


Contingency factors that contribute to the adoption of target costing: a case study in a service company


Fatores contingenciais que contribuem para a adoção do custeio alvo: estudo de caso em uma empresa de serviços

Factores de contingencia que contribuyen a la adopción del costeo objetivo: un estudio de caso en una empresa de servicios


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Abstract

The objective of this work was to analyze the influence of contingency factors in the target costing system of a service provider company in the State of Rio de Janeiro. The research carried out was a case study in an information technology consulting company where information was collected through interviews about contingency aspects (environment, technology, structure and strategy) and attributes related to the target costing system. For the analysis of the collected information, the content analysis technique was considered. The results demonstrate that the studied company is inserted in a dynamic sector, the technology in its activities is very present. It is a medium-sized company with reasonable decentralization and which attaches great importance to strategic cost management. The target costing system is considered by the interviewees as of great relevance to manage costs and achieve the organization's objectives.

Keywords: Target Costing; Contingency factors; Service companies

Resumo

O objetivo desse trabalho foi analisar a influência dos fatores contingenciais no sistema de custeio alvo de uma empresa prestadora de serviços no Estado do Rio de Janeiro. A pesquisa realizada foi um estudo de caso em uma empresa de consultoria em Tecnologia da Informação onde foram coletadas informações por meio de entrevistas acerca de aspectos contingencias (ambiente, tecnologia, estrutura e estratégia) e de atributos relacionados ao sistema de custeio alvo. Para a análise das informações coletadas foi considerada a técnica de análise de conteúdo. Os resultados demonstram que a empresa estudada está inserida em um setor dinâmico, a tecnologia em suas atividades é muito presente. Trata-se de uma empresa de médio porte com razoável descentralização e que atribui muita importância a gestão estratégica de custos. O sistema de custeio alvo é considerado pelos entrevistados como de grande relevância para gerenciar custos e alcançar os objetivos da organização.

Palavras-chave: Custeio Alvo; Fatores contingenciais; Empresas de serviços

Resumen

El objetivo de este trabajo fue analizar la influencia de los factores de contingencia en el sistema de costeo objetivo de una empresa proveedora de servicios en el estado de Río de Janeiro. La investigación realizada fue un estudio de caso en una empresa de consultoría de tecnología de la información donde se recopiló

información a través de entrevistas sobre aspectos de contingencia (medio ambiente, tecnología, estructura y estrategia) y con el sistema de costeo objetivo. Para el análisis de la información recopilada, se consideró la técnica de análisis de contenido. Los resultados demuestran que la empresa estudiada se inserta en un sector dinámico, la tecnología en sus actividades está muy presente. Es una empresa con una descentralización razonable y que otorga importancia a la gestión estratégica de costos. Los entrevistados consideran que el sistema de costeo objetivo es de gran relevancia para gestionar los costos y alcanzar los objetivos.

Palabras clave: Costeo objetivo; Factores de contingencia; Empresas de servicios

1 Introduction

In the last decades, Management Accounting has sought to develop new tools to generate relevant information in an environment that is constantly changing and marked by competition. ABC, Target Costing and Balanced Scorecard are examples of these new methodologies. And, since then, a lot of research has been developed with the intent of verifying the use of these practices in organizations.

Within the organizational scope, generating information on costs assumes a relevant role so that appropriate decisions can be taken that shall impact later on the achievement of the company's proposed objectives and, as well, on the performance obtained. As an instrument in cost control, management accounting represents a strategic means that contributes to make the best decisions and to indicate the tools necessary for improving the organization's performance and profitability.

In this context, Target Costing has configured itself as an important method for cost management. Under the target costing system, activities are controlled using a target, or an allowable cost based on the market, that must be realized for the company to be profitable. A desired profit margin is subtracted from the estimated sales price to determine a target cost for the new product. All members of the organization work subsequently in order to design and manufacture the product at the desired cost (Gagne & Discenza, 1995).

Similarly to other companies, service providers also need information to improve quality, punctuality and efficiency of the activities they perform, in addition to understanding more accurately the cost and profitability of each of their clients. According to Berts and Kock (1995), the increase in competition also impacted the service sector, causing managers to attach greater importance to the use of accounting information, especially information on costs, for planning, control and decision making.

During the twentieth century's last part, the service sector grew significantly in virtually all developed countries, with the United States, for example, representing almost 80% of the employment source in the year 2000 (Heineke & Davis, 2007). According to Heineke and Davis (2007), this growth has been caused by several factors, including changes in the population's lifestyle, deregulation and new and improved infrastructure, including a wide availability of new technologies. In Brazil, the service sector also has great relevance in relation to the GDP, with a representation of 72.5% in the 1st Quarter of 2018, followed by the industry sector which presented a share of 20.8%, while the agricultural sector represented only 6.7% (Sebrae, 2018).

According to Negri & Kubota (2006), the increase in the share of employment and the added value of the various services provided has been giving visibility to the sector, contributing to a better understanding about the specific characteristics of its activities, as well as to the application of basic concepts of management in their business environment, recognizing the need for an appropriate approach to the particular characteristics of these operations.

The reasons that influence the adoption of certain practices in one organization may not be the same as in another and, besides that, the relationship between the factors involved causes differences among organizations (Marques, 2012). In general, the market is governed by the focus on efficiency; therefore, organizations are looking for ways to reduce uncertainties in order to invest resources and obtain competitive leverage. Therefore, identifying, analyzing and interpreting the contingency factors that may influence on the adoption and use of methods, such as target costing, becomes important to verify the adequacy to a control system appropriate to the existing contingency factors within the organization so that it can be even more efficient (Donaldson, 2007; Marques, 2012).

From the Contingency Theory, it is clear that there is no single structure that is appropriate for all organizations and that the optimization of a structure depends on the organization's inner factors, which in turn are influenced by the environment (Donaldson, 2007). According to Donaldson (2007), several factors are called contingent, such as: strategy, size, uncertainty regarding tasks, technology, among others. For an organization to be effective, it is expected that it adapts its structure to its inner factors and the business environment in which it is inserted.

For Marques (2012) the understanding of how these practices gain attention from organizational actors and how they are implemented and developed remains an interesting source of research; besides, one of the purposes of management accounting research should be to determine which practices work and under what circumstances and how to change practices in organizations.

According to Ax, Greve and Nilsson (2008), as of the 1990s, researchers tried to identify factors that may influence on a company's decisions to adopt modern techniques of cost control and management. Some studies sought to investigate the influence of contingency factors in the adoption of target costing; among them, those of Ax et al. (2008), Marques (2012), Rasit and Ismail (2017), Marques and Rocha (2017) and Brizolla et al. (2017); the results showed several influential factors.

Unfortunately, although many companies use target costing, there is little evidence about the factors that influence on a company's decision to have it adopted or rejected (Ax et al., 2008). In addition, none of the aforementioned surveys focused on a service sector enterprise. However, there are some studies that sought to verify the use of target costing by service companies, such as that of Camacho and Rocha (2008) in the field of hospital services and that of Lemos Júnior and Colauto (2013) in a higher education institution. The results of such studies pointed to target costing as being a useful tool for the organization.

Due to the existence of various dimensions of management information systems and frequent changes in the environment of organizations, new studies under the approach of Contingency Theory are needed; in addition, there is a need for more research on service and non-profit organizations, since these entities have become increasingly important in most economies (Chenhall, 2003). In light of this context, the objective of this research is to analyze the influence of contingency factors on the adoption of target costing in a service provider company.

The study was carried out in a consulting service provider that operates in the Information Technology (IT) segment. This segment has become an important competitive component for organizations in the face of continuous technological evolution, allowing to improve and modernize even more the means of information and communication of the most varied sectors. Based on the findings of this research, service companies may observe the influence of contingency factors on the adoption of a management control tool such as target costing, as well as observing how such aspects can contribute and stimulate the adoption of this method.

2 Theoretical Framework

2.1 Contingency Theory

The Contingency Theory was first mentioned in management studies during the 1960s that criticized universal theories and presented this one as a useful tool for improving management theories (Porporato & Waweru, 2011). The fundamental basic premise is that the organization's variables have a complex interrelation among them and with the conditions of the environment (Porporato & Waweru, 2011). This theory assumes that environmental conditions cause changes within organizations and, to maximize their performance, companies must adapt themselves to their environment (Silva et al., 2014).

With the Contingency Theory emerges the concept of contingency factors, which are the key for defining the most appropriate system that shall contribute to the company's performance (Donaldson, 2007). And so, based on this theory, we seek to understand how companies adjust to these contingency factors, such as: size, industry, intensity of competition, environmental uncertainty, technology, strategic posture, among others (Camacho, 2010; Silva et al., 2014).

The central proposition of the contingency theory states that organizational performance depends on the fit between organizational context and structure (Cadez & Guilding, 2008). Typical contingency variables, such as technology, environment and strategy, can be seen as measures of the complexity level faced by organizations (Donaldson, 2007). However, the structure suggests that what shall guide organizations' requirements for information processing is uncertainty and that it is caused not only by the interaction of various external contextual factors, but also by factors such as the level of organizational knowledge and the understanding of how it affects internal processes (Chapman, 1997).

Thus, studies on contingency factors help to define the best path to follow for achieving the organizations' objectives and goals. Observing, categorizing and analyzing the contingency factors in which the organization is inserted may contribute to a greater socioeconomic performance of the company (Camacho, 2010).

According to Donaldson (2007), in the scope of organizational studies, the Contingency Theory has provided a coherent paradigm for analyzing the structures of organizations. This theory establishes that there is no single organizational structure that is highly effective for all organizations, but an optimal organization is the one that is contingent on contingency factors. The contingency approach expresses that, since organizations are different, when compared in terms of size, business objectives to be achieved, activities and tasks to be performed and other situations that may arise, it is strange to employ universally applicable principles that work for contingencies or situations that arise within various organizations (Sandoval, 2013).

In general, research using the contingency paradigm in the field of organizational studies since the beginning of their evolution relate contingency factors to the organizational structure in order to explain the form of the organization. Similarly, contingency factors were related to aspects of Management Accounting (Chapman, 1997; Chenhall, 2003; Marques, 2012). Thus, the contingency approach has become the dominant paradigm in accounting empirical research (Cadez & Guilding, 2008).

Chenhall (2003) makes a review in order to contribute to the understanding of contingency factors, which he named “contextual variables”, being: environment, technology, structure, size and strategy. The external environment, according to Chenhall (2003), is an influential contextual variable that grounds contingency-based research and that possibly the most widely researched aspect of the environment is uncertainty. The author also distinguishes between uncertainty and risk, where risk can be related to situations in which the probabilities can be attached to specific events, while uncertainty defines situations in which the probabilities cannot be attached and even the elements of the environment may not be predictable. Thus, the environment is seen as a contingency factor external to the organization and as the environment undergoes changes, it influences the interior of companies; thus, companies need to understand this environment to reduce uncertainty (Beuren & Fioretin, 2014).

Technology refers to the way in which the organization’s work processes operate, that is, how tasks transform inputs into outputs, as well as includes hardware (such as machines and tools), materials, people, software and knowledge (Chenhall, 2003). Technology was one of the first contingency factors to be studied and has been characterized in several ways, typical measures differentiate between small and large series, individual processes or mass production (Porporato & Waweru, 2011).

Regarding organizational structure, this factor relates to the formal specification of different functions for members of the organization, or tasks for groups, to ensure that the organizational activities are carried out (Chenhall, 2003). Also, according to the same author, structural arrangements influence on work efficiency, motivation of individuals, information flows and control systems and can help to shape the organization’s future. The organizational structure is also among the first factors studied based upon Contingency Theory and consists of variables of the organization or unit, such as the size of the company, complexity of the business unit, variety of products or services, level of autonomy, diversification and structure (multidivisional or functional) (Porporato & Waweru, 2011).

Another contingency factor concerns the size of the organization. The growth in size allowed companies to improve their efficiency, offering opportunities for specialization and division of labor (Chenhall, 2003). As the organization becomes larger, the need to deal with greater amounts of information increases to a point of instituting controls such as rules, documentation, specialization of roles and functions, expanded hierarchies and even greater decentralization of hierarchical structures (Chenhall, 2003; Beuren & Fioretin, 2014). Increasing its size, a company will make the organizational structure more complex; consequently, there may be an increase in the number of employees, greater formalization of processes and an increase in the level of management control (Silva et al., 2014).

On the other hand, strategy presents itself a little differently from the other contingency factors, because, in a certain sense, it is not considered as an element of context itself, but rather the means by which managers can influence the nature of the external environment, the organization technologies, structural arrangements and control culture and the management control system (Chenhall, 2003). The role of strategy is important, as it addresses the criticism that contingency-based research assumes that an organization’s management control system is determined by context and that managers are captured by their operational situation (Chenhall, 2003).

The contingency theory is able to explain the causes that lead an organization to react to the environment and to decide on the implementation of a determined management accounting system, or to abandon traditional systems (Guerreiro, Pereira & Rezende, 2005). Marques (2012) states that the use of Contingency Theory can help to understand situations in which the adoption and use of a management control practice, such as target costing can be promoted.

For Marques (2012), in environments marked by environmental uncertainty, target costing is considered an appropriate practice due to the type of information it presents. This artifact is deeply linked to business strategy and is considered a strategic cost management tool to achieve that target profit specified in the organizational planning. Target costing is the link between the formulation of the strategy and its execution and profit generation and both influences and is influenced by the organizational strategy (Marques, 2012).

2.2 Target Costing

Target costing was invented by Toyota in 1965, spreading out to Japanese industries, especially the automotive industry, in the 1970s and, according to Everaert et al. (2005), this method became popular in English-language literature in the 1990s through research by Cooper (1995), Kato (1993) and Monden and Hamada (1991).

Target costing has been recognized as an important tool to reduce costs and increase competitiveness for more than a decade (Ellram, 2002). It is a cost management technique used during new product development (NPD): a cost target is set for a new product and the NPD team is motivated to achieve that goal before the product is launched (Everaert et al., 2005).

According to Manzanares, Molina and Fernández (2001) target costing has been interpreted from different points of view, according to the business culture, once that diverse definitions of this concept range from being it a simple cost calculation technique to the extent of being identified as part of the strategic benefits

management system. However, it must be emphasized that target costing offers greater possibilities as a management tool than as a cost calculation technique (Manzanares, Molina & Fernández, 2001).

The target costing process aims to reduce product life cycle costs in the phases prior to production, ensuring quality, reliability and other customer requirements; but it is not limited to this, it is part of a comprehensive strategic profit management (Kato, 1993). For Feil, Yook and Kim (2004), its purpose is understood as that one of minimizing life cycle costs so that long-term profit is maximized. In order to achieve this objective, the theoretical cost calculation takes into account not only production costs, but also costs incurred throughout the product's life cycle (Feil et al., 2004).

For Rocha and Martins (1998), the implementation and execution of a target costing process is based on three premises, which are: I) Profit is the company's guarantee of survival; II) The cost is set before the start of production; and III) The cost is strongly influenced by competition. The authors highlight that in order to the use of target costing be effective some principles must be followed: it should focus on the consumer; must reach the entire value chain; should consider the total cost of ownership; and requires the company's involvement as a whole (Rocha & Martins, 1998).

Gopalakrishnan, Samuels and Swenson (2007) consider that the target costing process can be divided into five steps, namely: 1) define the new product; 2) establish a target sales price; 3) calculate the desired cost; 4) determine the target cost per component; and 5) project costs. The authors also highlight six key principles that must be observed in the target costing process: price-based costing; focus on customers; focus on design; multi-functional teams; life-cycle orientation; and involvement of the value chain.

According to Gagne and Discenza (1995), target costing is a market-oriented management method. Thus, the target costing process begins by establishing a sales price, based on market research, for the new product. That is, it begins with the development of an understanding about unmet needs in the market and the determination of how much customers would pay to have their needs met, the "target price" (Ellram, 2002).

There are two main steps in target costing: the first is to determine the target price and margin of profit for a product so that the target cost can be determined; and, the second is to decompose the target cost up to the component and level of raw material so that the purchase prices of these items can be determined (Gagne & Discenza, 1995; Ellram, 2002).

In the same sense, Cooper (1996) states that the target cost of a product is determined by subtracting the desired profit margin from the desired selling price: target cost = target price – target margin; the target price of a new product is mainly determined by market analysis; and, the target margin is defined based on corporate profit expectations, historical results, competitive analysis, and sometimes computer simulations. Once the theoretical price of the new product has been determined, it is used as a basis for determining the purchase price of externally acquired components and raw materials (Cooper, 1996).

Attempting to achieve the desired cost, according to Gagne and Discenza (1995), the organization conducts functional cost analyses. Therefore, if the current cost estimate is met, the company must decide whether or not to introduce the new product; if, however, the current cost calculation is above the target, the functional cost analysis shall be used to make changes and prepare another cost calculation (Gagne & Discenza, 1995). Once the target costs are reached, the item goes into production and continuous improvement measures are implemented (Ellram, 2002).

Functional cost analysis is a group activity that usually involves employees from different departments (such as marketing, design, engineering, production, purchasing and accounting) and aims to propose alternatives for reducing the total cost of the product (Gagne & Discenza, 1995). Functional analysis is closely linked to value engineering (VE), being a cost management system that focuses on the various functions of each product (Gagne & Discenza, 1995). VE, sometimes called value analysis, is a technique for evaluating the design of a product to ensure that essential functions are delivered at minimal overall cost to both manufacturer and user (Chen & Chung, 2002).

Cost tables are instruments for an easy and accurate measuring of costs for auxiliary materials, parts, and activities; such tables are indispensable in companies that use target costing (Sakurai, 1997). The cost table is a famous example of cost information, used primarily by Japanese companies during target cost calculation (Everaert et al., 2005).

Both cost accounting and supply management play a key role in dividing target costs among several activities, components and materials (Ellram, 2002). Management accounting can play an important role in effectively determining target profits and target costs. Accountants can provide the information needed to support a marketing analysis for a new product and relate it to existing products (Gagne & Discenza, 1995).

Ellram (2002) points out that target costing is a valuable tool and a philosophy to support the organization's overall efforts to keep costs competitive while meeting customer demands. However, according to the author, target costing is not an independent effort, but instead a process that is more effectively carried out by multi-functional teams, in conjunction with other processes that add value, such as anticipated involvement of the supplier, analysis of value and value engineering. This way, target costing must be studied and executed based upon a perspective of a holistic team; that is, many functions play a crucial role and give an important contribution for the intended costing process (Ellram, 2002).

2.3 The Service Sector

The service sector is the main destination of foreign direct investments in Brazil, receiving over 60% of these investments and is also the sector to which belong the five business segments in which most frequently occurs mergers and acquisitions within the country, namely and ordinally: information technology, auxiliary services, financial services, retail and utilities (electricity, gas, highways, etc.) – combined, they account for more than 50% of operations in Brazil (Santos, 2016).

The sector has also a great relevance as regards the creation of companies, job generation and for Brazil's GDP. According to SEBRAE (2018), in the first quarterly period of 2018 the service sector obtained a 72.5% share in the GDP, while the industry sector showed a participation of 20.8%, with agriculture and livestock representing only 6.7%.

In the viewpoint of Negri & Kubota (2006), an increase in the participation of employment and added value of services has contributed to a better understanding of specific characteristics of the sector's activities and, due to this, gains even more relevance. In addition, it can be considered that one of the main reasons for a strong performance of the service sector in recent years is the influence of globalization, especially technological changes, such as the digitization of services, the emergence of broadband networks and the use of Big Data (Negri & Kubota, 2006).

With the automation of services, technology is present in organizations in several areas, functions and activities. Thus, in search of greater efficiency, quality in service delivery and cost reduction, many companies name a specific area or companies responsible for the systems, called the Information Technology area (Lacity & Willcocks, 2017).

With regard to services connected to Information Technology, Santos (2016) notes that the sector has been having a steady growth in the latest years. For instance, the number of companies was increased by 34% between years 2007 and 2013 and that this growth has happened in a sustained way, since it is accompanied by an increase in the revenue value of these companies, reaching R\$ 82 billion in 2013. Another relevant information obtained from the analysis is that in 2007 the IT sector's revenue represented 35% of the telecommunications sector's revenue; in 2013 this value reached 51%.

In Brazil, Information Technology services are classified into five groups: i) development of custom computer programs; ii) development and licensing of customizable computer programs; iii) development and licensing of non-customizable computer programs; iv) consultancy in information technology; and v) technical support, maintenance and other services in information technology (IBGE, 2017).

In general, the Information Technology sector goes beyond a setting of hardware and software that has the function of processing information, but can also be used to support the management of strategic information. The sector is also characterized by having significant added value, making use of highly qualified labor when compared to other sectors of the economy, contributing to innovation processes and promoting strong interaction between producer and user, that is, it allows the development of strategies for learning through relationships with other companies and sectors.

2.4 Previous studies

Some studies related to the use of target costing have provided empirical evidence on the theme at managerial level, and also with the approach to contingency theory. In this context, when investigating whether changes in the organizational environment led to changes in organizational strategy, organizational design, advanced manufacturing technology and management accounting practices, Baines and Langfield-Smith (2003) concluded that an increasingly competitive environment influences the organization's strategy, which in turn influenced changes in organizational design, advanced manufacturing technology and advanced management accounting practices.

The study by Ax et al. (2008) made use of arguments from the contingency theory to investigate which factors are related to the adoption of target costing in Swedish companies from different sectors. The results of the study indicated that the adoption of target costing and the intensity of competition are positively related; however, there was no evidence of a direct relationship between the environmental uncertainty perceived and the adoption of target costing. In turn, Marques (2012) examined the deductions and inferences extracted about the adoption, implementation and use of target costing in an organization in the light of contingency theory and new institutional sociology. Regarding contingency theory, it was concluded that the contingency factors observed (environment, strategy, size, structure and technology) favored the adoption and use of target costing.

Silva et al. (2014), by means of a case study, sought to investigate the contingency factors present in the organization and that could have influenced the decision to modify its costing system. According to the authors, the results indicated that the contingency variables environment, competition, market, technology and management control system influenced the decision to modify the costing system.

Research by Rasit and Ismail (2017) conducted with financial managers of Malaysian electrical and electronic companies evidenced that the intensity of competition perceived, technological advancement and business strategy would influence on the adoption of target costing. Still in this sense, Marques and Rocha

(2017) developed a study to analyze research addressed to contingency factors that are related to the adoption and use of target costing. The evidence found highlighted that the intensity of competition and environmental uncertainty contribute for the adoption and use of target costing, while the strategies investigated present contradictory results in the analyzed studies. The authors also emphasized that the research investigated are international, indicating the lack of studies on this theme in the Brazilian context.

When investigating the contingency factors that possibly influence the target costing system process in rural organizations, Brizolla et al. (2017) concluded that environment, technology and strategy influence the target costing process of organizations, since these organizations operate in a dynamic environment, where structure, technology and strategy are contingency variables that influence the target costing system. Gonçalves, Gaio and Silva (2018) examined in the light of contingency theory the relationship between innovation and environmental and organizational determinants in the adoption of target costing in the largest Portuguese companies. The research evidenced that the determinants previously tested (competitiveness, environment, uncertainty and innovation) are neither sufficient nor necessary factors in the use of the costing system.

Regarding the aspects of target costing in cost management within micro and small businesses of the information technology sector, Bomfim, Callado and Callado (2018) identified that the characteristics of managers in micro and small business, such as age, training and position held, are factors that influence on the strategic formalization and adoption of strategic cost management techniques, such as target costing.

As for research related to target costing with a specific focus on service providers, we can highlight the study by Camacho and Rocha (2008) that verified the feasibility of applying target costing in hospital services. The results showed that the target costing process can be successfully applied to hospital entities. As for the study by Lemos Junior and Colauto (2013), it sought to identify the composition of costs involved in the offer and pricing of tuition in an undergraduate course through the application of direct costing and target costing. The authors indicated that the use of such a method can led to a restructuring of the services provided, as well as producing an improvement in planning to increase the revenue.

Based upon the literature and studies cited, it is observed the importance of understanding the factors that promote the adoption and use of target costing. However, there is a scarcity of research on the subject, mainly in the Brazilian context, and also with a focus on the service sector, thus indicating the need for this type of research in companies of this area.

3 Methodology

From the objective proposed for this study, a descriptive research with a qualitative approach was carried out. For Andrade (1999), descriptive research seeks to observe, record, analyze, classify and interpret aspects inherent to a certain fact that is intended to be known. This perspective is complemented by Gil (1999) when stating that this type of research can go beyond the identification of a certain phenomenon, but it can also determine its nature. Regarding qualitative research, Oliveira (2011) considers that they are characterized by the involvement of qualitative data and qualitative forms of analyses, while Richardson (1999) and Martins and Théophilo (2016) point out that this type of research seeks to understand meanings and characteristics.

This research was operationalized with basis on a case study. Regarding case studies, Raupp and Beuren (2006) consider that research of this nature is preferred by researchers who wish to deepen their knowledge about a specific case. For Oliveira (2011), case studies are appropriate approaches when the investigated object is in its real context and out of the researcher's control. According to Martins and Théophilo (2016), this is a research strategy that requires qualitative assessment and aims to study a social unit in a deep and intense way.

The case investigated was a medium-sized consulting company located in the city of Rio de Janeiro (RJ) that operates in the Information Technology (IT) segment. This company started its activities in 2005 and also has operations in the State of São Paulo. The company provides services of high specificity and it aims to guide its customers to generate value for their business based on the understanding of the needs related to development of software. Some of the services provided by the company are: application security analysis, process automation, delivery automation, test automation, management and transformation of the software life cycle and IT performance. The choice criterion used was accessibility for collection of information and because it is a company in the service sector.

For data collection operationalization of this research, interviews were carried out. The interview is defined by Cervo, Bervian and Silva (2007, p. 51) as "a conversation oriented towards a defined objective: to collect, through the informant's interrogation, data for the research". The interviews carried out were of the semi-structured type, according to Martins and Théophilo (2016, p. 88) this type of interview "is conducted using a script, but with freedom for new questions to be added by the interviewer".

The interviews were conducted during two visits to the company in November and December 2018. Three people participated in the survey: the administrative manager and two employees from the commercial department. People involved in the process of negotiating services with customers were chosen to take part in the research. The interviews lasted, on average, 50 minutes and were not recorded and it was sought to understand the company's pricing process and the use of target costing.

During the interviews, it was also sought to verify the interviewees' perception regarding contingency factors (environment, technology, structure and strategy) in the company and, for that, a script adapted from the study by Brizolla et al. (2017), where the interviewees attributed specific concepts to each factor. About the factor environment (Chart 1), they were asked how they perceived the environment in which the company operates, indicating one of the following concepts: very stable, stable, not very stable, not very dynamic, dynamic or very dynamic. As for the technology factor (Chart 2), it was sought to identify whether the company makes use of technological tools in relation to the determined variables; thus, the respondent should attribute: does not make use, uses little, uses or intensely uses. In the aspect structure (Chart 3), we tried to verify the respondents' perception in regard to delegation of responsibilities, attributing the concept: never delegates, delegates a little, delegates or total delegation. And for the factor strategy (Chart 4), the level of strategic priorities was asked: it is not important, little important, important, very important. In addition, the attributes related to the target costing process were investigated in order to verify the respondents' perception about the components or the reason for using the method. Thus, they were asked to answer 'yes' or 'no' or 'does not apply' to the characteristics they considered to be present in the company, according to Chart 6.

In order to collect information, the content analysis technique was used. This technique is defined by Bardin as (1977, p. 42) "a set of communication analysis techniques aimed to obtain, by systematic and objective procedures for describing the content of the messages, indicators that allow the inference of knowledge to the conditions of production/reception of these messages". About this technique, Vergara (2012) states that it is used with the objective of verifying what is being said about a certain topic.

It should be noted that the ways this research treated the information, which derived from collections made in the interviews, guarantee anonymity to both interviewees and the company investigated. The omission of the organization's name and of the research participants is a granted right in order to guarantee respect for ethical issues in Social Sciences research.

4 Data Description and Analysis

Using a script adapted from the study by Brizolla et al. (2017), it was first sought to evaluate the contingency variables. Initially, the contingency category environment was analyzed. The purpose of this analysis was to verify if the environment in which the company operates is very stable, that is, with slow and predictable changes, or if it is very dynamic, with rapid and unpredictable changes. Thus, for each aspect investigated, respondents should attribute a concept, according to the characteristics of dynamism and predictability of the environment in which the company operates, the environment being considered in a range from very stable to very dynamic. The results obtained are shown in Chart 1.

Category environment	Attributed concept
a. Competition's attitude	Dynamic
b. Competition for labor	Dynamic
c. Technology applied to the service delivery process	Very dynamic
d. Legal, political and economic restrictions of the sector	Stable

Chart 1 – Contingency aspect environment

Source: Research data

With the results observed in Chart 1, it can be seen that the company is inserted in a very dynamic environment since three categories were classified this way by respondents, highlighting the category 'technology applied to the service provision process', which was considered very dynamic by all respondents. The result is possibly explained by the sector in which the company operates, which is the Information Technology (IT) area, because in view of the rapid technological evolution, companies in this sector are characterized by searching for innovation in order to meet market needs and trends.

Thus, as the organization is inserted in an environment related to innovation, also being dynamic and competitive, it is important to obtain more information to support managers in their strategic decisions. According to Marques (2012) the dynamism of the sector explains the adoption of target costing as a way of obtaining more accurate information to cope with competition. This result corroborates the study by Baines and Langfield-Smith (2003) confirming that an increasingly competitive environment influences the management practices adopted by the organization.

As for the aspect 'legal, political and economic restrictions', it was regarded as being a stable one. Such outcome can be justified by the fact that the State adopts a posture to encourage technological innovation aiming at economic growth. These incentives may point towards a balanced use of combination of policies, thus exerting influence for a more stable environment.

The second contingency category investigated was technology, in which it was sought to assess whether the organization makes use of some technological tools and characteristics. Respondents should attribute a concept according to the degree of use intensity.

Category technology	Concept attributed
a. Data storage	Great intensity
b. Electronic data exchange	Great intensity
c. Integrated System (ERP)	Does not make use

Chart 2 – Contingency aspect technology

Source: Research data

The results presented in Chart 2 make evident that technology is very present within the organization in the understanding of respondents, but not entirely since the company does not use the category 'integrated system (ERP)'. According to Marques, in an environment where there is high use of technology, the employment of target costing seems to be appropriate. This confirms the findings by Silva et al. (2014); Rasit and Ismail (2017); Brizzola et al. (2017), where it is noticed that the more technological characteristics the organization has, the greater the possibility of adopting the target costing technique.

As it is a company where the main activity is IT consultancy, a strong relationship with the technology factor was expected (Chart 2), as it works directly with the coordination, communication and processing of information electronically. The use of information both within organizations and among organizations has shown a much higher volume than what companies used to present, thus influencing to a greater dependence on technological tools for data storage and electronic information transfer. Therefore, technology also seeks to facilitate data processing by developing management systems to assist in business practices. The use of a management system is important so that the adoption of a cost management method as target costing can be implemented.

The company investigated showed not to make use of integrated system (ERP); however, according to Chenhall (2003), the way in which information is generated and the control techniques used vary from organization to organization, as they can be influenced by both its structure and strategic choices.

Regarding the contingency category structure, we sought to investigate the level of managers' delegation. Respondents were asked to apply a concept for the levels of delegation present in the company. The results are displayed in Chart 3.

Category structure	Concept attributed
a. Offering of new products	There is delegation
b. Hiring and dismissal of staff	Little delegation
c. Selection of relevant investments	Never delegates
d. Pricing decisions	Little delegation

Chart 3 – Contingency aspect structure

Source: Research data

From the results of Chart 3, it is possible to verify that delegation is present for the category 'offering of new products'; little delegation for the categories of 'hiring and dismissal of staff' and 'pricing decisions', and there is no delegation for the category 'selection of relevant investments'. According to Chenhall (2003), the organizational structure represents the positioning of factors such as hierarchy, sectors, processes, people, etc. The concepts attributed by the respondents in relation to the organizational structure of the company studied reveal signs of an organization with decentralized decision-making characteristics since it does not present much delegation of tasks.

In view of the contingency factor structure, Marques (2012) argues that target costing is a process that adheres to the decentralized organizational structure and that encourages team work. For Ellram (2002), target costing is not an autonomous effort; on the contrary, it is a process more effectively carried out by multifunctional teams, in conjunction with other processes that add value.

Following the analysis to the contingency category strategy, the aim was to assess the company's level of strategic priorities by attributing concepts according to the degree of importance given by the organization, in the respondents' viewpoint, to the mentioned strategic priorities.

Category strategy	Concept attributed
a. Seek high product quality, much more than the competition	Extremely important
b. Investing in research and development much more than the competition	Medium importance
c. Have a lower selling price than the competition	Important

Chart 4 – Contingency aspect strategy

Source: Research data

Chart 4 shows that the category 'seeking high product quality, much more than the competition' was considered as very important for the company in the respondents' perception. 'Having a selling price lower than the competition' is also an aspect considered important for the company, while the category 'Investing in research and development much more than the competition' was the category regarded as of medium importance, which may only mean that the organization attributes a lesser degree of importance when compared to the previous aspects. Such results indicate that the company has a great interest in presenting quality and seeking new information to respond to potential market opportunities. This strategy adopted can

be explained by the fact that companies from the IT sector are inserted in an environment of innovation and high competitiveness.

With respect to target costing, Marques (2012) found in the literature that target costing is closely linked to the company's strategic management and plays an important role for strategic cost management. The research by Brizolla et al. (2017) and Rasit and Ismail (2017) also showed that strategy influences on the adoption of target costing.

Finally, for the contingency category size, the classification by BNDES – the Brazilian Development Bank (2018) was used, according to Chart 5. The company studied was classified as a medium-sized company since its annual turnover is in the range between 4.8 million and 300 million Brazilian Reais.

Classification	Annual gross operating revenue
Micro-company	Less than or equal to R\$ 360 thousand
Small company	Higher than R \$360 thousand and less than or equal to R\$ 4.8 million
Medium-sized company	Higher than R\$ 4.8 million and less than or equal to R\$ 300 million
Large size company	Higher than R \$ 300 million

Chart 5 – Company size classification

Source: BNDES (2018)

Size is a factor that influences the adoption of target costing; the larger the size, the more the organization may be prone to using this tool (Marques, 2017). As the organization becomes larger, the need to deal with greater amounts of information increases (Chenhall, 2003); moreover, increasing the size of a company will make its organizational structure more complex; there may be an increase in the level of management control (Silva et al., 2014).

As well the study by Brizolla et al. (2017) sought to identify the respondents' perception about the attributes of the target costing system, according to Chart 6, for the period studied. However, in the interviewees' perception, it was observed that not all attributes (components or the reason for use) of the target costing system are present in the organization studied and there was divergence among the answers given.

Components/usage ratio	Interviewees		
	A.	B.	C.
1. System premises	No	Yes	Yes
2. Scenario forecasting	No	Yes	No
3. Sales plan	Yes	Yes	Yes
4. Human Resources Plan	No	No	Yes
5. Projected financial statements	Yes	Yes	Yes
6. Automation of the costing process	No	No	Yes
7. Production/supply and storage plan	NA	NA	NA
8. Operational Planning	Yes	Yes	Yes
9. Performance assessment	No	Yes	No
10. Communication of goals	Yes	Yes	Yes

Chart 6 – Attributes of the target costing system

Source: Research data

It is noteworthy that the attribute 'Production/supply and storage plan' presented in Chart 6 does not apply to the company since it is a service company and has no inventories. For the attribute 'system premises' two of the respondents understood that it is present and one understands that it is not. It should be noted that during the interview one of the interviewees reported that he understands that this attribute exists, but there are no formal documents.

Only one of the interviewees (B) responded positively regarding the attribute 'scenario prediction' and 'performance evaluation'. And only respondent C understands that there is the 'automation of the costing process'. As for the human resources plan, one respondent answered yes and another one that it is not present; one of the interviewees (B) during the interview said that in his perception it is present, but in an incipient way; he therefore chose 'no' as answer. Possibly the divergence in the answers is due to the fact that different functions are performed by the interviewees, which may imply different perceptions.

Regarding the attributes 'sales plan', 'projected financial statements', 'operational planning' and 'communication of goals' all responded positively, that is, they understand that they are present. During the interview with the administrative manager, he showed the interviewer the program developed and used by the company to monitor the progress of services. The system allows you to query the performance of a project individually or customers in general, because a customer may have contracted several different services. The monitoring of the contribution margin of each project is also carried out through spreadsheets and the variable costing system is used. The projected financial statements are also prepared.

In general, these results suggest that most aspects related to target costing are known by the interviewees, and still occurring cases in which the aspect is known, though it is not used. It is also noticed that the organization is attentive to market conditions, seeking tools necessary to achieving goals of profits

and costs, besides using cost techniques similar to the concepts of target costing, being adopted in circumstances of intense competitiveness and high uncertainty of the environment.

It was possible to observe that the company makes use of some stages of target costing despite not naming it this way. The company prepares a proposal for a given service and usually the client seeks to negotiate. Then, the commercial manager along with technical managers and board seek to change components of service costs, in this case, direct labor, to achieve a cost composition that can achieve the profit margin of the company and the sales price desired by the customer.

It was found that the company needs an improvement in cost monitoring after the contract signing, so as to ensure that the target cost is achieved and even more cost savings can be obtained (continuous improvement). This is a stage where improvements by the company are needed. It is necessary to have greater involvement of administrative and technical parties at this stage in order to join forces so as to achieve the target cost.

5 Final Considerations

The objective of this research was to analyze the influence of contingency factors on the target costing system of a service provider company in the State of Rio de Janeiro. In order to achieve the objective proposed, semi-structured interviews were conducted, where it was used a script adapted from the study by Brizolla et al. (2017).

The contingency categories verified were environment, technology, strategy, structure and size. Concerning the category environment, the company is inserted in a dynamic sector in which the competition's attitude, dispute for labor and technology applied to the service process have a high degree of dynamism, that is, not stable. Only the aspect regarding legal, political and economic restrictions in the sector was considered to be very stable. According to the literature, the dynamism of the sector favors the adoption of the target costing process.

Regarding the contingency category technology, in the interviewees' perception, it is a factor very present in the organization's activities. Which makes perfect sense because the company studied is an IT consultancy. However, it was found that the category that dealt about the 'integrated system (ERP)' did not recognize its use by the company, which indicates that the organization needs to improve in this aspect. The high use of technologies is an environment conducive to the use of target costing according to previous research. Regarding the category structure, the interviewees perceive the organization as reasonably decentralized. Through the concepts attributed by the respondents, the presence of authority delegation was observed. The literature indicates that target costing has adherence to a decentralized environment since it will also stimulate teamwork.

The results of the category strategy make evident the high importance attributed by the company to the mentioned strategies. It was found that the company considers the pursuit of high quality in its services to be very important; this is justified by the characteristics of the services provided by the organization, which in most cases are customized services. Having a sales price that takes on the competition was also considered to be relevant as well. It was found in the theoretical framework that costing is related to the strategic management of an organization.

Finally, regarding the category size, the BNDES classification was used, which is based on the annual gross revenue earned; thus, the company studied was considered a medium-sized company. Research have found that the larger the size, the greater the propensity to adopt the target costing process. In relation to the attributes or the reason for using the target costing system, there were some differences in the interviewees' answers. Only the attributes 'sales plan', 'projected financial statements', 'operational planning' and 'communication of goals' were understood to be present. A possible explanation for the differences may be the functions performed by each interviewee, which can limit one in certain aspects about using the target costing system.

During the interviews, the interviewees' statements demonstrate the importance of the target costing system in reaching a target cost and, above all, a competitive price. Thus, the influence of contingency categories on the adoption of a management control tool was verified; in the subject matter, target costing. It was possible to observe how such aspects can contribute and stimulate its adoption.

This research, being a case study, has as a limitation the impossibility of extending the results found to other organizations because it is a study based on the perceptions of the interviewees. It is suggested that other studies be carried out in companies providing IT services in order to understand the management accounting practices used by these organizations.

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