent – 30 percent Managers / Coordinators – 30 percent*
KPIs and weights place on each one to composse the global goal	Set of Subjective Criteria	Three (3) Specific to Projects – 20 percent Subjective Criteria – 10 percent

Figure 8. Changes in the PMS design from phase B to phase C. Source: Internal presentations.

As mentioned, Phase C involved several changes over the three years, including changes in the KPIs that made up the global and unit goals. The changes behave in a pendulum fashion as in 2015 the KPI is the same one as the KPI used at the end of phase B. The KPI changed again from 2015 to 2016, moving the focus more explicitly on the return on capital employed, with ROIC becoming the most important KPI in the PMS design, as presented in Figure 9.

In the last year of phase C, several changes were implemented in the PMS. In an overview, it is observed that changes in the PMS demonstrate a change in focus from growth to profitability. As previously mentioned, ROIC was the KPI adopted that year. It was then used as a trigger for the performance-based compensation scheme, as well as the most relevant goal within the global and unit goals. Another point of emphasis occurred in the unit goals in which EBITDA was no longer a KPI evaluated, being replaced by metrics such as Cost of Goods Sold (COGS), Selling, General, and Administrative Expenses (SG&A), and maintenance CAPEX.

Period	Phase C		
KPIs / Years	*Year 4*	*Year 5*	*Year 6*
Trigger / KPI	70 percent of Net Income	80 percent of EBITDA	90 percent of ROIC
Salary Multiples	(x)	(x)	(x)
CEO	10	10	10
CFO	8	8	8
Directors	8	8	-
Superintendents	6	6	6
Managers	4	4	4
Coordinators	4	4	4
Global Goals	-	-	-
Formula Weight	CEO / CFO – 70 percent Directors – 70 percent Superintendent – 30 percent Managers / Coordinators – 70 or 30 percent	CEO / CFO – 70 percent Directors – 70 percent Superintendent – 30 percent Managers / Coordinators – 70 or 30 percent	CEO – 60 percent CFO – 20 percent Superintendent – 20 percent Managers / Coordinators – 10 or 0 percent
KPIs and weights place on each one to composse the global goal	Net Revenue – 30 percent Net Income – 50 percent RONA – 20 percent	Net Revenue – 30 percent Net Income – 50 percent EBITDA – 20 percent	Net Revenue – 30 percent ROIC – 70 percent
Incentive Zone	No	No	Yes
Unity Goals	-	-	
Formula Weight	CEO / CFO – 0 percent Directors – 0 percent Superintendent – 40 percent Managers / Coordinators – 0 or 40 percent*	CEO / CFO – 0 percent Directors – 0 percent Superintendent – 40 percent Managers / Coordinators – 0 or 40 percent*	CEO – 10 percent CFO – 50 percent Superintendent – 50 percent Managers / Coordinators – 40 percent
KPIs and weights place on each one to composse the global goal	Net Revenue – 30 percent Net Income – 50 percent RONA – 20 percent	Net Revenue – 30 percent EBITDA – 70 percent	ROIC – 40 percent COGS, SG&A, & Maintainance CAPEX – 60 percent
Incentive Zone	No	No	Yes
Individual Goals	-	-	
Formula Weight	CEO / CFO – 30 percent Directors – 30 percent Superintendent – 30 percent Managers / Coordinators – 30 percent*	CEO / CFO – 30 percent Directors – 30 percent Superintendent – 30 percent Managers / Coordinators – 30 percent*	CEO / CFO – 30 percent Superintendent – 30 percent Managers / Coordinators – 50 or 60 percent
KPIs and weights place on each one to composse the global goal	Three (3) Specific to Projects – 20 percent Subjective Criteria – 10 percent	Three (3) Specific to Projects	Three (3) Specific to Projects – 25 percent Subjective Criteria – 5 percent

Figure 9. Changes in the PMS design during phase C. Source: Internal presentations.

The changes presented in Figure 9 suggest that the shareholders' objectives, from that moment on, started to change if compared to the initial phase of adoption of the PMS. At the beginning, the focus was on measures that would capture the growth of the companies' financial results from the development of the expansion projects defined at the entry of the PE fund. After the execution of four out of five projects designed on the initial business plan, and through the evaluation of the KPIs that have been monitored, it is noted that the focus shifted to increasing the profitability of the investments that were already made. There was also a reduction in the managerial level at the company, as the line of directors ceased to exist, and the superintendents began to report directly to the CEO.

Finally, there was the introduction of an incentive zone for global and unit goals. In previous versions of the PMS, the KPIs did not have a threshold to be considered (except in the case of the trigger), they only had a cap. In year 7, a threshold was implemented for the

achievement of these goals, so that, if this threshold was not reached, the computation of that KPI in the compensation scheme would not be considered. In addition, there was a change in the slope of the calculation curve for the result of the KPIs versus the one foreseen in the budget, becoming a 1 to 1 ratio, in the case of 100 percent of budget achievement, and a negative ratio for less than 100 percent of budget achievement.

4.5 Phase D: Stability in the PMS design

In the last phase highlighted in the timeline, the PMS remained stable. Yet, a slide in the most updated internal presentation of the PMS design called the attention. This slide contains an extremely detailed definition of the ROIC calculation. In this description, all the items that should be considered for the calculation of both the numerator (EBIT – Earnings Before Interests and Taxes) and the denominator (invested capital) of the ROIC were listed, including reference to the explanatory notes of the audited financial statements that should be considered for the composition of the numbers.

In addition, on this slide, there were notes saying that ROIC would be calculated every quarter and countersigned by the board of directors, so that the monitoring of what have been done versus the target would be carried out periodically throughout the year, keeping executives aligned throughout the year. Interviewee 2 reported that discussions used to occur between board of directors and executives when calculating the actual numbers for the year compared with the budget, as shown in the next excerpt:

> Almost every year, every year we have an argument about the number that should compose the result, the trigger, right? ROIC, it is EBIT on invested capital, right? So, let's say, eventually some value of the invested capital, it must be considered or not, right? You have the balance sheet accounts that can possibly be considered and the other part understands that it should not be considered. Eventually non-recurring and non-operating results that must leave EBIT and that sometimes remain, so there is always an argument in this regard. And then you get to the final count, right? But there always is. Every year there is an argument regarding the composition of values.

This fact is interesting because it is not directly linked to changes in KPIs used in the PMS, but in the process of calculating them. To avoid future conflicts the board of directors decided to formalize the steps of the calculation formula of the KPIs, based on audited financial report. This refers to agency problem I and to shareholders' actions (through the board member) to mitigate executive opportunistic behaviors. Moreover, there were only few more changes in the weights placed on global, unit and individual goals, occurred in all phases of the development of the PMS, roughly every year. So, even in a period of stability, there is a motivation for shareholders / board of directors to improve the PMS to obtain the best result from the work of the hired executives.

4.6 PMS and the company lifecycle

Recent life cycle theory has categorized the company life cycle in five main stages: introduction, growth, maturity, shake-out and decline (Dickinson, 2011). As PE funds search for growth, the majority of their investments is placed on companies that are at the growth stage. From 2010 to 2014, Company Logistic invested in all projects designed at the initial business plan, which was used to guide the initial investment of the PE fund. During that same period, the PMS was implemented and the KPIs initially selected to build the PMS indicated (during phase B) that the main goal of the business at that moment was growth in operational results given the high importance placed on EBITDA in the composition of the PMS.

Life cycle theory poses that distinct phases of business development occur due to changes in "strategy, structure, decision-making methods, and organizational situation" of firms

(Miller & Friesen, 1984, p. 1163). As our study signals, a family business after receiving the investment of a PE fund can eventually go through all the changes listed by Miller and Friesen. Moreover, with the entry of PE fund in the single owner family structure resulted in agency problems II and, therefore, the coexistence with agency problems I.

Soon after the PE investment, Company Logistic faced a division in its corporate and management structures that resulted in the arisen of agency problems I and II (Villalonga et al., 2015; Songini & Gnan, 2015). Based on previous literature, we can say that the PMS was implemented, motivated by the PE fund, to act as a mitigator of agency problems and enable a good coexistence between family members and PE fund managers in the business (Jensen & Meckling, 1976; Achleitner et al., 2008).

From 2010 to 2014, company's gross revenue went from R$121 million to R$451 million, an increase of 273 percent. Net income for the period grew 107 percent, from R$15 million to R$31 million. In fact, revenue growth was quite relevant during the initial years, when the focus of the PMS was on growing the business operating results, and not necessarily on profitability. The function of reducing agency costs is intrinsic to the PMS. Regarding the design, it is noted that the stage of the life cycle influences its design. Notably, in the early years after the PE investment, the direction and focus of the PMS was on the growth of the business financial results. Accomplished all projects designated for the use of financial resources obtained from the PE investment, the company entered in a different stage of its life cycle, that can be classified as the mature stage (Dickinson, 2011). Analyzing the movements that took place in the PMS at this period, we noted that these were the years in which the PMS has undergone its greatest adaptations since the implementation.

It was previously suggested in this study that changes in the PMS are related to the composition of the governance structure. It is also possible to say that the company entered in a moment in which the focus moved to profitability of the capital employed rather than growth. Looking at the changes in the PMS in the transition from growth to maturity, we observe that the PMS focus has been adjusted to business profitability. Then, changes in the PMS can be attributed to the willingness to mitigate agency problems as much as the business development.

As the family business develops during the growth stage, new opportunities to increase executive's utility arise, at the cost of reducing principal's utility (e.g., family members). Family business can change by developing new business units or acquiring new businesses, so the PMS needs to keep up with this development and keep the focus on shareholders' objective, which is to continue growing the business or increase the profitability of invested assets. The dimension of changes in the PMS (Ferreira & Otley, 2009) is relevant to mitigate agency problem I.

From 2015 to 2019, gross revenue of Company Logistic grew from R$451 million to R$1,014 million, an increase of 125 percent. Net income for the period increased from R$31 million to R$129 million, growing by 316 percent. In this sense, we observe that the business profitability (here measured by net income) increased significantly in the period comprised in phase C compared to phase B. Once again, the PMS demonstrates its importance in mitigating agency problems, aligning family members' efforts with PE fund objectives, and then maintaining the alignment of interests at the corporate level, between family and PE fund.

Agency problem II occurs at the firm societal level and, thus, the dimension of change of the PMS must be observed when changes in the societal structure occur. In this case study, we noticed that changes in the PMS always occurred when the board of directors has changed. In this sense, another proposition that can be posed about the PMS design is that changes in the business governance structure may contribute to changes in the PMS design. It is also necessary to verify that the stage of the company's life cycle, and the stage of the PE investment, may affect the PMS design. The PMS was first introduced to mitigate agency problems that arose in

a divided societal structure and with professional executives in the business management. The PMS focus, observed through the KPIs selected for its composition, as well as the weight placed on each of them, varies according to the Company's life cycle. After the PE investment, the focus was on growth. As projects were developed and the business plan was successfully executed, we noticed, through the analysis of the KPIs and weights placed on each of them, that the PMS design has changed to focus on profitability over capital employed, and that the company enters a maturity stage after the growth cycle. It became then important to adjust and readjust the PMS design throughout the PMS lifecycle to maintain its role of increasing the performance of the family business, as well as reducing the costs of agency problems.

5. CONCLUSIONS

Family business is one of the most relevant types of business (La Porta et al., 1999). They represent an interesting investment option for PE funds due to the large number of family firms, unique human capital, growth potential and financial attractiveness (Schickinger et al., 2018). However, the relationship between the family and the PE fund is not without problems. In the post-deal phase, professional managers are typically hired, creating a mix between family and hired professionals, causing a split in the management structure. This change promotes the agency problem I to arise (Jensen & Meckling, 1976; Fama, 1980; Zeckhauser, 1985; Mendes, 2001). In addition, after the PE investment, there is also a split in the societal structure that promotes agency problem II to arise (Schickinger et al., 2018). From that moment on, with the new corporate structure, agency problems I and II will coexist (Villalonga et al., 2015; Songini & Gnan, 2015). One effective tool to mitigate the costs caused by the fragmented structure is the implementation of a PMS to function as a link between the different players.

From that moment on, the PMS used in this structure - family members, professional executives, and PE fund - starts to act as a tool to reduce agency costs derived from agency problems I and II. This happens due to the interconnection of the PMS design, reducing conflict of interests, and thus aligning the utility of each player and helping to build a single unit again.

Agency theory has been extensively tested and discussed. However, the literature on investments by PE funds in family businesses is quite recent. The availability of papers that analyze real cases of the relationship between the family and the PE fund, especially with a focus on management tools as a central link in maintaining the business performance and, thus the good relationship between the players, is quite limited. The Messer Griesheim case study (Achleitner et al., 2010) is an exception of this specific field. Consequently, this study adds to previous literature by analyzing a longitudinal case in which there is a brief account of the period prior to the PE investment in the family business, a detailed analysis of the situation from the PMS implementation, derived from the entry of a PE fund, and the subsequent years, highlighting changes carried out on the PMS over time under the theoretical lens of agency theory and associated agency problems that coexist in the organizational structure.

Another important variable of analyses is the company lifecycle. The PMS adapts to the changes that the business faces over time. A family business, with pre-identified opportunities of growth, capitalized to invest in a variety of projects, goes through several changes that impact the business, the management, the process, the technology, and so on, calling for additional changes in the PMS. Immediately after the deal phase or at the beginning of the post-deal phase, the PMS is implemented in the family business as a management tool, following the PE fund suggestion. Looking at this case study, we can infer that the entry of a PE fund in the family business is the trigger for the PMS implementation, which reinforces previous findings on management tools provided by the PE fund (Achleitner et al., 2008).

Due to the facts examined in this study, we corroborate propositions of previous studies highlighting the role of a PMS in maintaining cooperative and successful interaction between

family members and PE managers through the reinforcement of monitoring and management incentive systems. As obtaining access to data on private companies is limited, the development of this case study adds to prior literature by providing a practical example of a PE funded family firm that has faced significant financial growth, and by exploring changes over time in the PMS design from the start of the relationship between family members and PE fund managers.

Practitioners can also benefit from this paper as it highlights problems, and associated costs, caused by agency conflicts. Practitioners can assess the importance of management tools in situations in which management and corporate structures become fragmented. Through knowledge of these theoretical models, they can develop practical tools that improve business performance, as well as maximize utilities for the players involved. The model proposed by Ferreira & Otley (2009) is quite complete and can be used by managers of similar companies in the implementation of PMS that can contribute to foster business performance. It is important that these practitioners understand the origins of agency problems faced in the business so that they can make appropriate choices when implementing and changing the PMS.

For this study, we were unable to have access to family members, a essential player, to have a more complete understanding of the PMS role in the PE funded family firm. However, we understand that this limitation is mitigated by the fact that one of the interviewers was the link between the interests of the two shareholders that make up the corporate structure. The PMS addressed in the case is centered on the fiscal year, because of that, we could not analyze the impact of a PMS that includes a longer performance appraisal period, such as five or seven years, and the potential effects of such PMS in reducing agency costs. These mechanisms of alignment (i.e., stock options), or incentive, of long-term performance are becoming more common in the corporate environment, especially in companies where there is a presence of PE funds, and represent a field of research that can be explored. Another research opportunity in this field would be the development of a study that addresses the occurrence in practice of all agency problems that coexist in the structure developed by Vilallonga (2009), highlighting which and how control and management mechanisms can be combined to collaborate in the cost reductions that emerge in this situation.

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