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PROCESS OF CHANGE IN MANAGEMENT ACCOUNTING: A CASE  
STUDY OF AN INTERNATIONAL JOINT VENTURE

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Dissertation

Master in Management

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Supervised by

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2018

## **ACKNOWLEDGEMENTS**

First of all, I would like to thank Professor João Oliveira for all the guidance, availability and motivation during this year. He consistently allowed this paper to be my own work, always guiding me in the right direction. I am grateful for the opportunity to work with such an inspiring and dedicated person.

I also want to thank my mother, my brother and my uncles for supporting me throughout this journey. Their positive attitude towards my success helped me to remain motivated and confident about my work.

My deepest thanks to all the staff of the companies in which this research was undertaken, whose continuous support was crucial for the conclusion of the present dissertation. In particular, I would like to express my gratitude to the Corporate Controlling department.

Finally, I want to thank all my friends for the support and conversations that definitely made this year a lot easier.

## **ABSTRACT**

International joint ventures have been of interest to many researchers for a long time, especially because it is considered an important issue when it comes to the internationalization strategy of many companies. However, their shared ownership gives rise to new challenges, including with regard to its management accounting and control. The purpose of this research is to describe and have an in-depth understanding on how and why an industrial company changed its cost structure shortly after becoming an International Joint Venture. This research focuses on understanding how that need for change emerged, the key factors that affected the change process and the implementation of the change process itself. The change process is analysed using the management accounting change model originally created by Innes and Mitchell (1990) and further developed by Cobb *et al.* (1995) and Kasurinen (2002). Evidence suggests that the reason behind the need for management accounting change was associated with the creation of the Joint Venture, mainly for benchmarking purposes. Further, several key factors that directly influenced the cost accounting change were identified: first, the change was negatively affected by the existence of other priorities; and second, different criteria used in the plants by each plant controller also hindered the change process. Despite this, change was usually well accepted at the corporate level and that facilitated the implementation of the change process.

A refined model is suggested for investigating change processes, in which three aspects are introduced to the existing change model. It helps to analyse change with additional focus on the organisational context of the company; on the role of the leaders; and on ramifications of the change.

### **Keywords:**

Management Control; Management Accounting Change; Cost Accounting; Cost Benchmarking; Joint Venture.

## RESUMO

As Joint Ventures Internacionais têm suscitado grande interesse para muitos investigadores há muito tempo, especialmente porque são consideradas relevantes quando se trata da estratégia de internacionalização de muitas empresas. No entanto, a sua titularidade conjunta gera novos desafios, inclusivamente no que diz respeito à sua contabilidade e controlo de gestão. O objetivo desta pesquisa é descrever e ter uma compreensão profunda sobre como e porquê que uma empresa industrial mudou a sua estrutura de custos imediatamente após se tornar uma Joint Venture Internacional. Esta pesquisa foca-se em compreender como surgiu a necessidade de mudança, os principais fatores que afetaram o processo de mudança e a implementação do próprio processo de mudança. O processo de mudança é analisado usando o modelo de mudança da contabilidade de gestão originalmente criado por Innes e Mitchell (1990) e desenvolvido por Cobb et al. (1995) e Kasurinen (2002). Evidências sugerem que a razão por trás da necessidade de mudança na contabilidade de gestão estava associada à criação da Joint Venture, particularmente para fazer benchmarking. Além disso, vários fatores-chave que influenciaram diretamente a mudança na contabilização de custos foram identificados: primeiro, a mudança foi negativamente afetada pela existência de outras prioridades; e segundo, diferentes critérios usados por cada controlador de cada fábrica também atrasaram o processo de mudança. Ainda assim, as mudanças geralmente eram bem aceites a nível corporativo e facilitavam a implementação do processo de mudança.

### **Palavras-Chave:**

Controlo de Gestão; Mudança no Controlo de Gestão; Contabilidade de Custos; *Benchmarking* de Custos; *Joint Venture*.

## **LIST OF ABBREVIATIONS**

**CCC** – Corporate Controller Chief

**CD** – Controlling Director

**CFO** – Chief Financial Officer

**ERP** – Enterprise Resource Planning

**HFM** – Hyperion Financial Management

**IJV** – International Joint Venture

**IT** – Information Technology

**JV** – Joint Venture

**MA** – Management Accounting

**MAC** – Management Accounting Change

**MTO** – Make to Order

**MTS** – Make to Stock

**P&L** – Profit and Loss

**SAP** – Systems, Applications & Products

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## 1. INTRODUCTION

In the recent years, International Joint Ventures (IJV) have become very common among several industries (Meer-Kooistra and Kamminga, 2007), not only due to the technological change but also because of the increased importance of globalization. It is gaining position as an important phenomenon of corporate strategy since it helps firms to access new markets, knowledge, capabilities and resources (Beamish and Lupton, 2009). But as Barkema *et al.* (1997, p. 426) once stated, “Successful international joint ventures entail both learning to operate across national boundaries and learning to cooperate”, which highlights the challenge that companies face to design and sustain a compatible and consistent business plan that fits both partners. These different partners, whose interests are typically not totally aligned, must manage cooperatively their “shared” subsidiary, and this may pose a problem to management control (Kamminga *et al.*, 2006).

On one hand, some investigation has been done covering the topic of management control on Joint Ventures, mainly reflecting the importance that it has over the IJV. Considering a dynamic point of view, Meer-Kooistra and Kamminga (2010) tried to understand the patterns of management control in a Joint Venture (JV) relationship, stating that with the support of personnel resources – the representatives on the board of the directors –, parents not only contribute with their personal knowledge and experience to the JV, but also influence the decision-making within the relationship. Using a meta-analytic approach, Xiaoyu *et al.* (2014) investigated the main factors that influence management control in IJV’s, concluding that higher resource contribution and equity share, tends to lead to a higher management control from parent firms. Despite this, there is still plenty of research to do about the process of change in management accounting at an organizational level, since current studies “lack explanatory detail on the manner in which these changes have occurred within their particular organizational contexts” (Innes and Mitchell, 1990, p. 3).

On the other hand, many studies published in scholarly journals paid attention to the importance that cost accounting has on companies’ strategy, namely: emphasizing the manager’s need to measure costs right in order not to distort product costs (Cooper and Kaplan, 1988); evaluating the perception of the cost system used by several companies (Hughes and Gjerde, 2003); and analysing the influence of cost accounting change on manufacturing firms’ performance (Laitinen and Erkki, 2014).

However, although many management accounting studies were conducted in organizational settings, considering JV contexts or not, there has been little research on how cost accounting

differences may be highlighted and pushed to change by the creation of a new alliance (Burns and Scapens, 2000; Innes and Mitchell, 1990; Ribeiro and Scapens, 2006). Burns and Scapens (2000) confirms this idea by arguing that little attention has been given to understand how those new management accounting systems have occurred or failed to occur through time. Change in management accounting is a domain of great opportunity for development, particularly for exploring and understanding why and how change has occurred within a particular company within a period of time (Ribeiro and Scapens, 2006; Innes et al., 1990; Kasurinen, 2002; Dello, 2018).

Therefore, this research provides an in-depth insight into the change of cost accounting that emerged from the creation of a partnership, including the most important factors of influence and the challenges throughout the implementation process.

To support these views, consider the following case study that portrays the recent partnership between a multinational company based in Portugal, that produces homogeneous and undifferentiated products (identified as S Alpha), and a foreign company, that is one of the largest suppliers of the same products in the world (identified as S Beta), creating a new company (identified by the fictitious acronym 'SA' to preserve anonymity). And as this company is carrying out an ongoing change project to switch its cost reporting structure in order to meet its partner needs, I consider the choice of this particular company, in which I have worked in the Management Control Department during the period of the study, as very pertinent. Moreover, being this company part of a wider group and having a significant presence in the world, it is a great opportunity to make contributions to management accounting change literature: first, this study considers the partnership as the factor of origin of management accounting change; second, it identifies behavioural and contextual factors that influence the cost accounting method; and third, it addresses several limitations in the current field of study and proposes alternatives to overcome those limitations.

As a consequence of the global presence of the companies involved, the need to search for the best practices across industries to improve performance and face international competition was strengthened by this new alliance; however, the lack of a common cost accounting methodology in both partners hindered the benchmarking initiative. Therefore, the need for changing the cost accounting method in the IJV rose as it was considered a key element for the comparability of performance and costs of the benchmarking project. And since management accounting research on benchmarking has been limited (Elnathan et al.,

1996), I consider the present study as a good example, mainly since Elnathan and Kim (1995) argued that an increasing number of firms are participating more and more in cooperative benchmarking due to the competition in today's changing business. Elnathan and Kim (1995) also pay a particular attention to cooperative benchmarking, where firms choose to share information about their operations in order to identify and learn from the best practices.

This investigation will then study the project to develop and implement a new model of cost classification, highlighting the key cost concepts and systems involved. The first stage of the project will consist on shifting the cost concepts from variable and fixed costs to direct and indirect costs as the representative cost structure used in the IJV, followed by a pilot project made in one of the Portuguese company's plant in order to test the new cost structure. If the pilot project is successful, the implementation of the new structure will be made in the remaining plants.

Therefore, as a summary, the present case study aims to describe and have an in-depth understanding on how and why the adopted cost structure in an industrial company was changed after this company became a Joint Venture, and it is guided by the following research questions:

- a. Why did a change in cost concepts used in an IJV emerge?
- b. What key factors influenced the change process?
- c. How was the change process implemented?

Section 2 provides a literature review that starts by introducing some concepts and views of management accounting change, followed by a general explanation of production concepts, cost terms, cost allocation models and a brief review on cost benchmarking concepts.

## 2. LITERATURE REVIEW

Management Accounting Change has been a subject of attention from both academic and professional literature mainly because it is a fundamental issue that begs for further understanding (Burns and Vaivio, 2001; Ribeiro and Scapens, 2006; Dello, 2018). Therefore, several definitions and points of view from several authors concerning this issue will be explored on the present case study.

Then, several cost concepts and allocation methods will be revised for a better understanding of the transition of the costing system that will be the crucial topic of this case study.

Lastly, a background on cost benchmarking in general will be presented, highlighting its perceived benefits and exploring the process of implementation.

### 2.1. Management Accounting Change

On the dynamic business environment that we live in, it's crucial to understand the incentives that drive companies to change their management accounting systems, particularly to adopt different cost accounting techniques or structures. There is a number of recent studies regarding the theory of management accounting and organizational change (Burns and Scapens, 2000; Burns and Vaivio, 2001; Innes and Mitchell, 1990; Ribeiro and Scapens, 2006; Kasurinen, T., 2002; Dello, 2018) and several case studies have been developed in order to investigate management accounting change on companies (Wnuk-Pel, 2010a; Major, 2012); Waweru *et al.*, 2004; Kasurinen, T., 2002)

A conceptualization of management accounting change must be done in order to explore the complex and ongoing relationship between institutions and actions in shaping the process of Management Accounting Change (MAC) (Burns and Scapens, 2000). Burns and Vaivio (2001) defined three perspectives on management accounting change: (1) the epistemological change viewed as an “illusion of the observer” where normative claims of change should be distinguished from change as an empirical phenomenon; (2) change as a “managed and formal organizational event or process” (p. 394); and (3) change considering a “centrally driven effort” (p. 395), where managers recognize the need to change, organize and plan the change for secondary agents to assist and implement. Moreover, in studying both Management Accounting (MA) change and organizational behaviour, it is essential to acknowledge the role of power: explicit power at a first level – hierarchical power or strong individual personality; ceremonial use of organizational routines at a second level; and

embedded power of institutionalized routines that shape the actions and opinions of the employees (Burns and Scapens, 2000). In Burns and Scapens, (2000, pp. 591)'s opinion, "power mobilization essentially provides the energy and momentum necessary for implementing accounting change", in which particular interests are often pursued. However, Burns and Scapens (2000) also state that such change requires agents to fully understand the purpose of the new accounting method, otherwise a sustainable accounting change might be difficult to achieve.

Regarding the need for change, Burns and Scapens (2000) discussed several dichotomies to classify different types of change processes, among them: the (1) formal or informal change; and the (2) revolutionary or evolutionary change. A (1) formal change occurs when new rules are introduced through actions of an individual or a group with power, which may require new ways of thinking (Burns and Scapens, 2000). Contrary, Burns and Scapens (2000) describe the informal change as a process presented through resistance or anxiety that would probably lead to failure in the implementation process. Resistance to change is defined by Ionescu *et al.* (2014) as a normal human reaction to the uncertainty that any change can bring with it, highlighting the need to debate and discuss about the importance of the change that is going to be implemented. The resistance could be related to competing interests, lack of ability to adapt to such change or resistance due to "mental faithfulness" to existing routines and institutions (Burns and Scapens, 2000). Burns and Scapens (2000) also highlighted the difficulty in predicting the effects of this sources of resistance and that will depend mostly on the institutions of that particular organization.

This distinction between formal and informal change is equally related to the distinction between unintentional or intentional change: the first term is used when change is not specifically directed, contrary to the last term that obviously illustrates anticipated changes that results from the planned introduction of new accounting changes (Burns and Scapens, 2000). In practice, Burns and Scapens (2000) stated that these new rules are expected to follow a top-down approach, impacting directly the technical aspects of MA systems; while bottom-up approach will probably have an impact at a tacit level.

MA change can also be seen as (2) revolutionary – when involves a radical disturbance to the current routines and institutions – and evolutionary – when the change is incremental and has little influence on prevailing routines and institutions (Burns and Scapens, 2000). Here, managers must take into account that "it is possible for apparently quite minor management accounting change to have major institutional consequences, while what appears a rather

more significant management accounting change may have only a limited impact on existing routines and institutions” (Burns and Scapens, 2000, p. 20). As noted earlier, there is always the problem of resistance to change when existing routines are challenged, but that does not necessarily mean that “such change is inevitably doomed to failure” (Burns and Scapens, 2000, p. 17). Instead, the particular context of the organizations and its institutional setting should be carefully explored, examining in-depth the current rules, institutions and routines and also analyse the potential conflicts and challenges that can emerge from the change process (Burns and Scapens, 2000). However, it is not always easy to predict the outcome of the planned change (Burns and Scapens, 2000), mainly since change factors will not only depend on the industry but also on the existing management accounting practices across the organizations (Schwarze *et al.*, 2007).

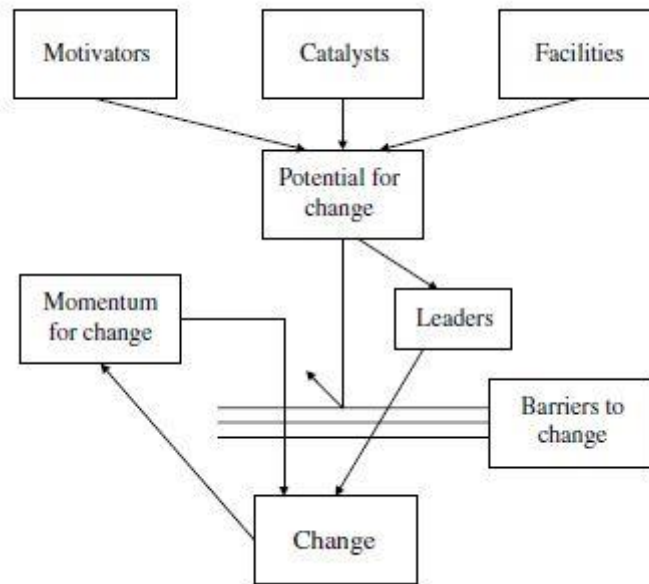
On one hand, understanding the circumstances that lead to the process of change in MA is relevant for this particular case study. Innes and Mitchell (1990) identified a range of factors that influenced MA change, including: (1) Competitive and dynamic market environment, (2) Organizational structure, (3) Production technology, (4) Product cost structure, (5) Management influence and (6) Deteriorating financial performance. The case study presented by Wnuk-Pel (2010a) is an example of a change that emerged as a necessity for a reliable cost calculation and product profitability, since managers showed a great dissatisfaction towards the information provided by the cost accounting system. Similarly, Schwarze *et al.* (2007) indicated executive board pressure as a strong driver for change, as they were seeking more accurate information on profitability reports. A case study conducted by Major (2012) highlighted the pressure from the industry regulator as determinant for the change: the company was obliged to implement an appropriate cost accounting system that would fit the regulators’ demands. By studying four cases, Waweru *et al.* (2004) also supported the view that both external and internal pressures on a particular organization can affect management accounting change, highlighting rough competition and technology development as the key drivers.

In the case study to be presented on this research, management influence from one of the partners is clearly the factor that pushed the change process. According to Ionescu *et al.* (2014), managers have five roles during the change process: communicate the information about the change; actively support the implementation of the change; train employees; work with them; and manage the possible resistance to change that may arise. Top managers must



always demonstrate their commitment to the change process (Ionescu *et al.*, 2014; Schwarze *et al.*, 2007), otherwise change may be doomed to failure.

On the other hand, analysing “how these factors combine and interact to provide the ‘real world’ circumstances which result in practical developments occurring in management control” is also important (Innes and Mitchell, 1990, p. 3). As a result, an accounting change model was developed emphasizing the internal influencing factors of the change process, highlighting the importance of individuals (Innes and Mitchell, 1990; Cobb *et al.*, 1995; Kasurinen, 2002). Innes and Mitchell (1990) divided the originating factors into 3 categories, based on the nature and the time of their influence on change. *Motivators* were associated with change in a general way and examples of these would be the increased competition and the rate of product innovation. *Catalysts* were directly related to the change and could be represented by the poor financial performance, the loss of market share or the launch of a new product. Finally, *Facilitators* were considered necessary but not sufficient for the change to happen, having as example the availability of adequate accounting staff and computing resources as well as the authority given to accounting function. Later, Cobb *et al.* (1995) argued that Innes and Mitchell (1990)’s model not only ignored barriers that could affect change but was also weak in explaining the process of change within the organization and in particular, the influence of individuals. Cobb *et al.* (1995) considered the role of individuals as catalysts and *leaders* crucial to the change process, and consequently decided to develop the accounting change model by emphasizing the role of individuals as *leaders* in change. The developed model by Cobb *et al.* (1995) is presented in Figure 1 and includes the *barriers* of change as being factors hindering, delaying and preventing the change; and the expectation of continuing change as *momentum*.



**Figure 1. Accounting Change Model**  
*Source: Cobb et al. (1995, p.173).*

Schwarze *et al.* (2007) confirmed some of these assumptions presented by Cobb *et al.* (1995) by identifying leaders as a key element for overcoming the barriers to MAC and the impact of board expectations as catalysts. Furthermore, the same author also confirmed the impact of information systems (IT) in MAC similarly described by Cobb *et al.* (1995).

But barriers to change can also be represented in other manners. For example, the lack of resources to support change is a common problem in several case studies (Wnuk-Pel, 2010a; Waweru *et al.*, 2004). Similarly, the barriers identified by Wnuk-Pel (2010a) were linked to the large amount of human resources required to implement and maintain the Activity Based Costing (ABC) and the existence of other priorities. Wnuk-Pel (2010a) also highlighted the negative attitude that organizational culture had towards change and insufficient knowledge of managers as a negative factor affecting the implementation. Another example by Waweru *et al.* (2004) blamed management inertia, shortage of technology facilities and lack of skilled accountants for creating resistance to management accounting change.

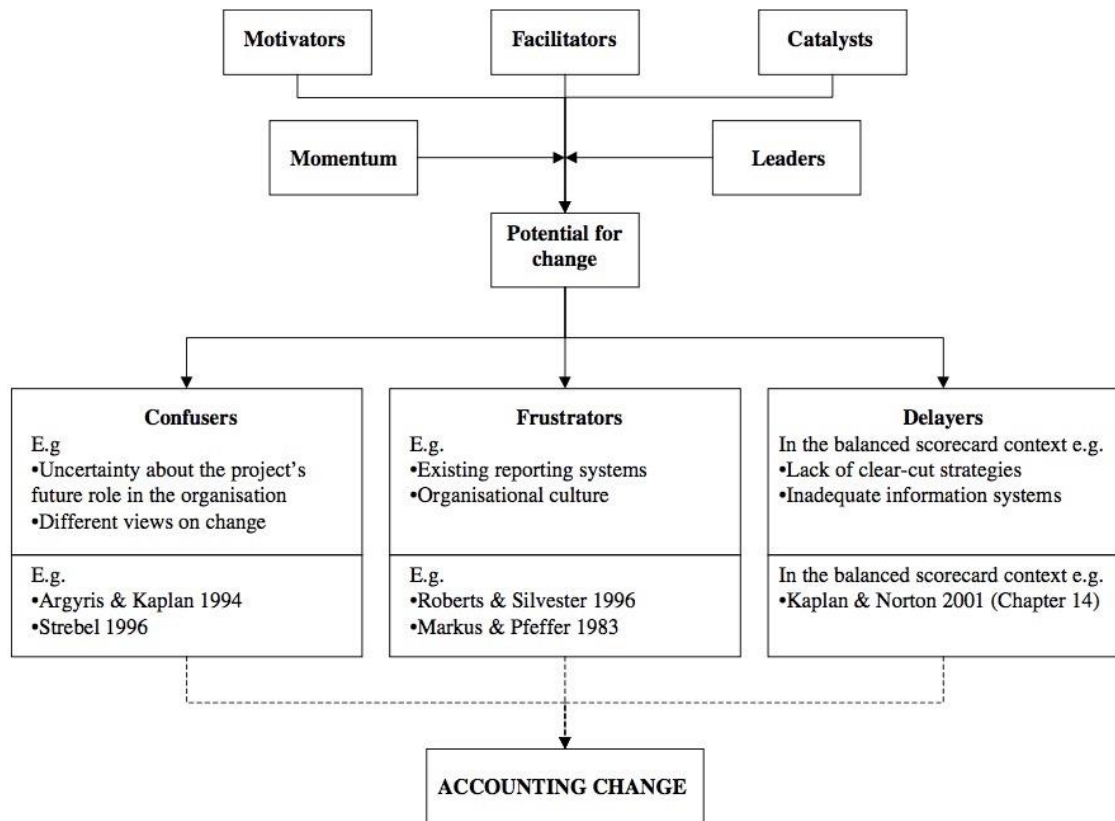
The 'organizational culture' term mentioned by Wnuk-Pel (2010a) was perceived as a means to conceptualize management accounting change (Burns and Scapens, 2000). Contrary to the popular literature, Hofstede *et al.* (1990) argued that daily practices were at the core of the organizational culture and that those practices were shaped by the values of both the founders and the key leaders. But whether organizational culture is based in shared practices or not, the important assumption is that organizational culture change is possible when

management is committed towards new practices (Hofstede et al., 1990). Burns and Scapens (2000) agreed with this view, and also argued that organizational change as difficult but not impossible.

As a matter of fact, organizational culture influences the success of management accounting changes (Oliveira and Drury, 2006), and thus should be accompanied closely at an institutional level (Burns and Scapens, 2000).

Following the objective to further develop the accounting change model of Cobb *et al.*, Kasurinen (2002) worked on expanding the specifications of the several barriers to change which may hinder the process of change. The same author argued that the model of Cobb *et al.* failed to define the different sort of existing barriers, by generally aggregating all in only one category. In line with his longitudinal case study based on the implementation of a balanced scorecard in a Finnish group, Kasurinen (2002) enhanced the model of Cobb *et al.* with three new subcategories (see figure 2): *Confusers*; *Frustrators*; and *Delayers*.

The *Confusers*, as the name suggests, are barriers that confuse and disrupt the change implementation process. For example, when individuals question the validity of the change project or have different goals towards the accomplishment of the change. The *Frustrators*, on the contrary, are represented by the factors that consciously tend to suppress the change. Kasurinen (2002) exemplifies this element with the existence of a solid engineering culture where operational measures had more importance than the strategy. Lastly, the third element suggested by Kasurinen (2002) is categorized as *Delayers*. This type of factors is usually interconnected with the changing project itself, as they require proper resources – in the case study presented by the same author, the balanced scorecard was the delayer of the project since it required changes to the information system for accurate data collection (Kasurinen, 2002).



**Figure 2. Revised Accounting Change Model.**  
*Source: Kasurinen (2002, p. 338).*

As stated before, these three subcategories were developed in order to help on the analysis and explanation of the barriers of change, to possibly detect and avoid potential concerns even during the change process (Kasurinen, 2002). Because, contrary to the accounting change model of Cobb *et al.* (1995) that focused on explaining change after its occurrence, Kasurinen (2002) pointed out more advantages in applying the change model during the planning phase of the change process – the organization could take corrective actions every time it identified advancing and delaying features.

Change is an issue that is still begs for further research, both theoretical and empirical (Burns and Vaivio, 2001; Schwarze *et al.*, 2007; Kasurinen, 2002; Dello, 2018; Pimentel and Major, 2009). This paper attempts to make some contribution in this area by describing a real-life example of a company that has recently been subjected to change in the management accounting department.

## **2.2. Fundamental Concepts about Production**

Since production and production processes are closely related with product costing systems and concepts, it is essential to highlight some of the basic concepts on this matter.

As Baganha (1994b, p. 172) once stated, "In economic units of industrial production, (...), the calculation of costs arises in response to management needs, namely: decision-making, control and valuation of goods and/or services produced"<sup>1</sup>, which are crucial in the management of SA's business. The necessity of cost benchmarking across SA's multiple plants highlighted the importance of an adequate cost accounting method that is similar to other companies in the group; since production costs are one of the key costs of the company, particular attention should be paid to it.

The industrial production process includes not only materials, human actions (work and skills) and instruments (machines and tools powered by energy), but also agents, such as technology and the structured organization of the production unit, that nowadays play an important role in business (Baganha 1994a). This author defines the stages of the production process as the set of operations between two phases of the product elaboration.

Baganha (1994a) classifies each agent or class of agents involved in the productive process as productive factors. These factors may be considered as fixed or variable, and in accounting terms these correspond to fixed and variable costs, respectively. Baganha (1994) also distinguishes between uniform production - when an industrial unit manufactures a single product - and multiple production – when more than one product is manufactured; and between joint production – when in the same production cycle and same input lot there are multiple outputs - or disjoint production – when a single output is obtained. Finally, manufacturing regimes may be continuous or discontinuous, according to the need to suspend the production process of a product in order to produce others.

## **2.3. Fundamental Concepts about Costs**

A cost is usually defined by accountants as a resource sacrificed or foregone to accomplish a particular goal, and in general they are measured and expressed in monetary terms (Horngren *et al.*, 2011). In other words, there are two definitions for a cost: (1) “a sum of sacrifices

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<sup>1</sup> All translations from Baganha's articles are my own.

required for a particular goal”; and (2) “a sum of sacrifices incurred for a particular objective or caused by a particular event” (Baganha, 1995, p. 34).

When thinking of a cost, people usually want to know the cost of “something”, and this “something” is called a cost object, that is, anything for which a measurement of costs is desired (Horngren *et al.*, 2011). Based on Hansen and Mowen (2007) work, a cost object is any item such as a product, client, project, department or activity for which costs are measured and allocated.

For a firm to take a critical first step for achieving competitive advantage it has not only to identify the key costs but also to identify their cost drivers, which represent any factor that has a changing effect on the amount of the total cost. Importantly, taking the key cost drivers into consideration can contribute positively to the company’s success (Blocher *et al.*, 2012). Classifying those key costs is also important. “In general, the classification of costs depends on the classification of the charges that integrate them” (Baganha, 1995, p. 38). In this author’s view, if there is a direct and immediate causal link between the charge and the cost object, the charge is direct; otherwise, the charge is indirect. However, if we take into consideration the relationship between the amount of charges and the production, costs might be distinguished as variable – when the amount varies with the level of production - or fixed – when the amount is independent of the volume of the actual production (Baganha 1995). According to Horngren *et al.*, (2011, p. 30), “identifying a cost as variable or fixed provides valuable information for making many management decisions and is an important input when evaluating performance”.

As asserted by Hansen and Mowen (2007), there are three methods of assigning costs to cost objects: direct tracing, driver tracing and allocation. The first method, direct tracing, relies on physically observable and exclusive causal relationships. The second method, driver tracing, relies on causal factors (or drivers) to assign costs to cost objects. The third method, allocation, consists in assigning indirect costs to cost objects based on convenience, when tracing is not possible or not economically feasible. But some costs do not have a significant importance to be allocated individually, and so they are pooled together on a cost pool to be subsequently allocated (Horngren *et al.*, 2011). Horngren *et al.* (2011) concluded that a cost pool is a group of individual costs that are allocated to cost objects using a single cost driver, which means that all costs in the same cost pool are supposed to be caused by the same cost driver.

The first two (direct tracing and driver tracing) are more accurate since they are based on cause-effect relationships; therefore, allocation should be avoided whenever possible, since it tends to assign costs arbitrarily (Hansen *et al.* 2007).

Hansen *et al.* (2007, p. 34) specified that “assigning costs to products, services, customers and other objects of managerial interest is one of the principal objectives of a management accounting information system”. However, while an accurate cost assignment is important, companies should consider the reasonableness and logic of the cost assignment method, since “it’s better to be approximately correct than precisely inaccurate” (p. 36), meaning that trade-offs between accuracy and simplicity are often required.

Hornngren *et al.* (2011) also indicated additional factors that can affect the classification of costs as direct or indirect, including: the materiality of the cost, the availability of the information; and the design of the operations. The first considers that the higher the amount of a cost, the more important it is to accurately assign that cost to a specific cost object; the second one highlights that the development of information technology and systems is crucial to help classify more costs as direct costs; and finally it is said that the way the manufacturing process is established could facilitate the classification of a cost as a direct cost (for example, if the entire manufacturing process of a product is carried out by a single and exclusive production line, rather than that process being scattered across multiple production lines manufacturing other products).

Hornngren *et al.* (2011, p. 30) also warn about the fact that “a specific cost might be both a direct cost of one object and an indirect cost of another cost object” (see also Baganha, 1995), that is, the classification as direct/indirect cost is dependent on the choice of the cost object.

## **2.4. Costing Methods**

After explaining the main cost concepts and their managerial importance, the next step is to choose between two alternative costing methods for the calculation of the product’s unit cost – Variable Costing and Absorption Costing (Hornngren *et al.* 2011).

Full costing or Absorption Costing is explained by Lanen *et al.* (2011, p. 57) as fully absorbing the variable and fixed costs of manufacturing a product – direct materials, direct labour, and overheads; contrary to the Variable Costing that separates variable and fixed costs, and where “only variable manufacturing costs are product costs” and all others costs are recognized as

period costs. Blocher *et al.* (2012) positions Absorption Costing as being the conventional costing system since it is required by financial reporting standards.

Hornigren *et al.* (2011, p. 309) considers absorption cost is not only a required inventory method for external reporting in a large number of countries but it is also very useful for managers to use as “a common method of inventory costing for both external and internal reporting and performance evaluation”.

## 2.5. Cost Allocation Methods

The allocation concept is “the process of accumulating, classifying and assigning direct materials, direct labor and plant overheads to products, services or projects (Blocher *et al.* (2012, p. 91). Therefore, Blocher *et al.* (2012) define three steps for a firm to develop its particular costing system: (1) choose the cost accumulation method – Job Costing, Process Costing or Operation Costing; (2) choose the cost measurement method – Actual, Normal or Standard Costing; and (3) choose the overhead assignment method – Volume-based or Activity-based.

For the first step, about cost accumulation, Lanen *et al.* (2011) state that there are two costing methods to determine the unit cost of the products: Job Costing and Process Costing. The first traces costs and revenues to an individual unit (e.g.: jobs, contracts or batches of goods), contrary to the latter that does not separate or trace costs for each unit. Examples from Hansen and Mowen (2007) can give us more insight of this difference: in a nutritional supplements company, each formula would be using different amounts of materials, labour and equipment, making it essential from a management point of view to collect costs by job; Process Costing is usually used by large manufacturing plants (such as chemical, food and tire manufacturers) as all of them have similar products that pass through identical set of processes.

Many companies use a hybrid costing system, combining Job and Process costing, called Operation Costing, when they produce goods through similar processes but with different materials usage. Nissan is a good example since it produces different cars and trucks models on a unique assembly line in one of its plants (Lanen *et al.*, 2011). So, the product costing system differs from company to company according to the production process. **Figure 3** below summarizes the types of production flows and the costing systems related to each one of them.



<b>Production flow</b>	<b>Job Shop</b>	<b>Batch Production</b>	<b>Continuous flow processing</b>
<b>Type of product</b>	Customized product	Different batches of products, but homogenous within a batch	Homogeneous product
<b>Product costing system</b>	<b>Job costing</b>	<b>Operation costing</b>	<b>Process costing</b>

**Figure 3. Production Flows and Costing systems.**  
*Source: Adapted from Lanen et al. (2011, p. 212).*

Overall, “the choice of a particular system depends on the nature of the industry and the product or service, the firm’s strategy and management information needs, and the costs and benefits of acquiring, designing, modifying, and operating a particular system” (Blocher *et al.* 2012, p. 91).

The second step, about cost measurement, is to determine if the measurement of the cost is their actual, normal or standard amount, as summarized in **Figure 4** (Blocher *et al.*, 2012).

<b>Costing System</b>	<b>Types of Costs Used For</b>		
	Direct Materials	Direct Labor	Plant Overhead
Actual Costing	Actual Cost	Actual Cost	Actual Cost
Normal Costing	Actual Cost	Actual Cost	Estimated overhead cost
Standard costing	Standard Cost	Standard Cost	Standard Cost

**Figure 4. Cost Systems.**  
*Source: Adapted from Blocker et al. (2012, p. 92)*

According to Lanen *et al.* (2011), a standard cost system considers budgets (standards) for labour and direct materials, and a pre-determined overhead rate estimated according to the budgeted overhead and budgeted volumes for the allocation base. Therefore, this system uses standard costs for the manufacturing costs – direct materials, direct labor and plant overhead. On the contrary, the actual costing system uses actual costs for these manufacturing costs (Blocher *et al.*, 2012). Finally, according to Hansen and Mowen (2007), in the normal costing system the actual costs of direct materials and direct labour are assigned to products, while overhead costs are assigned to products using a pre-determined rate.

The third step, as described by Blocher *et al.* (2012), consists on deciding how to assign overheads, if it is based on a volume-based or activity-based system. Blocher *et al.* (2012) designate the volume-based product costing system as the one that uses a volume-based cost driver to allocate overheads to products or jobs. However, it is also stated that this system relies greatly on the hypothesis that each product indeed uses the same amount of overhead. Therefore, Lanen *et al.* (2011) highlights that this assumption may not hold, causing a big disadvantage of this system of potentially distorted costs, particularly in situations of a large number of products with low volume.

Lanen *et al.* (2011) describes Activity-based Costing as a “two-stage product costing method” since it first traces costs to activities and then to products (using the consumption of activities used by each product). Hansen and Mowen (2007) support this definition, and emphasize the fact that ABC costing system uses direct and driver tracing, exploiting cause-and-effect relationships, as much as possible.

## **2.6. Cost Benchmarking**

Product costing is useful for various purposes, including cost benchmarking. “The essence of benchmarking is the process of identifying the highest standards of excellence for products, services, or processes, and then making the improvements necessary to reach those standards, commonly called ‘best practices’” (Elmuti and Kathawala, 1997, p. 229).

Based on Elmuti and Kathawala (1997) work, there are four types of benchmarking: (1) internal benchmarking, (2) competitive benchmarking, (3) industry benchmarking and (4) process benchmarking. The first type (1) is used to determine the internal performance standards of the firm, and has the benefit of transferring the best internal procedures to other parts of the organization. The second (2) is implemented to compare companies that are in the same markets and sell competing products or services. The third type (3) is used to compare results across diverse industry leaders and processes in common functional areas. Lastly, the fourth type (4) focuses mainly on the best procedures and functions of a company that could be or not from the same market.

Before starting a benchmarking process, an organization must choose which activities or functions it is going to benchmark (Elnathan and Kim, 1995). In the present case study, the focus will be in the internal benchmarking, since the case company wants to compare product costs from all of its plants located in Portugal and in other countries. As their production facilities have become geographically dispersed, it is likely that information on best practices

is not shared between the units (Southard and Parente, 2007). Hence, internal benchmarking can be an important tool to identify these practices and strengthen the competitive advantage of the company (Southard and Parente, 2007).

### 3. METODOLOGY

#### 3.1. Case Study Methodology

The present study was developed with the purpose of describing and understanding how and why after a manufacturing company became a JV it changed its cost structure from being primarily based on the distinction between variable costs and fixed costs to being primarily based on the distinction between direct and indirect costs. To achieve my objective, a case study was developed considering only one multinational company that is part of a wider group and has been successfully adapting to the constant changing environment of the recent years. Hence, the case study will follow both explanatory and descriptive research models since theory will be useful to provide some explanations of the observed practices that will be described in the study (Scapens, 2004, Yin, 2014). Yin (2014, p. 5) also argues that “even a single-case study can often be used to pursue an explanatory, and not merely exploratory (or descriptive) purpose”.

The choice about the approach used in the current research was specifically related with both the subject to be explored and the need to adjust the research strategy to the object of the study. By using a qualitative method, as it was possible to establish a more personal contact with the participants, trying to more closely understand their behaviour, experiences and decisions.

According to Yin (2014), a case study research can rely on many techniques including direct observation, interviews and a full variety of evidence documents. Indeed, a mix of research techniques seem the most appropriate when the research questions are focused on “how” and “why” questions. Therefore, to develop the present case study, three interviews were conducted with top and mid-level management and the information on internal documents concerning this issue was carefully analysed.

Furthermore, as part of the management accounting change team, I attended several meetings to address emerging needs. Table 1 summarizes these meetings, specifying the individual(s) involved, the subject discussed and both the date and the duration of the reunion.

Meetings						
	Date	Department/ Function	Subject	From	To	Time
1	28/12/2017	Corporate Controller	Alignment of the project: decision to first make a pilot test for one plant.	17:00	17:30	30 min

2	02/01/2018	Corporate Controller	Pilot Test (extract the information needed to build the new structure manually).	17:00	19:00	120 min
3	24/01/2018	Corporate Controller	Pilot Test (Assignment of direct/indirect costs to products).	14:00	14:40	40 min
4	24/01/2018	Corporate Controller	Pilot Test (Maintenance costs division in 3 groups – rise of some problems).	16:30	18:00	90 min
5	29/01/2018	Corporate Controller	Pilot Test (Allocation of maintenance costs to products).	17:00	18:00	60 min
6	08/02/2018	Corporate Controller	Pilot Test (Allocation of Fixed Costs to Products and division into more categories).	15:00	16:15	75 min
7	20/02/2018	Corporate Controller and Corporate Controller Chief	Follow up of the Pilot Test and presentation to the Corporate Controller Chief.	14:00	15:00	60 min
8	1/03/2018	Monthly Meeting with S Beta (Corporate Controller and Corporate Controller Chief)	Presentation of the Pilot test to S Beta's management accounting team.	14:00	15:30	90 min
9	02/04/2018	Monthly Meeting with S Beta (IT, Corporate Controller Chief)	S Beta presents its costing structure, both in terms of concepts and IT system.	14:30	16:45	135 min
10	03/04/2018	Corporate Controllers and IT team	Presentation of the new concepts and structure to the IT team.	10:00	12:00	60 min
11	27/04/2018	Corporate Controllers and IT team	The IT team presents their proposal for the implementation of the new structure in the system.	16:00	17:30	90 min
12	17/05/2018	Meeting with Plant Controllers, Corporate Controllers and Commercial Controllers	Workshop for all Controllers: discuss master data definition, cost allocation keys, manual adjustments and other problems.	9:00	18:00	480 min
13	15/05/2018	Meeting with Corporate Controller	Reorganize the Pilot Test file in order to automatically replicate for all the others plants.	15:55	17:30	95 min
14	19/06/2018	Corporate Controller	Replicate the Pilot Test for all the plants.	9:00	18:00	480 min
15	20/06/2018	Corporate Controller	Replicate the Pilot Test for all the plants.	9:00	18:00	480 min
16	01/07/2018	Corporate Controller	Replicate the Pilot Test for all the plants.	9:00	18:00	480 min
17	12/08/2018	Corporate Controller	Finish the pilot test for all the plants.	9:00	18:00	480 min

**Table 1. Summary of the Meetings at SA.**

Additionally, qualitative information – documents – was also collected in order to better understand the transition process of the cost structure. To begin with, information about the initial cost structure was collected and then the details about the cost structure proposal and implementation in one of the plants was registered. The objective was to understand and analyse the influences that took place, in particular the role of having become a JV and of the actors involved in the process.

### **3.2. Steps and Techniques for Collecting Information**

The main steps in this case study research included preparation, collecting evidence, assessing actions' outcomes and finally identifying and explaining patterns (Scapens 2004).

The preparation phase comprised the literature review that was presented in the previous section, in which it not only explained several important concepts, but also presented the research questions that are going to be addressed.

The second phase consisted in collecting evidence, mainly through documentation, direct observation, interviews and artefacts. The documents for analysis were provided by top management, which included financial reports and formal presentations from both companies – SA and S Beta. Moreover, free access to cost reports and cost information included in the Administrative Support System, SAP, was also allowed. Moreover, being part of the team responsible for the cost structure changing project, gave me complete access to the materials used in the present research. The team that worked actively in the changing process included the Controlling Director, the Corporate Controller Chief, a Corporate Controller employee and myself as a controller intern. The project took place between December 2017 and August 2018.

Direct observation, interviews and surveys were carried out mostly in the corporate sector, with the planning and controlling teams which were directly related to the cost structure changing project. Observing actions and attending meetings were an important source of evidence for the present research, mainly since I followed the implementation process that was taking place in the company with multiple meetings with several departments (including IT and the controlling team). I took notes following a coherent order and manner for subsequent analysis and reflection as recommended by Scapens (2004). A main objective was to analyse the empirical insight to evaluate the outcome of the actions along actors, a crucial step in attaining the overall research objective.

All the interviews were semi-structured, meaning that I had a broad framework for the questioning that was discussed with different people, always allowing sufficient flexibility to explore some of the issues more in depth and follow up the answers that were given by each one of the interviewees (Scapens, 2004). It should be recognized, however, that most interviews were short, as interviewees were all pressured to meet deadlines, preventing me from developing some topics in greater depth.

## 4. THE CASE STUDY

### 4.1. Introduction and Company Overview

Founded almost 60 years ago in Portugal, S Alpha was established as a small industrial company known internationally by producing simple and relatively homogeneous and undifferentiated products. The company has production facilities in several countries across the globe, but its head offices are based in Portugal. S Alpha continuously expanded its activities throughout the years by making several national and international acquisitions, pursuing the strategy to have majority or absolute control over the acquired companies. In 2016, S Alpha had approximately 2800 employees.

Recently, S Alpha established a partnership with S Beta, one of the largest world players in this market, giving rise to SA, a 50/50% joint venture.

S Beta was founded approximately 50 years ago in South America and it is today an international benchmark in terms of industrial plants, efficiency, production standards and innovation. Over the years, the company took substantial steps towards the globalization of its operations, becoming one of the largest five players in the world. Employing approximately 13,000 people, S Beta has production facilities in many countries in America. The SA joint venture emerged in a context of S Alpha's restructuring process that began a few years before, aiming to create value for the stakeholders of both companies. The main goal of this partnership is that SA becomes more competitive in the European and South Africa markets, embrace new challenges and diversify geographically in relevant markets.

However, the joint venture includes only several industrial units in Europe and South Africa, leaving out the activities that S Alpha still has in another continent - one of the most profitable units in the group – and some plants in Europe. The reason is that it is a different segment of production that S Beta does not have experience with, and so S Alpha's were left out of the alliance. Some other plants, with relatively low size, were also excluded from the partnership. The headquarters of SA and of the remaining S Alpha are located in the same site, although in separate parts of the site, with each company having dedicated staff and infrastructures, although some structures such as the shared service centre, the IT and the human resources department are shared between the two companies.

The market in which these companies operate is currently having a great demand all over the world. Despite the economic downfall in Europe of 2008 that made S Alpha to shut down some of its plants, there has been an economic recovery in the region which is positively



affecting the market. Developing countries have been creating potential market opportunities during the last few years that is particularly benefiting the industry in which SA and S Beta are included.

SA is taking advantage of the sustainability trend that has gained importance over the years. The company is committed to the concept of sustainable utilization of raw materials and also the investment in sustainable buildings. The industry is optimistic about the future and predicts good business opportunities in all geographical markets.

Several individuals from S Beta were assigned to management positions and to the board of directors of SA, including the Controlling Director, who had a crucial position in the change studied in this research. Having more people from SA working at S Beta, and also the other way around, is the goal for the new few years, as the Controlling Director informed.

According to the Controlling Director, both companies organized monthly meetings with the executive committee, in order to analyse the results and for benchmarking purposes. He also added that there were several visits to plants that were not previously scheduled, but gave both companies the opportunity to discuss standardization and process improvement opportunities.

#### **4.2. Production Process in SA**

S Alpha produces several types of its basic product and respective components adapted to the customer needs, differing in a wide range of physical properties and dimensions. Given the diversity and the location of each plant, there are some differences in the production process of the same type of product – particularly regarding different input quantities or different customer demands. However, different types of machines and technology can also affect the production process of the same product. This occurs not only since some plants are newer than others but also due to the implementation of improvement processes in only some of the plants.

The production process of SA is characterized by being a combination between Make To Order (MTO) and Make To Stock (MTS). According to Baganha (1994a), the manufacturing process can be distinguished between continuous – when the company does not interrupt the manufacturing process to produce another product - or discontinuous – when the process is actually interrupted to produce a different product. Particularly in SA, it is possible to say that it is a mix of both processes since it produces both products to the warehouse to be sold later and products upon customer ordering with technical characteristics.

The company first receives the customer order with the specifications and registers the order in SAP<sup>2</sup> distinguishing if the order is MTO – when the customer makes an order with particular conditions – or MTS – when the order meets the specifications of the products that the company usually produces in mass. SA strategically has finished products in stock to be more flexible and reactive to the unpredictability of the demand of its customers. If SA does not have the product available in the stock, a production order is sent to the plant planner who will gather all the orders and organize them according to the specifications. He is the one who decides when the materials will be produced and when they will be sent to the customer. There is always the other possibility that this product has never been produced before in SA and in these particular cases each plant controller has to create a technical product sheet in SAP. In this way, SAP will automatically create the needs of the product, such as the input quantities and the processes involved in the production.

The production process itself follows a linear structure, which means that all the operations are organized in a chronological order, forming a single sequence of manufacturing operations (Baganha, 1994a). And by having a variety of operations on the same sequence, it is possible to describe it as a complex production process with phase-segmentation (Baganha, 1994a). Between those phases, there are some stages where the product must rest in order to freshen, in which the only agent of production is simply time (Baganha, 1994a).

#### **4.3. Cost Accounting Practices in SA**

The main principle that underlies the current classification of costs in SA is between fixed and variable cost basis. As stated above, Baganha (1995) describes a cost as variable when its amount varies with the level of actual production; and fixed when the amount does not depend on the volume of the actual production. SA does not consider at a high level of the cost structure, a distinction between direct and indirect costs for cost classification, but the objective of the management accounting change discussed in the present case study is to implement this classification until the end of the current year, 2018.

SA uses the absorption costing system to expense all costs related to the manufacturing of each particular product, including direct materials, direct labour and both variable and fixed

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<sup>2</sup> Systems, Applications and Products in data processing (SAP) is the software that incorporates the key business functions of the organization.

overheads. In this method, a portion of fixed manufacturing overhead cost is allocated to each product unit, along with the variable manufacturing costs (Noreen *et al.*, 2007).

SA's product units are considered identical since they have some characteristics that are common and others that have additional individual characteristics – for example, two different products initially have identical production processes but then are finished using distinct procedures or characteristics. Those different products use different sets of materials but go through some of the same work stations. Because of this, it is possible to define the cost allocation method of SA as being Operation Costing – different batches, many of which are used to meet customized production orders.

The cost control practice of SA follows the standard cost approach, which means that cost elements are allocated based on an estimated overhead rate. Hence, the cost of goods sold reflects the standard costs of the product instead of the actual costs of the period. But in order to reduce the variance between the standard and the actual costs, the plant controllers are responsible for periodically updating the standard costs to bring them closer to the actual costs, usually on a monthly basis.

The cost allocation process is made in SA's ERP<sup>3</sup>, SAP. This functionality allows the company to calculate the standard costs and, based on this, value inventory stocks and material movements.

In SA, the costs of every department involved have to be linked with its respective cost object – a cost centre or an internal order. Then, the costs of certain sender's cost centres will be allocated proportionally to receiver's cost centres.

SAP's cost allocation method includes two processes: distribution of primary cost elements and assessment of secondary cost elements. Primary cost elements are the expenses that result from the consumption of production factors purchased from external parties and secondary cost elements are used to identify internal cost flows.

Therefore, in the allocation process, the amount is allocated from sender's cost objects to several receiver's cost objects based on an overhead rate defined by controllers. In order to do so, the IT team has to establish relationships between sender and receiver's cost objects, as well as its cost allocation percentage. For example, the building rent included in the cost

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<sup>3</sup> SAP ERP is the enterprise resource planning (it is an extension of SAP). Includes several business processes as Operations, Financials, Human Capital Management and Corporate Services.

centre of structure costs<sup>4</sup> (sender's cost centre) needs to be allocated to several departments, such as Logistics, Warehouse or Quality (receiving cost centres).

After the execution of the distribution cycle carried out in the period end closing, explained above, internal SAP cost allocation must be performed. In this process, costs can be manually transferred from one cost centre into another – Plant controllers can make simple adjustments of incorrect allocations directly in SAP.

After plant controllers and the reporting team perform closing tasks in SAP – sales, stocks, accounts receivables, accounts payable and cash & banking closing – month end cycles are completed and the data is ready to be integrated in Hyperion Financial Management (HFM). HFM is an information system for financial management and reporting consolidation. The system allows controllers to quickly consolidate and report financial results while meeting global regulatory requirements<sup>5</sup>.

Then, controllers must validate the information integrated in HFM by analysing the Profit and Loss accounts (P&L) per plant and per product line. If necessary, plant controllers are able to make some adjustments to the P&L – that are labelled as journals – that must be approved by corporate controllers. Afterwards, the P&L is also validated by country controllers and the financial manager, in this order.

Once all validations are completed, the corporate controllers download the information for an excel file and send it to the CFO that will locally report the legal company P&L and the Balance Sheet.

Although the SAP cost allocation process is the same for every plant, there are differences between plants. First, some plant controllers update the standard product cost every month and the others update it quarterly, which suggests no homogeneity in the procedure.

Differences on cost allocation among plants do not end up here. The change on the cost accounting method highlighted some important procedures that were not done homogeneously in every plant. First, there was no common method for creating cost centre groups in SA, which means that every plant controller had the power to generate a cost centre if he considered to need it. A cost centre group comprises several cost centres organized according to organizational divisions and/or functional viewpoints – for example, the Direct

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<sup>4</sup> Expenses that do not suffer a change of value in case of increase or decrease of production – for example, equipment and building rent; cleaning costs; security and surveillance.

<sup>5</sup> See oracle's official website for more detail ([www.oracle.com/applications/performance-management/products/financial-close-reporting/hyperion-financial-management/index.html](http://www.oracle.com/applications/performance-management/products/financial-close-reporting/hyperion-financial-management/index.html)).

Sales Cost group of SA contains all costs related to transportation (air, road, rail and sea), commissions and specialized work (see Appendix IV). This problem is at the origin of the second one: almost every plant had a few cost centres that were not directly linked to the product, which inevitably created differences in cost allocation among plants as plant controllers had to correct it manually in HFM. Most of them used a fixed percentage of sales or production to allocate those costs; some of them used a predetermined overhead rate (Hour\*Hour Rate per Production Line); and only a few were using statistical key figures – for example, some of the plants have electricity meters in each production line, and so they distribute total electricity costs based on the proportion of kilowatt hour (kWh) consumption. This topic will be discussed further in the barriers of change section.

#### **4.4. Cost Reporting**

SA prepares an “Industrial Volume, consumptions and Cost sheet” for each product, in each plant, for a particular period of time. This sheet includes the total sales volume for that period; the product “specific consumption” (what Baganha (1995, p. 37) called “technological cost”) and unit costs of various variable inputs (raw materials and energy sources); the direct material and direct expenses related to the manufacturing costs; direct labour; plant overhead; and the cost of production (see figure 5 below). This information is updated on a monthly basis and distributed to managers during the two weeks after the end of each month.

## INDUSTRIAL COSTS

### Product A, Factory X

		Month'17
<b>Cost Component - Total Plant</b>		
<b>Sales Volumes (m3)</b>		
Product Z		<b>31.654</b>
<b>Specific Consumption</b>		
Material A (m3/m3)		1,46
Material A (Dry Ton/m3)		0,63
Material B (kg/m3)		80,30
Material C (kWh/m3)		0,00
Material D (kWh/m3)		187,57
Material E (kWh/m3)		118,72
<b>Cost Per Unit</b>		
Material A (€/m3)		28,90
Material A (€/Dry Ton)		67,34
Material B (€/kg)		0,37
Material C (€/mWh)		
Material D (€ /mWh)		14,17
Material E (€ /mWh)		43,46
<b>Variable Costs (€ / m3)</b>		
Total Material A		42,12
Total Material B		30,02
Total Material C & Material D		2,66
Total Material E		5,16
Total Material F		0,48
Total Maintenance + IMC		5,79
Other Variable Costs		0,56
<b>Total Variable Costs</b>		<b>86,79</b>
<b>Fixed Costs (€ / m3)</b>		
Total Personnel		11,02
Total Overheads		2,29
Corporate Fees		4,69
<b>Total Fixed Costs</b>		<b>18,00</b>
Total Depreciation (€ / m3)		7,63
Total Provisions (€ / m3)		0,00
<b>Manufacturing Cost (€ / m3)</b>		<b>112,42</b>

Figure 5. Old Industrial Production, Consumption and Cost sheet at SA.

Variable Costs integrates the cost of raw materials (from Materials A to F); the costs related to the indirect manufacturing maintenance (ordinary maintenance and planned major maintenance); the utility expenses related to the electricity, gas, fuels and water consumption; indirect depreciation; and other variable costs such as subcontractors or specialized work for waste treatment.

Fixed costs that comprises the costs related to the labour, goes from salaries to the costs related to travelling or services; the overheads and the corporate fees.

The remaining direct costs are usually represented by the Depreciations and the Provisions.

#### **4.5. Overview of the Current Cost System**

S Alpha has used the traditional full absorption costing system for decades, mostly because it was the common methodology used in Portugal, as the Corporate Controlling Chief argued. The Board was satisfied by the current product costing system, and so they thought there was no need to change it. However, there were some attempts by external consultants to implement time-driven ABC but that option was quickly abandoned as they understood the large amount of resources needed to implement the change. The Corporate Controller argued:

“In order to change to Time Driven ABC, it was necessary to reformulate everything, and the truth is that no one ever wanted to prioritize a change of model. In order to implement this change, a large amount of resources would be needed, both financial and human, and the final decision had to come from the Executive Committee. And they have other big projects.”

The same Controller added:

“It's all about selling the idea to the Executive Committee. We will not be able to convince them to change anything if we do not present to them any previous work. That is why we are implementing this structure manually in a rather rudimentary way. Because if we do not have anything in our hands, we cannot sell them our idea.”

There was a clear change in the mind-set of the corporate controllers and the IT team after the creation of the partnership. Both teams were cooperatively involved with S Beta in order to seek for opportunities to improve SA processes. Although S Beta's cost structure was very similar to SA – as it could be confirmed with more detail in the next section –, there were some differences that highlighted some chances for development at SA.

#### 4.6. Current Cost Accounting Structure in S Beta

Similarly to SA, S Beta also uses absorption costing as a costing method, so its manufacturing unit cost includes both variable and fixed costs. However, the cost control practice of S Beta follows the actual cost approach, and thus all the cost elements are allocated based on the costs incurred in the current period. Regarding inventories, these are valued based on the actual cost of the previous month, otherwise it would take longer to value the ending inventory with costs incurred on that month, since all actual costs must be allocated first.

S Beta uses direct and indirect classification to assign a particular cost to processes and products. The method starts by allocating all the direct costs associated with the processes the production orders and then to the products. These costs contain raw materials – the variable costs –, personnel expenses, direct maintenance, external services, industrial vehicles, energy and depreciations – all considered to be fixed costs. The variable costs are allocated based on production volume, while the fixed costs are assigned based on the machine hours.

Then, indirect costs are allocated to the production processes and subsequently to the products, comprising indirect maintenance, industrial relations<sup>6</sup>, indirect depreciation, planned maintenance and supervision. Allocation of indirect costs is based on various criteria: indirect maintenance of production and planned maintenance costs are allocated based on the often used criterion of labour hours; costs related to the materials are allocated based on the production volume; and other costs industrial relations are allocated using the number of full-time equivalents (FTEs).

S Beta's reporting product cost sheet for a particular period of time can be seen below in **Figure 6**. The company divides the direct costs into variable and fixed costs, and has an item that comprises all the indirect costs related to the production and the process.

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<sup>6</sup> Industrial Relations refers to all the expenses associated with Human Resources (Food, transportation and working clothes), Safety and Environment of the plant (it does not consider remunerations).



## INDUSTRIAL COSTS

Product A, Factory X

1 USD	EUR	0,89561
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Monthly Evolution Month'17			
Cost Component - Total Plant	COEF.	Price €	Cost €/m3
<b>Production Volumes (m3)</b>			
Product Z (m3)			12.452
<b>Variable Costs</b>			
Material A (Dry Ton)	0,576	57,82	33,33
<b>TOTAL Material B (Dry Ton)</b>	<b>0,576</b>	<b>57,82</b>	<b>33,33</b>
Material B a) (Kg)	83,606	0,55	45,98
Material B b) (Kg)	0,000	0,90	0,00
Material B c) (Kg)	2,658	1,80	4,79
Material B d) (Kg)	5,596	0,31	1,76
Material E (mWh)	0,221	110,70	24,42
Material F (US\$)	2,515	0,90	2,25
Material N (Jg)	0,000	0,90	0,00
Material O (uu)	0,000	0,90	0,00
Material P (US\$)	4,131	0,90	3,70
Material Q (US\$)	2,311	0,90	2,07
Material R (ton)	0,015	0,90	0,01
<b>Total Variable Cost (m3)</b>			<b>118,31</b>
<b>Fixed Costs (€)</b>			
Remunerations	9,073	0,90	8,13
External Service of Production	0,317	0,90	0,28
Other expenses - Personnel	1,068	0,90	0,96
Forklifts & Industrial Vehicles	4,900	0,90	4,39
Normal Maintenance	7,147	0,90	6,40
Planned Maintenance	4,983	0,90	4,46
Indirect Costs of Production	2,417	0,90	2,16
Fixed Asset Depreciation	7,131	0,90	6,39
<b>Total Fixed Cost (€)</b>			<b>33,17</b>
<b>Total Manufacturing Cost (€)</b>			<b>151,48</b>

Figure 6. Cost Reporting Sheet at S Beta.

The main difference when comparing to SA is the division between direct and indirect costs. S Beta gathers all the indirect costs of production into one item located in the fixed costs section: “Indirect Costs of Production”. S Beta also separates personnel costs (all considered as fixed costs) into three categories – Remunerations, External Services of Production and Other expenses of personnel. Contrary to SA, maintenance costs in S Beta are not allocated into a single group: instead, they are separated into planned maintenance, normal maintenance and another part, related to the areas of support to the production process (such as quality control, production supervision and general services), is assigned to the indirect costs of production.

#### **4.7. The New Cost Reporting System**

At the end of 2017, SA decided to change its cost accounting process in order to be able to compare its cost information with the new partner. Hence, a new model was designed including the same categories that were found in S Beta’s cost accounting structure (see **Figure 7**).

## INDUSTRIAL COSTS

### Product A, Factory X

Month'17	
<b>Cost Component - Total Plant</b>	
<b>Sales Volumes (m3)</b>	
Product Z	<b>31.654</b>
<b>Specific Consumption</b>	
Material A (m3/m3)	1,46
Material A (Dry Ton/m3)	0,63
Material B (kg/m3)	80,30
Material C (kWh/m3)	0,00
Material D (kWh/m3)	187,57
Material E (kWh/m3)	118,72
<b>Cost Per Unit</b>	
Material A (€/m3)	28,90
Material A (€/Dry Ton)	67,34
Material B (€/kg)	0,37
Material C (€/mWh)	
Material D (€ /mWh)	14,17
Material E (€ /mWh)	43,46
<b>Variable Costs (€ / m3)</b>	
Total Material A	42,12
Total Material B	30,02
Total Material C & Material D	2,66
Total Material E	5,16
Total Material F	0,48
Total Indirect Manufacturing Costs	1,49
<b>Total Variable Costs</b>	<b>81,93</b>
<b>Fixed Costs (€ / m3)</b>	
Remunerations	6,88
External Service of Production	0,42
Other expenses - Personnel	0,19
Forklifts & Industrial Vehicles	0,38
Maintenance (recurrent)	3,68
Maintenance (Planned/annual shutdown)	0,62
Total Indirect Manufacturing Costs	6,00
Total Depreciation	7,63
<b>Total Fixed Costs</b>	<b>25,80</b>
Corporate Fees (€ / m3)	4,69
<b>Manufacturing Cost (€ / m3)</b>	<b>112,42</b>

Figure 7. New Industrial Production, Consumption and Cost Sheet at SA.

The main changes occurred within three categories: (1) Maintenance, (2) Personnel and (3) Overheads.

Concerning the first group (1), SA used to classify all maintenance costs as variable and did not made any distinction between direct or indirect charges. With the new structure and similarly to S Beta's, SA divided maintenance costs between variable and fixed costs, and also into direct or indirect: the variable costs would only comprise indirect manufacturing costs and the others would be treated as fixed costs.

The indirect manufacturing costs included several charges supporting the production process such as sanding belts, lubricants & greases, cutting tools, combustible handling vehicles and any other indirect costs associated with the operation of the production lines. The planned maintenance comprised the costs of annual shutdown of the plant, such as repair or maintenance of machinery and equipment. And finally, the recurrent maintenance of SA was related with maintenance of spare parts (electronic and mechanical), tools, materials and maintenance services of machinery, vehicles and facilities.

Regarding the second group (2), SA included all costs of personnel in one only item: "Total Personnel" in the fixed costs section. S Beta suggested the division of these costs into four elements classified as fixed costs: remunerations, external service of production, other personnel expenses and indirect costs of production. The remunerations item would include costs related to salaries of all the internal employees, as well as their bonuses and holidays allowances. The external service of production integrated security related costs and external specialized work. The other costs evolving employees such as uniforms, canteen, training and many other related costs were incorporated in the other expenses item. And lastly, the indirect costs of production included a small part of the personnel costs that were related with the production support departments such as logistics, quality and general services.

The last item that has undergone a few changes was the overheads. SA concentrated all the overheads into one entry in the fixed costs: "Total Overheads". However, S Beta proposed to split into three categories; other expenses of personnel; Forklifts and industrial vehicles; and indirect costs of production. The new category "Other Expenses of Personnel", previously created to manage some of the other personnel costs, would comprise several overhead costs, such as business travel expenses (fuel, meals, vehicles, accommodation and others). The forklifts and industrial vehicles would include vehicle rental related costs. And ultimately, all those overhead indirect costs being office materials, communication expenses,

insurance, hardware equipment and many others would all be grouped and allocated to the total indirect manufacturing costs.

All the other categories remained unchanged.

Comparing the old structure with the new one, it is possible to observe that reported variable costs decreased (from 86,79€/m<sup>3</sup> to 81,93€/m<sup>3</sup>), mainly because of the maintenance costs. These costs were previously entirely considered as variable costs and with the new split, the variable costs item only includes the total indirect manufacturing costs. It is important to notice that S Beta did not have indirect manufacturing costs group as variable costs, but SA thought it was important and necessary to have them. This “resistance” to the imposition will be further analysed in the next section.

Consequently, fixed costs have increased (from 18,00€/m<sup>3</sup> to 25,80€/m<sup>3</sup>) due to the inclusion of both the planned and the recurrent maintenance, as well as the depreciations costs that were until then placed out of the fixed costs item.

## **5. ANALYSING MANAGEMENT ACCOUNTING CHANGE AT S ALPHA**

### **5.1. How the Need for Change Emerged**

In general terms, the development of the new product cost structure was tightly interconnected with the establishment of the new partnership. The very reason to change the cost accounting structure stemmed from S Beta's pressure to gather the information about SA's operations in order to analyse and perform internal benchmarking.

According to the Corporate Controller that worked actively in the change process, the product cost structure had never been questioned before the partnership. The pressure to change emerged after the alliance since the current cost accounting structure did not match the information needs of the management of S Beta that has now significant influence over SA. The Controlling Director argued that the new structure would help managers to make better decisions about the consumption and the planning of the available resources in each plant:

“(...) in business, you need to know how much direct operation is causing the company to lose money. That is, if I have all of my corporate costs, along with marketing costs, or all the other costs that are not necessarily tied to that production line, eventually I'm distorting my actual margin for that product or that product group that are producing on that line. So basically, the direct and indirect cost structure helps to show the reality of that product or group of products. Everything that is purely involved in production. And that is important, because otherwise we're including support costs for the business and sometimes it can cause the product to have negative margins. And eventually we would decide to give up producing that particular product, when in fact the costs of structure are the ones that are very heavy. And deep down, eliminating the product or the production line will not eliminate the heavy structural costs.”

The Controlling Director that came from S Beta was the key element in the change process. He was a dynamic individual, always seeking new opportunities for improvement and pursuing new ways to analyse the data. Besides, he often encouraged employees to rethink practices, the way things were done in SA, helping to evolve the culture. According to

Hofstede et al. (1990), and as mentioned earlier in section 2.1, the shared practices can actually shape organizational culture. “Founders’ and leaders’ values can become members’ practices” (Hofstede et al., 1990, p. 311), and in fact, the orientation of the Controlling Director towards new developments was placed at the core of the creation of change. Moreover, in the last years, a culture of change and innovation was created inside the company: The Corporate Controller Chief explained:

“I think there have been major changes over the past two years. It shook with the entrance of new people. And also with the reduction of business pressure. [due to S Beta’s cash investment in SA] (...) the day-to-day working environment is different than before in several situations.”

S Beta made a great contribution to the evolution of the organizational culture, as confirmed by the CCC:

“The entry of S Beta was decisive for all of this because it was the factor that took a lot of pressure out.” [The substantial reduction in the net debt of SA allowed the company to be more focused on generating value for customers and shareholders].

In fact, it appears like organizational culture is becoming gradually aligned with the new practices, even if it still requires managerial support to create the change at the institutional level (Burns and Scapens, 2000).

The Controlling Director had the power to enforce changes, including the one studied in this research. In this perspective, the cost accounting change can be perceived as a “centrally driven effort” since top management played a critical role in planning and organizing the process (Burns and Vaivio, 2001). New (costing) rules were introduced through hierarchical power of the new Controlling Director that came from S Beta, as he was the member who had control over the resources (Burns and Scapens, 2000). Therefore, the introduction of these new rules by the powerful director occurred as a formal and intentional change through a top-down approach (Burns and Scapens, 2000).

Notwithstanding this change imposition from S Beta, and having trust at the core of the relation between the two partners, SA agreed to change the cost structure. SA was willing to deploy resources in order to change its management cost accounting structure, mostly because the company perceived the alliance as trustworthy.

In fact, both companies were committed to transfer knowledge between them. It is argued that when companies are willing to exchange key personnel resources, the “partner interaction is characterized by a high level of trust, communication quality and perceived fairness in the resolution of conflicts” (Meier, 2011, p. 19). And even though both companies were competitors in the same industry, there was no pressure or concern on knowledge transfer. SA had no problem sharing the information about the manufacturing product cost of each plant. Moreover, having a Director that came from S Beta is a great demonstration of trust, even more when he had full access to financial and non-financial information of the firm.

He had full authority in the management control department, both in terms of resources disposal and establishment of priorities of work. However, the lack of resources (both human and financial) in the IT department was hindering his will to go faster and further. The Controlling Director was fully aware that the new cost reporting structure would require a “big project” in the IT system, as it would result in several complex changes in SAP. For this reason, he preferred to start by making a manual pilot test in Excel<sup>7</sup> for all the plants.

## **5.2. The Pilot Test**

The first step involved in the pilot test for a chosen plant was related to the accuracy of cost data. This phase was important to understand if costs were being correctly allocated in the corresponding cost centres. In order to do so, the Controlling team had a short meeting with the plant Controller of plant A to understand his way of work. This because, as previously mentioned, each plant was responsible for creating and maintaining its cost centres structure, which inevitably led to particularities that needed to be understood. One example resulted from having a wide range of costs allocated in a blank cost centre – with no name or connection to a certain product created. These costs with no association would immediately fall in the “structure costs” of the plant to be distributed by all products later. Given the

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<sup>7</sup> Microsoft Excel is a spreadsheet developed by Microsoft that provides the user with calculation tools, graphing tools, pivot tables, and a macro programming language (Visual Basic for Applications).



characteristics, the controlling team had to understand why things were done in this way in order to recreate it more accurately in the pilot test.

The next phase was related with the allocation of indirect costs. The first concern identified was that there was no general rule for all the plants for allocating those costs and that would probably make it harder to implement the new accounting method in the other plants.

For example, maintenance costs were being wrongly allocated together in a single cost centre, making it difficult to correctly divide those costs across products. Moreover, annual shutdown costs were also a problem since they were being allocated without distinction into different accounts, making it harder to distinguish from the regular maintenance costs. With the help of the plant controller, those costs were identified and manually adjusted in order to correct the problem. This situation worried the Corporate Controller, since it would make it harder to create a single method for all the plants for the execution of the pilot test. There was always the necessity to discuss with each plant controller the methods they used in the plants.

Implementing the new model for the first plant was time consuming and difficult mainly due to the reasons described earlier. There was a large amount of costs that were wrongly aggregated together in the same cost centre, requiring a manual adjustment by the controlling team responsible for the change process. And a substantial amount of time was also necessary to communicate with the plant controller in order to ensure the accuracy of those manual adjustments on product cost.

However, the Corporate Controller was concerned about the priority of the project. The pilot test for the first plant took one month to get ready, however, shortly after other critical situations came up, compromising the priority that was given to the project. The Corporate Controller argued that:

“There are a lot of new requests emerging, and we need to establish a priority for each one of them. We do not have time to work on all of them. This project requires some time, and if we continue to put other things first, the change process will never be finished.”

In fact, after the pilot test for the first plant, months gone by without extending the test to the other plants. There were other important projects that eliminated the priority of the cost accounting change. Corporate Controller affirmed:

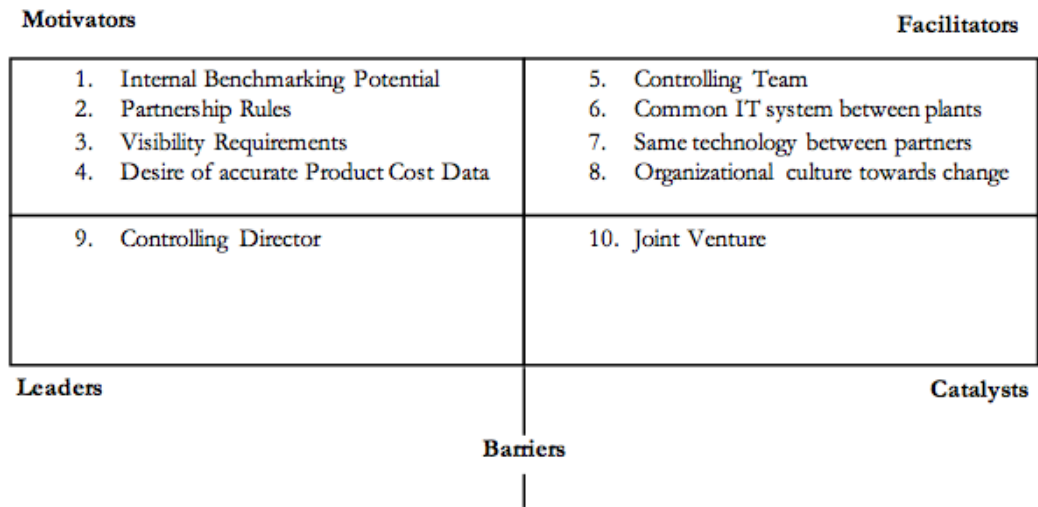
“This pilot test will only happen if they give us at least three days to work on that. But they come up with new work projects every week, and we have another problem: the budgeting process will start soon. With two people missing, we do not have time to work on every project.”

In fact, there was some critical situations coming up during the pilot test. Those barriers of change will be discussed below.

### 5.3. The Forces of Change

The analysis of the influencing forces in the current case study will be based on the accounting change model initially presented by Innes and Mitchell (1990) and further developed by Cobb et al. (1995) and Kasurinen (2002), explained in the section 2.1.

According to Innes and Mitchell (1990), the process of change can be divided into three driving factors based on their nature and timing: the *motivators* that were known to influence change in a general manner; the *facilitators* whose existence was not sufficient to lead to change but that were essential for change to occur; and the *catalysts* that were directly linked with the timing of change. Subsequently, Cobb et al. (1995) developed the original model by adding some features such as the *leaders* and the *barriers* of change: *leaders* are the key personalities to initiate the change process; and *barriers* represent the factors that directly can delay or prevent change. Later, Kasurinen (2002) enhanced the model of Cobb *et al.* with three new subcategories (*Confusers*; *Frustrators*; and *Delayers*) in order to help on the analysis and explanation of the barriers of change. **Figure 8** summarizes all the forces identified in SA’s management accounting change case study.



Confusers	Frustrators	Delayers
<ul style="list-style-type: none"> <li>▪ Plant Controllers;</li> </ul>	<ul style="list-style-type: none"> <li>▪ Differences in methods between plants;</li> <li>▪ Problems in IT financial system.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lack of resources (two corporate controllers left);</li> <li>▪ Amount of routine reporting and tasks;</li> <li>▪ Other priorities;</li> <li>▪ Controlling Director.</li> </ul>

Figure 8. Influencing Forces on SA Management Accounting Change.

### Motivators

As the main *motivator* of change, internal benchmarking (1) between the plants of both companies was seen as a significant tool to evaluate the manufacturing performance by identifying strengths, weaknesses and opportunities for improvement in the production facilities. For example, analysing at costs is one of the most important phases. During the interview with the Corporate Controller, when questioned about the most important costs to analyse within benchmarking, he argued:

“I think that all costs are important to analyse. With our current cost structure, we can already track the direct costs. It is importance for instance to analyse and compare with S Beta more in-depth the fixed costs, for example. (...) But I think it has to do more with having a global view of both companies.”

However, taking only cost benchmarking into consideration is not enough. There is also the possibility to compare the specific attributes of the products, production processes and even packaging. This could be significant if each one of the production facilities have differences, for instance, in the quantity of chemicals used or the sizes of the batches. One thing SA could do is identify which one is the best for its business and establish a quantitative baseline for all the plants, for example.

Additionally, examining the production process can also help to raise some problems regarding the efficiency of similar processes or machines that consume too much energy, which are factors that can negatively affect product costs.

The existence of partnership rules (2) was also considered a *motivator*. Meer-Kooistra and Kamminga (2010) argued that when partners work on building trust, they want to create a good atmosphere in which unexpected situations can be discussed. Meer-Kooistra and Kamminga (2010) also highlighted the importance of the contractual trust built under the partnership agreement, in which “communication and exchange of information via written reports are, for both parties, suitable instruments regarding the execution of the joint venture activities” (Meer-Kooistra and Kamminga, 2010). In fact, the two companies were actively working on creating a good relationship, both in terms of competency and cooperation. Differences in cultural backgrounds were seen as valuable for the two companies and it was expected that partners would become familiar with each other’s business operations throughout time (Meer-Kooistra and Kamminga, 2010). Monthly meetings and non-planned visits to the plants were part of the routine of both partners. They were willing to share information because they know it would benefit both of them.

Visibility Requirements (3) were also a motivating factor for management accounting change. Managers from SA wanted to be “side-to-side” with its partner, and they were fully aware that in order to reach that point, basic progresses should be done. In his interview, when questioned about future changing projects at SA, the Controlling Director assumed:

“I have learned a lot since I was here, but I also saw a lot of things that were much easier, faster and more virtual and that here in SA takes a lot of time and effort. (...) In SA, people are usually satisfied with knowing the total value of the variable costs but in S Beta people want to know where that number comes from.”

As a matter of fact, creating visibility for the new partner was an important issue of the managers of SA, since they wanted to make sure they were able to meet the minimum requirements of S Beta. And throughout time, SA noticed that they really had some issues that were falling behind its partner, whether it was related to decentralization of certain processes or the poor data analysis by the managers. The truth was that corporate controllers were warned about persistent errors of costing data in the system that happened on a monthly basis, hindering the initiative of looking at the results with more detail.

Consequently, the desire of accuracy cost information (4) was also a *motivator*. There was the need to standardize the rules of cost allocation between plants. Corporate Controllers usually had difficulties reporting product costs since there were some rules that were set locally in each plant, making it harder to compare between plants. For example, some of the plant controllers allocated certain costs into a single cost centre and corrected only at the end of the year.

Corporate Controller added in one of the meetings:

“In order to make the efficiency benchmarking analysis between products and plants we have to be able to automatically allocate the indirect costs to the product cost centres. To do so, it’s extremely necessary that all plant controllers have the same criteria for allocating costs to products. We have to end up with manual adjustments. We have to schedule a meeting with all plant controllers to standardize rules and clear the concepts of indirect costs and structure costs”.

An example of the differences between plants was related to the allocation criteria: the majority of plants allocated costs based on a fixed percentage (sales or production volume); some of them used a variable actual operational value (for example, Hour \* Hour Rate per Line); and a few used statistical key figures. And for efficiency benchmarking to be accurately made, a common criterion should be created for all the plants.

### **Facilitators**

The Corporate Controlling team (5) was supporting the financial measurement of the operations in each plant, and that can also be perceived as a *facilitator*. As the top-management pressure for new reports was increasing, the need for Controllers to measure performance and have more detailed information about the operations was also rising.

There was also the advantage of having the same information system (6) in all of the production facilities. By having a centralized cockpit for execution, control and maintenance, the accounting structure would be easier.

Moreover, both companies (SA and S Beta) used SAP as their business functional system (7) in their daily operation, which simplified the transfer of information between them and also the changing of the cost structure. Since both companies use the same system for product costing, it makes easier the implementation of changes of the cost structure inside the system. Furthermore, the existence of an organizational culture towards change (8) can also be viewed as a *facilitator*. According to the Corporate Controller, employees from SA usually have a positive attitude relating to change, both at the plant and corporate levels:

“It has also to do with the entrance of new people in the company. When there are more people working, especially new people, it is always easier to make changes. Difficulties arise when there are few people working and they work only in a certain way.”

In fact, this statement suggests that the organizational culture of the company was impacted by the arrival of new employees in recent years, a strong reason for the company to accept so well the changes that usually appear. By having the recruitment strategy strongly focusing on candidates that recently graduated, with no undesirable cultural values from other corporations, SA was able to shape their values to fit the culture of the company (Oliveira, 2001).

### **Leaders**

The Controlling Director that came from S Beta acted as a leader in the process of change. A top-down approach has been suggested as a suitable way to “give authority and credibility to the successful implementation of change” (Ionescu *et al.*, 2014, p. 294). According to the same author, the role of the Director in the change course implied five responsibilities: leaders were supposed to act as (1) communicators, (2) supporters, (3) trainers, (4) mediators and (5) managers of resistance.

The Director was actually excellent in what comes to communication: besides being charismatic, he was good in influencing employees to work on new projects, because he knew how those opportunities he was proposing would affect and benefit the company. Moreover,

he was an active supporter on this change, particularly since he was the only director that came from S Beta. He also acted as a trainer, since he was willing to participate in the implementation process: he joined some of the meetings with S Beta in order to ensure the success of the change. Those particular situations needed a mediator in order to provide information from one side to the other, and that was the role of the leader. Finally, he was always trying to figure out some sort of resistance behaviour from the employees, especially concerning plant controllers. That is why he participated in the meetings with plant controllers, in order to understand potential resistance and manage it.

### **Catalysts**

Finally, regarding the catalysts, the creation of the Joint Venture (10) was the factor directly associated with the management accounting change since it coincided with its timing. According to Rababa'h (2014), catalysts are the source of change in management accounting, and in this particular case, the creation of the joint venture originated the necessity for cost structure change. Specifically, the arrival of the Controlling Director from S Beta to SA was decisive to the emergency of the change process. He played a key role in SA's cost accounting change process as he was the only always making pressure to finish it.

### **Momentum**

As mentioned before, sufficient momentum is also required to create the potential for change (Cobb *et al.*, 1995). In SA's case, the *momentum* for change (that is related to the situations and factors that keep the project going further) was supported by the board of directors. The pressure from S Beta to have the cost information was crucial to accelerate the project.

## **5.4. Barriers of Change**

Following the analysis of the case study, Kasurinen (2002) developed the accounting change model of Cobb *et al.* (1995) by dividing barriers of change into three classes: *Confusers*; *Frustrators*; and *Delayers* (see **Table 2**).

Confusers	Frustrators	Delayers
<ul style="list-style-type: none"> <li>▪ Plant Controllers;</li> </ul>	<ul style="list-style-type: none"> <li>▪ Differences in methods between plants;</li> <li>▪ Problems in IT financial system.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Lack of resources (two corporate controllers left);</li> <li>▪ Amount of routine reporting and tasks;</li> <li>▪ Other priorities;</li> <li>▪ Controlling Director.</li> </ul>

**Table 2. Summary of Barriers to Change at SA.**

**Confusers**

The management accounting change project was launched following the request of the partner – S Beta. Corporate Controllers were the ones that were committed to the change process, rather than involving everyone, simply because it was easier. The Corporate Controller argued in one of the initial meetings:

“The project must start here at the corporate level. Because I am sure that if we asked each plant controller to make the pilot test for its own plant, they would all make their own assumptions and also deliver in different timings. So, it is better for us to make the test for all the plants.”

In fact, it seemed easier this way. However, the non-involvement of plant controllers in the change process, at least in a direct mode, created an uncertainty among them. They were aware of the initiative but they did not follow the process more in-depth – they did not know if the process was still running or how it would affect them in the future. It was unclear for them whether to consider the implementation of the standardization methods subsequent of this project as a priority or not.

**Delayers**

On the other hand, *Delayers* were also hindering the change process. During the pilot test, two corporate controllers left: one of them took a job opportunity in another company, while the other was at home on maternity leave. Even though they were not directly involved in the change process, their absence highly affected the project development. Their daily work had to be divided between the other four corporate controllers, which negatively affected the continuity of the pilot tests. Each one of the controllers had a lot of work assigned to



them, making it impossible to allocate several days for the project. The corporate controller who actively participated in the pilot test was overload with work, which made impossible to allocate some of his hours to the project. He was concerned about the future of the project, but he simply did not have the time with all the new things coming up.

Monthly and weekly reports could not be eliminated, and errors in the information system started to be recurrent. Therefore, projects to correct the faults of the system had higher priority than the cost accounting change, and so the progress stagnated. Therefore, the lack of employees to work on the project and the establishment of other priorities were considered barriers of this change process. Interconnected with this conclusion, I am able to say that even though the Controller Director acted as a leader, he was also a barrier of change at the same time, because he was the one creating new work requirements every week. In this case, even though he was the biggest supporter for the change to occur, he was also quite paradoxically the biggest opponent (Ionescu *et al.*, 2014). The Director was dynamic, always seeking new improvement opportunities. The problem was that he did not have sufficient individuals in their team to keep up with every new idea he had.

However, when asked about what possibly could be going wrong with this cost change, the Controlling Director revealed dissatisfaction towards the time the project was taking. Apparently, the cost report with the new structure should have been delivered in the year before and was postponed to the current year. He argued that:

“There is a lack of regular meetings with a project update. (...) There is a lack of effort from the management control team, I think.”

### **Frustrators**

And finally, *Frustrators* also played an important role in deterring change. The differences between plants already introduced in **section 4.3** were also a barrier in this project. This situation delayed the pilot test simply because the team had to manually standardize the methods used in all the plants in order to be able to benchmark properly. First, as presented earlier, there was no common technique for creating cost centre groups in SA, which means that the equivalent costs could not be allocated in the same group: for example, in one plant the cost of the individual that drives the forklift was allocated to the logistic department, and in another plant, it was allocated to the production cost centre.

Immediately connected with this problem, another one emerged: since almost every plant had several cost centres that were not directly associated to the product cost, each plant controller had to allocate those costs manually in the system, which unavoidably created differences among plants. In fact, as already mentioned, they had distinct criteria to allocate those costs: most of them used a fixed percentage of sales or production to allocate those costs; some of them used a variable real operational value (Hour\*Hour Rate per Production Line); and only a few were using statistical key figures.

One example from SA that demonstrates this issue is the cost of maintenance. There are times when spare parts are consumed and employees forget to register it in the system, and so the costs of those spare parts will be allocated in a general cost centre. Plant controllers will have to allocate those costs to products at the end of the period using their own criteria. In one of the meetings organized with plant controllers to align some of the criteria, they explained why they had to do some manual adjustments. Plant Controller A from one of the plants located in Spain said that:

“90% of the manual adjustments I make is because SAP does not allocate costs correctly in the proper cost centre.”

Plant Controller C from one of the plants based in Portugal agreed with the critical situation of the information system and also added that:

“For example, thermal energy and electric energy are not being allocated to the right cost centres. These costs are being allocated on the structure costs entity. Regarding the system errors described by Plant Controller A, I've already identified and notified the IT team of some of the errors of allocation I found.”

In fact, it seems that the information system, SAP, does not allocate some of the costs correctly. The IT employee directly involved in the change process explained:

“The problem lies when new cost centres are created and the accounting team does not ask us to allocate those cost centres to a group of accounts that will be considered to allocate costs to each product. And so, there are cost centres with no link that will be allocated in the structure costs group.”

She also added that:

“There is also the problem when new relationships between cost centres are created and are not included in the breakdown of costs because they do not tell us to do so. For example, when the marketing department uses some products as samples, the stock variation cost must be allocated somewhere. But when we establish the relationships, we do not remember all the possibilities like this. They must inform us.”

If plants do not deliver adequate data, the development of the information system will not be enough. Schwarze *et al.* (2007) highlighted the importance of appropriate data for the company to benefit from the technology.

Several barriers to change were distinguished in the present case study. Taking into consideration the advancing forces discussed in **Section 5.3**, it is reasonable to conclude that their impact is relatively low when compared to its barriers. It becomes obvious why the project is taking so long to accomplish, as the leader that should be pushing change to occur is always bringing new priorities when it is needed time to adjust some problems in the information system and also deeply evolve other important employees - plant controllers, for example – in the process.

### **5.5. Ramifications of the Original Change Process<sup>8</sup>**

Change “may breed more change, or indeed less change, as individuals experience the ramifications of the initial change” (Dello, 2018). In fact, the initial process of changing the cost structure at SA unlocked some other paths to change. Corporate Controllers were already aware of the inconsistencies in cost allocation between plants, but they only decided to make something about it after the decision to change the cost reporting structure. Nevertheless, the change of the cost structure directly in the information system also needed these aspects to be consistent, otherwise it would compromise the accuracy of the data. As stated earlier, for the system to properly allocate costs to products, those costs must be linked with its respective cost object. Thus, the main objectives within this requirement comprised

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<sup>8</sup> The original change process represents the cost reporting structure change that is at the core of the present case study.

the improvement of data quality in the system, the reduction of manual adjustments and the discussion of a new IT model for controlling and reporting. Hence, firstly, simplification and optimization of the data included in the information system was the first ramification of the original change process. Previously, the IT team had to create relationships between the sender's and the receiver's cost centres and also ensure their maintenance. With the new centralized cockpit created by the IT team, the execution and control of those relationships became independent from IT – now, every plant controller will be able to access his plant transactions in SAP and edit their own cost centre relationships, to make sure that any new cost centres are included in the cost allocation process. However, and importantly, this new structure was more transparent and easier for all, because it will not allow to proceed the integration of new relationships until all the information is automatically validated by the system. It represents the enactment, by the system, of rules embedded in the system, not by human actors (Oliveira and Quinn, 2015).

Secondly, the problem of decentralization of cost centres definition and maintenance was also identified during the original change process. This situation had been identified by controllers a long time ago, but it was only solved after the original change began. Before, there were no standard codification or maintenance rules for cost centre creation and control, as they were maintained by each plant controller. After this pilot test had highlighted the problems and disadvantages of this process, it was decided to centrally control the data definition – at the corporate level. Furthermore, S Beta was very surprised when we said, in one of the meetings, that our cost centres definition was controlled by each plant. So, I can assume that this problem was taken care of mainly because it was seen as a critical situation when compared to S Beta. By their reaction, both the Corporate Controllers and the IT team felt that they were falling behind their partner in critical tiny details, and so decided it was time to change it.

Thirdly, and finally, the original change also highlighted differences in the allocation criteria between plants, which would make internal benchmark unreliable. Subsequently, the IT team and the Corporate Controllers made a proposal to have new and rigid allocation criteria, transversal to all plants. Electricity costs would be the only cost allocated based on Kw/hour; Packaging costs, Merchandise Stock Variance and Direct Sales Costs would be allocated through sales volume; and all the other group of accounts would be allocated based on production volume, except for the financial costs, that are supposed to be excluded from the allocation process.

These three new adaptations instigated by the original change indicate that there were a variety of underlying issues required for the efficient implementation of the initial project. From the initial change project, several other ramifications of change emerged as a consequence.

## 6. REASSESSING THE MANAGEMENT ACCOUNTING CHANGE MODEL

The present case study attempted to apply the accounting change model originally created by Innes and Mitchell (1990) and further developed by Cobb *et al.* (1995) and Kasurinen (2002). The usage of this framework to analyse the management accounting change at SA highlighted a few limitations of the framework in the context of this particular case, and therefore, a reassessment of the framework will be presented in the current section.

### 6.1. Explaining the Gaps of the Framework

Despite being a relatively old model, the Innes and Mitchell (1990)'s framework further developed by Cobb *et al.* (1995) and Kasurinen (2002) still arouses interest in the study of management accounting change (Dello, 2018). Indeed, the framework proved valuable in the study of the cost accounting change at SA. Throughout this investigation it was possible to identify the forces of change; the leaders; the momentum of change; and also the three categories of barriers of change.

Some assumptions presented by Cobb *et al.* (1995) were similar to the conclusions of the present case study, namely the importance of leaders in overcoming barriers to change. The Controlling Director played a key role in influencing the team involved in the process of the cost accounting structure change. Furthermore, this study also confirms the impact of IT in management accounting change, particularly with regard to data quality and information system support. When the system does not keep up with the change process, it actually delays the process of management accounting change. Additionally, the lack of resources supporting change – both human and computing resources – was found to be an important factor hindering the management accounting change.

But some other contributions to the model can be recognised. Instead of simply explaining *why* change occurred, Llewellyn (1993), cited by Dello (2018), argued that the framework fails to explain *how* the change is addressed. To this extent, Dello (2018) tried to address the *how* question by focusing on the reaction and actions of individuals involved in the process of change, specifically the organisational participants and its leaders. Similarly, the present case study also focused on understanding how people affected change in the cost accounting structure: both regarding the influence of the Controlling Director and the other controllers

(the corporate controllers that were directly involved in the change process and the plant controllers that were not directly involved).

This case study also confirms the Pimentel and Major (2009)'s conclusion on the ambiguity in the classification of the three different barriers presented by Kasurinen (2002). In fact, several barriers can be simultaneously classified into more than one category: for example, the differences in the methods between plants or the problems in the IT financial system, earlier identified as *frustrators*, can also be categorized as *delayers* as they actually hinder the change process.

Furthermore, the model appears limited as it does not consider the impact of the stakeholders in the change project, and only takes into account the entities and individuals. In cases where stakeholders are the underlying source of the management accounting change, the framework may be overlooking this element.

The framework is also limited at giving visibility to the individuals involved in the change process, especially in situations when they are the ones with greater influence in the management accounting change. Individuals are the ones capable of creating barriers to change and to overcome them, and so their actions need to be carefully analysed. In particular, as the leaders of change play a key role in the success of the change process, a closer attention should be given to their intentions and actions.

Given this, the next section presents the changes to the original accounting change model with more detail.

## **6.2. Revised Accounting Change Model**

Following the gaps previously explained, **Figure 9** demonstrates the proposed changes to the original accounting change model<sup>9</sup>, comprising three new additions:

- 1) Organizational Context**
- 2) Three Forces of Leaders**
- 3) Ramifications of Change**

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<sup>9</sup> The original model refers to the accounting change model initially presented by Innes and Mitchell (1990) and further developed by Cobb et al. (1995) and Kasurinen (2002).

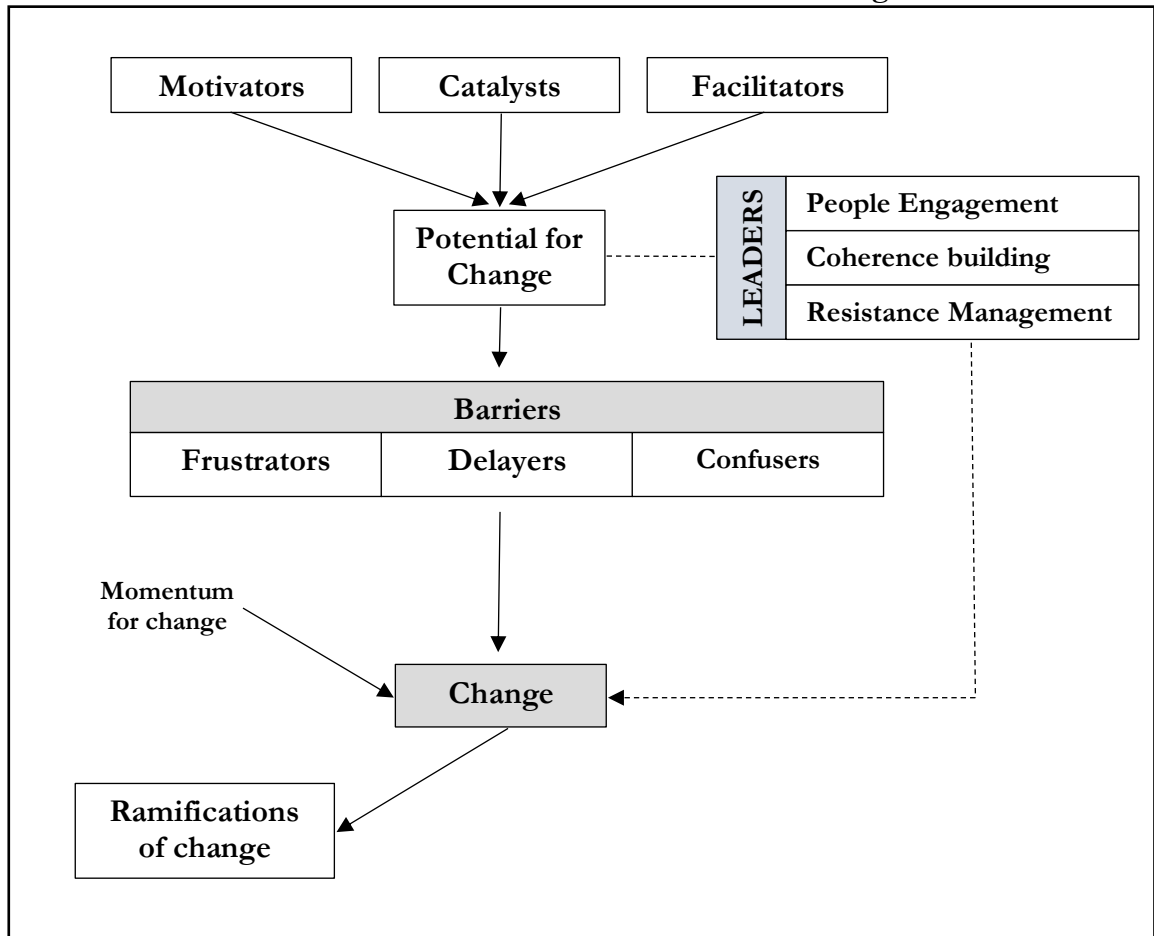


Figure 9. Proposed Management Accounting Change Model.

### 6.2.1. Organizational Context

Understanding the organizational context of the group in which management accounting change is taking place is crucial for the analysis of change, mainly because it can be directly involved with the creation of that particular need. For example, in SA's case, the need for cost accounting change emerged after the creation of the joint venture, which suggests that the organizational context played an important role in creating and supporting change. The decision to change was motivated by the partner, S Beta, whose influence over SA was significant and mostly due to S Beta's capital investment on SA.

So, the main goal of this new category of the model is to analyse the environment in which the change is taking place: its internal structure; the organizational culture; its external stakeholders and partners; and the external environment at large. Each of those items are developed next.

First, it is important to understand how the organization is structured: how the tasks are allocated, coordinated and supervised inside the company. In SA's case, the structure is based



on hierarchical levels, in a top-down approach, in which procedures and routines are decided by the management. However, individuals also get the opportunity to participate in some of the decision-making processes.

The organizational culture is also important to analyse, mainly for the researcher to understand the values and behaviours of the organizational members. Particularly in a context of change, it is crucial to recognize how individuals act towards change: Are employees open-minded to new change processes? Or do they hinder new change efforts? Is the culture a suitable one for applying new rules? For example, in SA's case there was clearly a mix of both cultures: the individuals at the corporate level were more willing to accept change processes than the individuals that worked at the plant level. And as the management accounting change was initiated, developed and driven by corporate level staff, and although plant controllers were also affected, their involvement in the process ensured that they became aligned with the process.

Taking stakeholders into consideration is also important when studying a change process, particularly if they are vital participants. In situations where a stakeholder is not only an observer but also an influencer of the change process, the issue cannot be left out of the analysis. For example, the creation of SA was the key element for the initiation of the change process. The purpose of this analysis is to realize the influence that stakeholders have on the organization and also on the change process: Are stakeholders' interests aligned with the change process? Do they have any positive or negative influence on it? Do they have the power to influence change? Are they supportive towards change?

Lastly, the external environment may also be a key element on the analysis of management accounting change, as it can be pushing change to happen. Fortunately for SA, the industry in which the company is included is currently benefiting from a high demand all over the world, and consequently there is no higher pressure for cutting costs, enabling projects such as the one analysed in this research, which require substantial resources. On the other hand, in cases where this factor is not so favourable, market conditions could possibly affect management accounting change as it would request for an accurate product cost estimation for decision making purposes. And like economic conditions, competition and consumer trends are also factors to take into account in this category. The main purpose for this element in the framework is for the researcher to understand how it can affect management accounting change: Is the company well positioned when compared to its competitors, in terms of low cost or differentiation strategy? Will it require a change in cost accounting? Are

customers willing to spend the money the company is asking for its products? Are customers valuing the company's investment on sustainability? Because, as the business environment is continuously changing, organizations must always be questioning their management accounting practices and understand if they are properly aligned with the environment.

### **6.2.2. Three Forces of Leaders**

As mentioned earlier, leadership is one of the key factors of the change process and consequently, more attention must be paid to those who create the need and initiate and lead the management accounting change. It is crucial to understand how leaders drive management accounting change and also to distinguish the mechanisms they use to engage individuals around them.

Therefore, it is proposed that the original model comprises three separate levels inside the *Leaders* element:

- a) People Engagement**
- b) Coherence Building**
- c) Resistance Management**

**People Engagement** represents the effort of leaders in promoting a culture of change among employees. Individuals are sensitive to change pressures, and they are also the ones capable of both overcoming and creating barriers. In SA's case, the decision of the leader to join up all plant controllers and corporate controllers during two consecutive days to discuss some key concepts and align criteria was very important. They felt engaged and satisfied for having their opinion recognized by the company. Moreover, corporate controllers directly involved in the change process felt more confident in applying changes to the cost structure, simply because those changes were previously accepted by all controllers. The main objective of this new element in the framework is to better understand the role of leaders in supporting, communicating with and engaging employees towards change. Is the leader being successful in engaging people towards change? Is he/she promoting a culture of change? Is he/she also creating barriers to change while promoting change? (As this case clearly illustrated). Are employees aware of the benefits of that particular change? These questions must be addressed in order to better understand the leaders' role towards change.

**Coherence Building**, previously studied by Fullan (2001), involves the alignment and the capacity of the leader to be clear about the big picture. More precisely, it is about creating coherence that enables individuals to focus more deeply on the strategy, as it involves prioritizing and focusing on the plan. This because leadership can be difficult when a culture of change is in disequilibrium, and it seemed like SA's situation was one of those cases. New changes were continuously required, and there was no clear alignment of priorities. By solving these problems, the project would probably have more chances of being ready at the planned time.

The objective of this new element of the framework is to deeply understand the degree of alignment and prioritization established by the leader of change. Is the leader establishing clear priorities among change projects? Is he focused on the change process? Does he try to keep employees focused on the change process?

**Resistance Management** is when leaders understand that the implementation of change can have diverse effects, including adverse ones, on individuals: they may lack the skills and the know-how to make change happen or the change may play against their interests; or they may just be afraid of change in general. The role of the project's leader is to be both a good listener and a good manager towards resistance. It is essential to understand employees who do not agree with the strategy, particularly to combine diverse ideas and opportunities for improvement.

It is therefore essential to understand if leaders are being good managers of resistance when analysing a process of change. Are they able to identify the occurrence of resistance, their source and the reasons behind them? Do leaders listen to resisters' opinion? Are they managing resistance correctly?

### 6.2.3. Ramifications of Change

Focusing on single and unconnected changes may not be the most adequate way to study management accounting change. The example of the present case study indicates that one original change can inevitably originate the development of other change processes (being the development of a new cost allocation criteria for all the plants; or the centralization of existing rules); or even modify other change processes. For that reason, Dello (2018) affirms that "change can be on-going, rather than a one-off event", and it requires a substantive longitudinal study to explore this topic. In fact, the complexity of SA's change process

highlighted problems on several features (for example, criteria for cost centre creation or for cost allocation) that were not perceived as problematical until that moment. Consequently, the need to formulate new solutions rose as the people involved in the change process obtained new information about the unfolding and the consequences of the change process. So, in order to better understand the change process, the researcher should be able to answer a few questions, such as: What changes emerged after the beginning of the initial change process? Were there changes that were replaced or modified after the initial change process? Did these changes have a connection with the initial change process?

## 7. CONCLUSIONS

### 7.1. Research Findings

The purpose of this paper was structured around three research questions associated with the case study of 'SA' company, in which management accounting change emerged after the joint venture. The current case study was constructed through empirical qualitative research, addressing the 'why', 'what' and 'how' questions.

a. Why did a change in cost concepts used in an international joint venture emerge?

The first research question aimed to address the root cause of the cost accounting change, explaining why the need to change emerged after the establishment of the international joint venture.

As expected from the beginning of the study, the cost accounting change rose as a necessity for benchmarking purposes after the creation of the joint venture. More precisely, the main objective was to compare prices, costs and productivities between similar production lines, both internally – among SA plants – and externally – with its partner. This because differences in efficiency and productivity among plants were widely recognized at the two companies, and both the internal and external comparison could possibly help to replicate the best practices or even benefit from a new outsourcing plan. This approach was appreciated by managers, as it would be able to help anticipating the need for investment in the production line or even as a means to revise the production recipe for one particular product.

In the view of the Controller Director that came from S Beta, benchmarking was the best way to understand distortions, and there was no reason not to use it. All controllers mentioned this was the only purpose of the cost information sharing, even though they were present in the same industry, typically without being direct competitors, either because they operated in different geographical markets or were under terms of the JV agreement preventing direct competition to occur. The relationship between the two partners had been constructed around trust, transparency and communication. Knowledge flew in both directions and they believed that was the key to the success of the alliance.

Furthermore, it seemed that SA had still a lot to learn from S Beta. The Controlling Director had the opinion that several tasks and methods at SA were overrated and very "old-fashion".

He believed that there was still room for improvement. The same feeling was perceived in the attitudes of the individuals involved in the project, as they were all captivated when S Beta presented them several efficient methods they used on simple tasks. In almost every meeting, they had the feeling that what they had been doing in some manner, could be done in a much easier way. Even though the previous system had never been questioned before, the managers were willing to question the current practices at SA and to implement new and better approaches.

b. What key factors influenced the change process?

The second research question intended to understand which elements had critical influence on the cost accounting change that took place at SA.

As previously mentioned, the partnership had great influence on the development of the change process, as they wanted to receive the cost report every month based on the new structure. The project had management board support since it was one of the first requests from the partner, and SA wanted to collaborate. This responsibility created management pressure on the controlling department to “make things happen”, but apparently it was not enough. Despite the positive impact of the leader role of the Controlling Director, the project took longer than it was expected. Paradoxically, the leaders’ drive for continuous improvement across many areas ended up reducing resources availability to this particular project, acting as a barrier to the change process. Even though the organizational culture of SA had a positive attitude towards change, this particular change was somehow mainly conducted and pushed through the partnership requirements. But not because it was not well accepted by employees, but because there were several negative variables hindering the change process. On one hand, the existence of other priorities when the controlling department was facing scarcity of resources was the principal obstacle. On the other hand, the different criteria used in each plant by the controllers was also delaying the development of a general method for adapting the new structure to all the plants.

In spite all the setbacks, management controllers were fully aware of the necessity to improve the current processes at SA. New ideas were positively accepted in the organization, but in their opinion, change was turning out to be faster than their resources were able to handle.

c. How was the change process implemented?

Before creating the “big project” that would require changes in the IS (both in SAP and HFM), a manual pilot test was created in excel in order to convince the board of its implementation. But the change process took much more time than it was expected at the beginning, as it should have started in the previous year. Inconsistencies on cost allocation and manual adjustments hindered the change process, as the controlling team had to take some time to understand and homogenate the criteria for all the plants. But despite the delay, the controlling team of SA managed to have the information requested by its partner, S Beta. However, it was clear that, even though all plant controllers knew that this project was taking place at the company, they did not fully understand its usefulness for the company as a whole. And, in fact, they did not seem to care that much, as they thought it would not affect them (at least in the short term).

## **7.2. Research Contributions**

The present case study contributes to the enrichment of management accounting change literature, particularly the one with a processual approach.

The current research is also significant as it presents a critical review and development of a widely used management accounting change model (Innes and Mitchell, 1990; Cobb et al., 1995; Kasurinen, 2002) and proposes new elements in order to help in the analysis process. Several forces and barriers depicted in this model were highlighted in the present case. But many limitations were also underlined, particularly regarding: the organizational context in which change takes place, that must be carefully analysed as it can affect change significantly; it is also limited understanding the leaders’ role in the change process, specially following leaders’ intentions and actions; and finally, the model does not consider the possibility of the creation of new changes originated from the original one.

To improve the used MAC model, three new factors are proposed: (1) the insertion of the organizational context element, in which several factors must be analysed: the organizational structure, the organizational culture, the stakeholders and the external environment; (2) the division of the Leaders element into three forces: People engagement, Coherence building and Resistance Management; (3) and finally the creation of the ramifications of change element.

The proposed management accounting change model was based on empirical evidence collected only in the present case study, and because of that, it may not be applied to all research fields and contexts. However, it is believed that the re-assessed framework can be useful to study change processes in which the environment is complex and requires a deep knowledge of the context.

### **7.3. Research Limitations**

The present research has several limitations. The findings are limited to a single organization, SA, which can limit the generalisability of the conclusions. Moreover, the observation lasted for a relatively short period, between September 2017 and August 2018. Furthermore, the decision of the board concerning the implementation of the new cost reporting in the system, after the presentation of the pilot test has not been taken yet. However, due to the pressure gathered from S Beta, it is expected that SA decides to implement the cost reporting structure in the information system.

Furthermore, interviews were only conducted at a corporate level, excluding the point of view of plant controllers, for example. Future research could benefit from more interviews across the company at different levels, since employees at lower levels could potentially highlight other aspects of the change process.

### **7.4. Recommendations for Future Research**

The current research proposed new elements to existing management accounting change models, and so future research can be done using the proposed theoretical framework, in order to test its validity, particularly using the proposed model in different industries to assess its wider applicability.

Furthermore, research on different organizational contexts is also needed, particularly when context may be the main booster for change to occur. In addition, the study of the dynamics within IJV is still limited, mostly on MAC. Future research should focus on changes that are originated from the creation of partnerships, in order to provide more explanations to MAC.



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## 9. APPENDICES

### Appendix I

#### Interview number 1

**Interviewee:** Corporate Controlling Chief

**Date:** 1<sup>st</sup> June 2018

**Duration:** 5 minutes

1. Good Morning. As previously requested, this interview intends to support my dissertation on the management accounting change that is occurring here at the company. I have some questions I would like to ask you, whose answers will be presented as anonymous and confidential. At the end of the interview I will send you the transcription of the interview for your approval. Do you agree?

2. Why did S Beta asked SA to change its cost structure to direct and indirect view?

3. They asked SA to send to them cost reports with that structure, right? Do you think it has only to do with benchmarking purposes?

4. Do you think it is better to have the direct and indirect view?

## Appendix II

### Interview number 2

**Interviewee:** Corporate Controller

**Date:** 16<sup>th</sup> June 2018

**Duration:** 26 minutes

1. Good afternoon. This interview is to help in my dissertation on changes in the management control of SA after the creation of the partnership with S Beta. The purpose of this interview is to gather information about some processes and also get your opinion on the changes that are occurring in the company. I take this opportunity to remind you that the information you provide will be processed as data and your identity preserved by anonymity and confidentiality. The transcript of the interview will be sent to you for you to confirm its validity and if necessary, make corrections. Do you agree?
2. In one of the meetings with the plant controllers, they mentioned that they make cost corrections in HFM. Can you give some examples?
3. What kind of costs do you think are most important to analyse with benchmarking?
4. Are there plants that use different amounts of raw materials to produce the same product?
5. Regarding our level of service. It is spoken here in the company that we do not have a very good service level. What do you think it is going wrong?
6. Do you think the culture here in the company is stagnant?
7. Do you think S Beta arrival contributed to the new culture of change?
8. Do you think it is easier to implement changes here at SA?

9. I have already realized that the change here in the management control is well accepted. But do you think the people in the other departments also take it well? For example, in plants?



## Appendix III

### Interview number 3

**Interviewee:** Controlling Director

**Date:** 23<sup>rd</sup> June of 2018

**Duration:** 17 minutes

1. Good afternoon. Let us start the interview with your volunteer participation in my dissertation on changes in SA management control after the creation of the partnership with S Beta. The intent of the interview is to gather your views on the partnership and the underlying changes. I remind you that the information granted will be processed as data and your identity preserved by anonymity and confidentiality. As usual in these cases, the transcript of the interview will be sent to you, if necessary, to make corrections. Do you agree?
2. Why did S Beta ask SA to change the cost structure for the view of Direct and Indirect costs?
3. Why does S Beta want us to send to them the monthly product cost report?
4. We are able to say that benchmarking serves both sides, right? It helps S Beta and SA?
5. What kind of cooperation have there been between S Beta and SA?
6. Are cooperative situations already happening or is it something for the future?
7. Are there regular meetings between the executive committees?
8. Do you think the relationship is good between the two companies?
9. What other changes do you think you will suggest in management control department?

**10.** What about new projects? For example, in the design of direct and indirect costs view the structure had to be changed from behind. Are there other projects of this kind in your mind?

**11.** Regarding this project, what do you think is going wrong?

**Appendix IV – Cost Center Groups at SA (Old and revised model).**

Cost Center Group	Group Description
CO_PACK	Pack Costs
CO_LAB_EXT	External Labour Costs
CO_LAB_INT	Internal Labour Costs
CO_IND_LAB	Indirect Labour Costs
CO_MAC	Depreciation Costs
CO_ELECT	Energy
CO_MANUF	Manufacturing Costs
CO_MAINT	Maintenance
CO_MERCHVAR	Merchandise Stock Variance
CO_STOVAR	Stock Variation
CO_OTHCOM	Other Fuels
CO_OTHOVH	Other Overheads
CO_OTHVAR	Other Variable Costs
CO_DSC	Direct Sales Costs
CO_FEE	Fees