

Construção de conhecimento sobre target costing: uma análise de pesquisas sobre fatores que aumentam a sua adoção e uso

Knowledge construction on target costing: an analysis of surveys on factors that enhance its adoption and use

Construcción de conocimiento sobre target costing: análisis de encuestas sobre factores que mejoran su adopción y uso

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Resumo

O trabalho teve como objetivo analisar os achados e a comparabilidade das pesquisas de levantamento publicadas no período 2001-2011 que abordaram fatores situacionais que possuem relação com a adoção e uso do Custeio Alvo (CA). A metodologia empregada foi a análise crítico-interpretativa da literatura, destacando-se a discussão dos achados das pesquisas. Os resultados encontrados foram: (1) a relação entre a intensidade da concorrência e a adoção e uso do CA foi confirmada nos três trabalhos que a investigaram, um indício de que uma concorrência intensa pode propiciar a adoção do CA; (2) a relação entre a adoção e uso do CA com a incerteza ambiental foi confirmada em um estudo; (3) em relação às estratégias investigadas não foi possível tirar conclusões, pois, sob a tipologia de Porter, os achados foram contraditórios, e na de Miles e Snow os dois estudos não puderam ser comparados, embora um deles tenha identificado relação entre a taxa de uso de práticas de “custeio” e a estratégia do tipo defensores; (4) há indícios de que empresas de grande porte sejam mais propensas à adoção e uso do CA. Este trabalho revelou a existência de lacunas sobre o entendimento dos fatores que propiciam a adoção e o uso do CA que podem ser preenchidas por futuras pesquisas e constatou a dificuldade de comparação de resultados nos estudos de levantamento analisados. Apesar da importância do tema para a pesquisa e para auxiliar os gestores em possíveis decisões de adoção do CA, não foi encontrado esse tipo de trabalho nos periódicos brasileiros, indicando a necessidade desse tipo de pesquisa nas empresas que atuam no Brasil.

Palavras-chave: Target Costing; Fatores Situacionais; Pesquisas

Abstract

The aim of this research was to analyze the findings and the comparability of surveys published between 2001 and 2011 about situational factors related to organizations' adoption and use of Target Costing (TC), as a way to identify their contributions. The method used was a critical-interpretative literature analysis, highlighting the discussion of the research findings. The results found were: (1) the relation between the intensity of the competition and the adoption and use of TC was confirmed in the three studies on this theme, a sign that intense competition can enhance the adoption of TC; (2) the relation between the adoption and use of TC and environmental uncertainty was confirmed in one study; (3) with regard to the investigated strategies, no conclusions could be reached as, when adopting Porter's typology, findings were contradictory and, in the typology by Miles and Snow, the two studies could not be compared, although one of them identified a relation between the usage rate of “costing” practices and the defenders strategy; (4) there are signs that large companies are more prone to the adoption and use of TC. This research revealed gaps in the understanding of factors that further the adoption and use of TC, which can be completed through future studies, and verified the difficulty to compare results among the surveys analyzed. Despite the importance of the theme for research and to help managers with possible decisions on the adoption of TC, this kind of study was not found in Brazilian journals, indicating the need to undertake such research in companies active in Brazil.

Keywords: Target Costing; Situational Factors; Survey

Resumen

El trabajo tuvo como objetivo el análisis de los resultados y la comparación de las investigaciones de levantamiento en el período 2001-2011 que abordaron los factores situacionales relacionados con la evaluación y el uso del Costeo Objetivo (CO). La metodología empleada fue un análisis crítico-interpretativo de la literatura, desarrollando se un debate sobre las investigaciones. Los resultados fueron: (1) la relación entre la intensidad de la competencia y la aplicación del CO fue confirmada en los tres trabajos que la

investigaron – un indicio de que una competencia intensa puede proporcionar la adopción del Costeo Objetivo; (2) una relación entre la adopción y el uso del CO con incerteza ambiental fue confirmada en uno solo estudio; (3) cerca las estrategias, no fue posible obtener conclusiones porque, según la tipología de Porter, los resultados fueron contradictorios, y según la tipología de Milles y Snow los dos estudios no pudieron ser comparados. Asimismo, en uno de esos trabajos se encontró relación entre prácticas de costeo e la estrategia defensora; (4) hay indicios de que las grandes empresas tienen más propensión a la adopción y uso del Costeo Objetivo. Este trabajo reveló la existencia de lagunas sobre el entendimiento de los factores que propician una evaluación del uso del CO que se pueden obtener por futuras investigaciones.

Palabras clave: Target Costing; Factores Situacionales; Encuestas

1 Introduction

Target Costing (TC) has been studied for at least 20 years (ANSARI *et al.*, 2007) and its cost management approach differs from the models discussed in the academy before it emerged; its development derives more from corporate practice than from scientific research (KATO, 1993; FEIL *et al.*, 2004).

Its use was first disseminated in Japan but, since the 1980's, which it was acknowledged as the most important factor for many Japanese companies to reach a superior competitive position, efforts have been made to introduce TC in Western companies (FEIL *et al.*, 2004). The literature appoints many characteristics of this practice (ANSARI *et al.*, 2006; SWENSON *et al.*, 2003; EWERT; ERNST, 1999; KATO, 1993; COOPER; SLAGMULDER, 1997), particularly its importance in the strategic context as a provider of information that can enhance organizations' positioning in the market and in the value chain they operate in.

Some studies published about TC are aimed at identifying and understanding, in the context of the organizational environment, factors related to its adoption and use that have not been satisfactorily explained yet. Hopwood (1983) alerted that, for accounting research to develop, its actual activity context, i.e. organizations, should be investigated. There are various ways to investigate this environment, and one of them is through surveys. A study by Van der Stede *et al.* (2007) showed that, in the last 20 years, 30% of empirical research in management accounting used the internet survey strategy, and this may be one of the reasons why it is one of the criticized research strategies. In the study by Hesford *et al.* (2007), surveys correspond to 16% of management accounting research, as the second most used strategy; the first was analytic research, corresponding to 18%.

Despite its frequent use in management accounting, sometimes, the contributions this research type has provided to academic literature are questionable, given the existence of inconsistent and inconclusive results among the findings (CHAPMAN, 1997; CHENHALL, 2007; LANGFIELD-SMITH, 2007); this has been no different with regard to TC. Surveys published in English about factors that can promote its adoption and use (HIBBETS *et al.*, 2003; DEKKER; SMIDT, 2003; AX *et al.*, 2008; CADEZ; GUILDING, 2008 e CINQUINI; TENUCCI, 2010) indicate advances, but also some contradictions in their results.

After these considerations, it is verified that many studies on TC are aimed at understanding aspects related to its actual context, seeking clarifications on its functioning and factors that can enhance its adoption and use. To support this understanding, surveys have been part of this research agenda, but problems related to their results tend to be found. Based on these findings, the research problem identified can be expressed through the following question: **What are the contributions of the surveys on Target Costing (among 2001-2011) about the situational factors related to its adoption and use?**

The aim of this research was to analyze the findings and the comparability of surveys published between 2001 and 2011 about situational factors related to organizations' adoption and use of Target Costing (TC), as a way to identify their contributions. The research method used was a critical-interpretative literature analysis and the discussion of the findings from the studies that were analyzed.

In articles in Accounting and Business Administration journals published in Brazil between 2001 and 2011, research on TC addresses questions related to its concept and definition (CRUZ; ROCHA, 2008; COLAUTO *et al.*, 2004), application to practice (CARDOSO; BEUREN, 2006; CAMACHO; ROCHA, 2008; BIAZEBETE *et al.*, 2009), case study and multiple cases to confirm its use (SOUZA *et al.*, 2010a; OYADOMARI *et al.*, 2010) and studies that investigated its use in populations of companies (RECKZIEGEL *et al.*, 2007; ONO; ROBLES JUNIOR, 2004; SOUZA *et al.*, 2003; SOUZA *et al.*, 2005; BRITO *et al.*, 2008; OYADOMARI *et al.*, 2008; MACHADO; SOUZA, 2006; SOUZA *et al.*, 2010b). No studies were found, however, that related TC to some kind of factor that was able to enhance its adoption and use. Therefore, investigating the contribution of studies about situational factors in which this practice can be more favorable can support both the orientation of future research in the area and organizational decision making on its adoption.

Another contribution that stands out is the identification of the points of consensus and contradiction in the research findings under investigation and, through the analysis and discussion of these empirical results, the researchers hope that the gaps found can stimulate research on factors that can influence the adoption and use of TC in organizations.

Studies that analyze research results published on a given theme (like CHENHALL, 2007 and LANGFIELD-SMITH, 2007) or research method (like MODELL, 2005 and AHRENS; DENT, 1998) or both (like ITTNER; LARCKER, 2001) are frequent in international literature to map, discuss and propose directions for knowledge in these areas. Therefore, this study is justified as a way to introduce a new debate on TC, especially in Brazil.

Section 1 of this paper contains the introduction, Section 2 the theoretical framework, Section 3 the methodological aspects used for data collection, analysis and interpretation, Section 4 the research development and Section 5 the final considerations.

2 Theoretical Framework

This topic was developed to support the analysis and addresses the topics discussed later, covering issues related to adoption-related factors and surveys.

2.1 Factors Related to the Adoption and Use of Target Costing

TC is a Strategic Cost Management practice and, due to its characteristics, it is more favorable in certain conditions a company is exposed to, both internal and externally. These conditions are discussed in literature as situational factors (MERCHANT; VAN DER STEDE, 2007) and can interfere in organizations' structure and performance. These factors do not represent a guarantee of structural changes (the existence of a certain factor does not necessarily entail the adoption of TC) but, through these factors, some orientations can be verified with regard to organizational changes in management accounting practices.

The bibliographic research that was undertaken showed that empirical studies on the factors that influence decisions to adopt and use TC refer to: (a) the adopted strategy and the competitive environment (HIBBETS *et al.*, 2003); (b) the intensity of the competition and environmental uncertainty perceived (AX *et al.*, 2008); (c) the environmental uncertainty, activity sector and competitive intensity (DEKKER; SMIDT, 2003); (d) the size and the

adopted strategy (CADEZ; GUILDING, 2008); and (e) the adopted strategies (CINQUINI; TENUCCI, 2010). These factors are discussed next.

2.1.1 Strategy

Depending on the strategy adopted, TC can help to control costs and plan profits, so as to achieve the expected results. To put the strategies in practice, the studies cited used Porter's (1989) differentiation and cost leadership; Miles and Snow's (2003) prospectors and defenders; Gupta and Govindarajan's (1984) build and harvest; and Cooper and Slagmulder's (1997) confrontation typologies.

Porter (1989) bases his generic market positioning strategies on competitive advantage, in which the type of advantage the company seeks and the scope in which it intends to achieve this advantage need to be chosen. In the cost leadership strategy, the company seeks to offer the lowest sales price in its market domain; the differentiation strategy, on the other hand, is marked by the search for exclusivity in terms of some product attribute or the client service level.

In Miles and Snow's market characteristics typology (2003), defender organizations have a tight and stable mastery of their product/market and managers tend not to seek new opportunities beyond their domains, but are highly specialized in the organization's delimited operation. Prospectors are organizations that almost continuously seek market opportunities, and generally create change and uncertainty their competitors are expected to react to, in a broad activity domain (MILES; SNOW, 2003).

In the portfolio typology, studies followed Gupta and Govindarajan's (1984) operationalization, in which the built strategy indicates the intent to increase the company's market share and competitive advantage, although short-term gains and cash flow generation may be low or even negative; the harvest strategy indicates the intent to maximize profit and short-term cash flows instead of increasing the market share.

Cooper and Slagmulder (1997) defend only one type of strategy, used by companies that adopt lean production, when different enterprises compete for the same clients with equivalent and similar products, with high quality and low-cost functionality levels (COOPER; SLAGMULDER, 1997). They argue that, in environments in which lean companies compete, there is no room to choose between differentiation and low cost and that confrontation is the feasible strategy. To reach this conclusion, however, they compared mass production environments, in which Porter's typology would be useful, with lean production, in which the confrontation strategy would be suitable.

This argument is insufficient to invalidate Porter's strategies in lean production environments. First, because Porter (1989) argues that, in the differentiation strategy, companies select one or more attributes the buyers consider as important, taking a singular position to reach these needs, rewarded by a price-reward; but highlights that a differentiator cannot ignore the cost position so as not to compromise the price-reward, so that costs need to close to the competition. This shows that, in the differentiation strategy, quality, functionality and cost are considered, in the same way as in the confrontation strategy. Second, because the differentiation strategy is not exclusive to mass production environments; according to Chenhall (2007), it is probable that companies that manufacture highly specialized, non-standardized and distinguished products use complex production units or batch technologies, tending to involve processes with many exceptions, which is not the case in mass production.

To be considered a typology, at least two possible alternatives or action courses should exist, but Cooper and Slagmulder's (1997) proposal presents only one strategy type: confrontation. Therefore, this classification is not part of a typology and does not seem to be

consolidated in the literature as, among all studies analyzed, only one used the confrontation strategy, together with Porter's typology. Due to the reasons presented, it is considered that the confrontation strategy is neither different nor replaces Porter's typology, independently of the type of technology used in an organization's productive system.

In view of the above, it is verified that, although different typologies exist to put the strategy factor in practice, the focus is different in each, which may arouse discussions and different analyses on the theme.

2.1.2 Competition

According to Ax *et al.* (2008), intense competition makes companies seek opportunities to reduce costs, speed up operations and reach acceptable yield levels; they argue that competitive intensity is an important factor that influences the model and use of management and cost control systems. The explanation is that the risk exists that competitors will explore any costing error; hence, more reliable cost information is needed in conditions of intense competition.

Another sign of the relation between the adoption of TC and competitive intensity was presented in Cooper and Slagmulder (1999): in a highly competitive environment, companies should manage costs aggressively if they wish to survive and cost management should start in the first phases of a product's life cycle, because the ability to change it significantly increases the extent to which costs can be reduced.

2.1.3 Uncertainty of the Environment

Environmental uncertainty is an external factor that can influence the adoption of TC. According to Chenhall (2007), in management control studies, perhaps the most widely investigated aspect with regard to the environment is uncertainty. This factor is generally discussed in the literature as *perceived* environmental uncertainty.

Environmental uncertainty refers to a broad set of factors that, individual and collectively makes it difficult or impossible to forecast the future in a certain area. (MERCHANT; VAN DER STEDE, 2007). The relation between uncertainty and information needs was studied in Gordon and Narayanan (1984), who evaluated this question, arguing that, when environments become more uncertain, further information is needed, which decision makers need to process. According to Malmi and Brown (2008), however, when this relation refers to control instead of decision making, the analysis is totally different. In that case, environmental uncertainty may demand more agility from organizations, and hence less use of this information for control purposes. Due to this difference in the analysis of information aims (decision making or control), this question needs to be clarified in research, so as not to distort the results. Tani (1995) included uncertainty in his work, arguing that TC is Japanese companies' response to environmental uncertainty and that, therefore, its analysis is important.

2.1.4 Size

The literature shows that organizational size can be related to the sophistication of accounting information (CADEZ; GUILDING, 2008); the larger the company, the greater the need for controls, internal communication and more sophisticated systems. Therefore, size is an internal factor that can enhance the adoption of TC.

2.1.5 Industry

The industry is not addressed as a situational factor in the literature, but its analysis is useful to map what sectors are using TC more frequently. Thus, the findings serve as a way to discuss in what sectors it is being used, but not necessarily as something that enhances the adoption of TC.

The industries TC has been applied in are indicated in the literature, especially in the manufacturing industry, such as vehicles, electric and electronic equipment and machinery (TANI *et al.*, 1994). Studies generally investigate assembly industries, as these display clearer and more formal product development processes, in which TC is more used. TC can also be applied in other sectors though, like in hospital services (CAMACHO; ROCHA, 2008).

2.2 Surveys

The aim of this study is not to assess the quality of the surveys undertaken in research on TC, but to analyze their contents and results, verifying the consistency and comparability of their findings. To clarify some problems deriving from this analysis, it is important to understand when, how and why researchers choose this type of strategy.

The survey is a research strategy in which data are collected by applying self-administered questionnaires to the participants. It is one of the most used strategies in social sciences to study the characteristics and inter-relations among sociological and psychological variables (NAZARI *et al.*, 2006). In Accounting research, surveys can be used to test theories or describe a certain sample or population, and even their critics acknowledge the power of collective opinions over individual, organizational and social behaviors and functioning (VAN DER STEDE *et al.*, 2007).

One of the critical points in this strategy refers to the questionnaires applied, underlining *what* one intends to measure. Detailing the measures used in the survey enables other researchers to evaluate their usefulness and, if that is the case, to continue using them, with a view to comparing results among different samples and populations. Detailed measures also help to adjust the measure or develop other more appropriate ones. When researchers use different measures, this makes it difficult to compare results. Therefore, the clearer the measures, the more the results can be of help in other studies and to understand what was proposed. When there is no continuity in studies in a given area, a trend towards knowledge fragmentation exists, as no other evidence exists on the theme. Surveys can contribute more through continuous research programs than through individual results, as the same observations can be repeated at different times (MARTINS, THEÓPHILO, 2007).

After these considerations, next, the methodological aspects used for data collection, analysis and interpretation are discussed.

3 Methodology

The analyzed studies were selected in view of the following: (a) factors are discussed related to the adoption or use of TC and (b) the survey strategy was used for data collection. The keywords used to the search were target costing, situational factors, contingent factors, and survey. The period, from 2001 until 2011, was chosen because it encompasses the papers found involving the subjects researched. Besides that, was chosen due to the fact that Ansari *et al.* (2007) had previously assessed production on TC in the 1990's and, despite the different focus, the studies that fit into the characteristic described were commented on and analyzed.

In international journals, a search was undertaken in the databases PROQUEST,

EMERALD and SCIENCE DIRECT, in English, for presenting the most ranked journals in the accounting area. The studies by Ax *et al.* (2008); Hibbets *et al.* (2003) and Dekker and Smidt (2003) were found, with TC as the main theme. Although the studies by Cinquini and Tenucci (2010) and Cadez and Guilding (2008) did not exclusively address TC, they were also selected because they address strategic cost management practices, including TC. The analysis was based on these five articles.

In Brazil, the search was developed in Accounting journals ranked as A1, A2, B1, B2 and B3 in the Capes 2011 ranking (Brazilian governmental agency). Seven Accounting journals were investigated, Revista Base, Revista Brasileira de Gestão de Negócios, Revista Contabilidade e Finanças, Revista de Contabilidade e Organizações, Revista Contemporânea de Contabilidade, Revista Universo Contábil e Revista Vista & Revista. In total was found 13 articles on TC. Factors related to the adoption or use of TC were not addressed in any of them though. An exception is the study by Oyadomari *et al.* (2008), in which factors are discussed, not related to the study theme but to the institutionalization of this practice. Therefore, none of the papers published in Brazil was analyzed.

The interpretative critical analysis was made considering the content of the papers analyzed and in what way the results can be grouped in order to verify the inconsistencies among them. To guide data analysis, the following points were considered: research aim, analyzed factors, measures used and results. Thus, the intent was to extract the contributions with regard to the factors that can motivate the adoption and use of TC. The studies are presented in chronological order of publication.

4 Results and Discussion

In this topic the papers found for analysis were presented, covering issues related to TC adoption.

4.1 Dekker and Smidt (2003)

The aim of this research was to investigate the adoption and use of costing practices similar to TC in Dutch companies. The intent was to verify whether the companies adopted TC or not, using a broad definition, based on its market-oriented cost characteristic. Thus, the aim was to identify companies that used similar technique without being familiar with the TC concept.

The sector the companies that adopted TC belonged to was investigated and, for companies that did not, the reasons were questioned. For companies that did, the reasons for adopting TC and the perceived benefits of its use were investigated. A single question was used to measure each item addressed. Also, the functional departments' involvement in its application and the organizational form were measured. The situational factors investigated were competition and environmental uncertainty. Two indicators were used to measure the competition: the number of competitors and the perceived competitive intensity, measured based on the unpredictability of the environment. Also, the importance of the cost focus was evaluated.

The valid response rate was 21.8% (43 firms), almost 59.4% of which affirmed using a technique similar to the description. The sectors with the highest usage incidence levels were electronic equipment, textile, precision equipment and chemistry; only one company answered that the system used was called TC: in the remainder, the names were “net basic price”, “cost reduction”, “manufacturing cost reduction”, “contribution margin maximization”, among others. The main response of those companies that did not adopt TC was its non-utility due to

its nature.

Considering the situational factors, statistical tests showed that a more unpredictable environment and more intense competition were significantly related with the use of these practices. The number of competitors and the cost focus were not significantly related to the adoption. The initial objectives and main benefits after the adoption were confronted and did not show any before-after divergences. Cost reduction was the main reason for and main benefit of using TC. As for the functional departments involved in the process, engineering departments like product development and product design were more frequent; accounting and finance were the least frequent departments. As for the organization of TC, the majority answered that it takes the form of multidisciplinary teams.

4.2 Hibbets et al. (2003)

The aim of the study was to assess the competitive environment and strategy of companies in which the implementation of TC had been identified, in order to verify whether specific environmental forces, linked with the company strategy, could be traced back to a decision to adopt the practice. The strategy was assessed according to Porter and Cooper and Slagmulder's typologies. To evaluate the competitive environment, Porter's five forces model was used, investigating competitive pressure collectively, checking whether the forces were strong among companies that adopted the practice; and individually, checking whether each of these forces affected the choice. The study also investigated whether the companies that adopted TC combined individual competitive forces with strategy.

Data were collected through interviews with 12 companies (nine American and three German), none of which acted in the same sector, nor were they mutual competitors. It is highlighted that the research strategy used was not mentioned, as this case study was not considered a survey. A five-point scale was used for most answers related to the competitive environment, with 1 indicating "very low" and 5 "very high". High scores represented strong competitive pressure for each of the five forces. Regarding the strategy, assertions were presented on each of the three types and the respondents were asked to choose the one that best adapted to their company.

Regarding the strategy, most companies adopted differentiation (eight respondents); as for the competitive environment, the results showed that the competitive forces were strong for all companies, especially with respect to rivalry and the buyers' power. Preliminary evidence showed that competitive forces were strong for companies that adopted the practice and that rivalry was the strongest individual force and seemingly the driver of the competitive environment.

The final item that was investigated was about the combination of individual competitive forces and strategy, using the statistical tool CART. The findings showed that, in an environment of intense rivalry and high supplier power, with companies following the product differentiation strategy, managers should consider the adoption of TC.

4.3 Ax et al. (2008)

The aim was to verify the influence of competitive intensity and perceived environmental uncertainty on the adoption of TC. Based on the work by Dekker and Smidt (2003), the authors propose that the adoption of TC is positively correlated with competitive intensity but, as opposed to Dekker and Smidt (2003), they suggest that perceived environmental uncertainty is negatively correlated with the adoption. The argument is that organizations should consider TC when reliable predictable information about consumer

requirements and competitors' behavior is available. Therefore, the researchers suggest that, in environments with high levels of uncertainty about consumers and competitors, TC would be less appropriate. The authors also suggest that perceived environmental uncertainty exerts a negative moderating effect on the adoption. The factor company size was used as the control variable.

The adoption of TC was measured using an adapted version of Dekker and Smidt's instrument (2003), in which a description of practice, based on its generic characteristics, was presented to the respondents. To measure competitive intensity and perceived environmental uncertainty, the authors adapted the seven-variable construct by Gordon and Narayanan (1984). Company size was measured through the number of employees.

Data were collected by means of an internet survey. The sample consisted of randomly chosen companies that were members of the Association of Swedish Production Engineering Industries; 57 questionnaires were considered valid and used in the analyses. The sector was delimited in order to avoid a possible mix-up of variables when investigating companies in different sectors. Therefore, the results could not be generalized to other sectors.

The results showed that 24.6% of the companies adopted TC. A positive correlation was identified between competitive intensity and adoption of TC. The statistical tests related to the correlation between environmental uncertainty and adoption were not significant, but showed negative correlation signals, going against earlier studies like Dekker and Smidt (2003). As for the fact that environmental uncertainty can moderate the adoption of TC, the tests were significant and indicated that increased environmental uncertainty can reduce the positive impact of competitive intensity on the probability to use TC, which means that perceived environmental uncertainty can moderate the effect of competitive intensity on its adoption.

4.4 Cadez and Guilding (2008)

The aim was to investigate the effect of strategic choices, market orientation and company size on two strategic management accounting (SMA) dimensions and its mediating effect on company performance. Data were collected through a posted survey. The sample was taken from three databases: the "Slovenian Chamber of Commerce and Trade", including the 500 largest companies (total revenues) in Slovenia from all industrial sectors. The "Slovenian Bank Association" and the "Slovenian Insurance Association" were used for the financial intermediation sector. The valid response rate was 49.7%. In ten companies, interviews with the senior accountant were held to obtain qualitative data.

The 16 SMA practices were classified in five categories through factor analysis, with TC figuring in the "Costing" category. The strategy was assessed in accordance with Miles and Snow's typology (prospectors and defenders). The findings indicated that the use of the 16 practices under analysis was positively associated with the prospector business strategy and with company size. Evidence was found that the use of these practices positively affects company performance. As for the qualitative data, eight out of ten interviewees affirmed that the factor that most affects the use of the practices under analysis is the business strategy, while the second most mentioned factor (five interviewees) was competitive intensity. Market orientation showed no statistical significance with regard to the use of these practices.

4.5 Cinquini and Tenucci (2010)

The aim was to verify whether strategy influences the use of SMA practices. To assess the strategy, the typologies by Miles and Snow, Porter and the portfolio typology were used, in accordance with Gupta and Govindarajan. Eleven SMA practices were evaluated, grouped in

four categories: costing, clients, competitors and performance; TC was grouped under “costing”. Company size was used as a control variable.

The research was undertaken through an internet survey among the largest Italian manufacturing companies in the database “Business International”, active in different sectors. The valid response rate was 42.8%. Among 11 practices, TC ranked sixth. According to Miles and Snow’s typology, defenders obtained a higher usage rate of practices classified as costing, as they are interested in cost efficiency and control. According to Gupta and Govindarajan’s typology, a relation was found with “consumer” practices only, while no statistical significance was found for the other practices. As for positioning in cost leadership, the companies that adopted this strategy showed a higher usage rate of SMA practices classified as costing, including TC. The authors conclude that, besides these two strategies that affect costing practices, the study did not reveal any other significant relations. They also comment that the weak link between the use of these practices and the strategies under analysis suggests that the same practice can sustain different strategies.

4.6 Comparative Summary of the Findings

The findings of the five studies under analysis, which obtained statistical significance and used similar factors, have been summarized in Figure 1.

Figure 1: Comparative summary of the research findings

Authors	Dekker and Smidt (2003)	Hibbets <i>et al.</i> (2003)	Ax <i>et al.</i> (2008)	Cadez and Guilding (2008)	Cinquini and Tenucci (2010)
Intensity of competition	Significant correlation with TC use	Strong, especially rivalry and power of buyers	Positive correlation with the adoption of TC	Not assessed	Not assessed
Environmental uncertainty	Positive correlation with TC use	Not assessed	Moderates the effect of competition on the adoption of TC	Not assessed	Not assessed
Strategy	Not assessed	Differentiation was the most frequent among the companies that adopted TC	Not assessed	The use of the practices was positively associated with the prospector strategy	Cost leadership and defenders were associated with practices classified under “costing”

Source: authors.

4.7 Discussion

The factor *competitive intensity* showed the same result in the three studies in which it was investigated (positive correlation with TC use), although the way the research was carried out and the measures differed among the three. This result may indicate the importance of competitive intensity in the choice of practices like TC, due to the relevance of cost management in this environment.

As for environmental uncertainty, different measures and hypotheses were used and the results could not be compared. Ax *et al.* (2008) defended the hypothesis of a negative correlation between environmental uncertainty and the adoption of TC, which goes against the

findings in Dekker and Smidt (2003); although the effect of this correlation is as expected (negative), the tests showed no statistical significance. What is interesting in this case that the arguments used by Ax *et al.* (2008) to construct their hypothesis is that, in an uncertain environment, it is difficult to obtain information to process a practice like TC. This argument is rather weak to defend, also because earlier studies like Tani (1995) evidenced that TC was a response to an uncertain environment.

As discussed under item 2.1.3, a more elaborate argument to explain this negative relation could be the goal of TC information for cost control, that is, in an uncertain and dynamic environment, strict cost control would not be an adequate option as it hampers the innovation and changes this kind of environment demands. On the other hand, if the goal is decision making, for example, on whether to launch a product or not, TC has both internal and external information to support this goal, with a possible positive relation between uncertainty and its use.

The characteristics of this factor illustrate its complexity and the need to establish and verify hypotheses based on these questions. In addition, one aspect that was not discussed in the studies presented and which emerges after this discussion is that this factor can be inter-related with the strategy factor. For the sake of illustration, the case of an organization that follows the defender strategy is highlighted. In that case, the company is concerned with production efficiency and the protection of its market dominion, which has a lean scope. Therefore, environmental uncertainty is not a key aspect, also because efforts are made to neutralize it. According to Miles and Snow (2003), the defender organization perceives great environmental stability, as it creates this stability through its decisions and actions. Thus, it is perceived that not just the goal of the information, but also the strategy followed can affect the analysis of the environmental uncertainty factor. Therefore, other studies are needed to investigate this factor in a more detailed way and cover other discussions than the relation between uncertainty and TC use, so as the further the understanding about this factor and its relation with other situational factors.

The strategy was another factor that showed fragmented and diverging results, highlighting that studies on the same theme should be compared with caution and that, often, these comparisons are not even possible. Some points can be underlined in this case. With regard to Porter's typology, only the study by Hibbets *et al.* (2003) was exclusively focused on TC. Cinquini and Tenucci (2010) attempted to verify whether the usage rate of practices classified as "costing" was higher for the cost strategy leadership than for differentiators; in this case, it could be verified that TC figured among the practices chosen and ranked second among costing practices. Therefore, based on these two studies, it can be inferred that their results are contradictory. The question that remains unanswered is: are the results contradictory or can TC be useful or adequate for both strategic postures (cost leadership and differentiation)?

As outlined under item 2.1.1, Porter (1989) mentions the importance of cost control in both market positions. Otherwise, there may be a risk that the company will not obtain the desired results. This analysis indicates that surveys aimed at verifying the frequency of each strategic type with regard to TC use can reach different results, showing the importance of also investigating how differentiating and cost leadership companies use TC information.

The comparison between the studies by Cinquini and Tenucci (2010) and Cadez and Guilding (2008) shows that both were aimed at verifying the relation between Miles and Snow's typology and the usage rate of SMA practices. Cinquini and Tenucci (2010), however, raised their hypothesis with regard to the "costing" category, which deepens the analysis in comparison to the study by Cadez and Guilding (2008), based on the set of practices, without any concern with which practices were used according to the respondents. Therefore, the results cannot be compared as, in Cadez and Guilding (2008), no information was included as to

whether prospector companies used TC or not. This finding shows that studies that treat the research objects broadly serve to explore the theme, so as to discover routes for others to undertake more detailed investigations, like in the case of Cinquini and Tenucci (2010). Nevertheless, doubts remain and deeper analysis of prospector and defender companies' characteristics are still needed, as evidenced earlier with regard to the uncertainty factor.

Another interesting question that emerged from the comparative analysis between Cadez and Guilding (2008) and Cinquini and Tenucci (2010) was the classification of TC in the "costing" category, through factor analysis, together with practices like Activity-Based Costing, Activity-Based Management, Life Cycle Costing, Quality Costing etc. These practices have distinct characteristics and their grouping into a single category can cause confusion in analysis and interpretation of research results. It is highlighted that TC is not a costing method, despite its name; therefore, the researchers should pay more attention to the characteristics of the study problems, so as to generate less fragmented results and permit comparisons. Thus, care is due when using these results for comparisons and even to raise hypotheses in other studies. In view of the above, the results of the three studies on the strategy factor could only be compared partially, without offering specific contributions on the appropriateness of TC in each typology. These findings suggest that further research is needed to check the relation between the strategy typologies and TC use.

With regard to the result confrontation strategy, the study results by Hibbets *et al.* (2003) showed that few companies chose this. As discussed under item 2.1.1, this strategy is very specific (used by lean companies) and should not be considered a typology, which is why its use in surveys does not seem adequate.

Another observation that emerged from the analyses refers to the fact that, in the study by Dekker and Smidt (2003), only one company in the sample affirmed that the name of the practice used was TC. This raises questions on how to measure variables in surveys. The use of technical terms and very broad definitions for the variables can arouse this kind of confusion. Thus, when investigating practices like TC, further attention should be paid to the specification of their characteristics in the questions, so as to check whether the strategy is actually used or not with less bias and greater reliability.

Another point that should be considered in further depth in future research is the fact that the participation level in the TC process was lower in Accounting and Finance areas. Dekker and Smidt (2003) argue that, although companies that adopt TC choose to use it to reduce costs, the engineering function was predominant in the involvement of its process and that this was also verified in studies of Japanese companies. This raises the following questions: is this fact recurrent in companies that adopted TC? If TC is studied in the Management Accounting context, why does the Accounting sector show little participation in its process? What is the role of this sector in TC processing?

The factors investigated in one only of the studies were not analyzed, as no comparison of its results was possible. Therefore, these were treated as isolated contributions, which deserve further understanding. It is important to mention that Ansari *et al.* (2007) also analyzed studies on TC, as indicated earlier, aimed at investigating in what kind of environment TC is more beneficial, among others, which is the point of intersection with the present study. As a result, Ansari *et al.* (2007) showed empirical findings in which competitive intensity figures as one component of the environment in which the use of TC is advantageous. This result was also found in the studies assessed here and discussed earlier.

5 Final Considerations

According to the analyses, some contributions could be identified with regard to the

situational factors that can enhance the adoption and use of TC, even if separately, with little or no possibility of comparison among the studies. Returning to the research question that guided this study (What are the contributions of the surveys on Target Costing (among 2001-2011) about the situational factors related to its adoption and use?), the following answers are reached: (1) the relation between competitive intensity and the adoption and use of TC was confirmed in the three studies that investigated it, indicating that intense competition can further the adoption of TC; (2) the positive relation between the adoption and use of TC and environmental uncertainty was confirmed in one study; (3) with regard to the strategies investigated, no conclusions could be drawn as, in Porter's typology, the findings were contradictory and, in Miles and Snow's typology, the two studies could not be compared, although one of them identified a relation between the usage rate of "costing" practices and the defender strategy; (4) there are signs that large companies are more prone to the adoption and use of TC; (5) the adoption and use of TC were more frequent in manufacturing sectors, particularly in continuous process industries like chemical industries; (6) the main reason for the adoption and use of TC was cost reduction; (7) engineering and project departments are the most involved in the TC process; (8) in most companies that adopted TC, the structure is based on multidisciplinary teams and (9) there seems to exist a relation between the adoption of SMA practices, including TC, and companies' performance.

Some interesting points emerged from the analysis and were appointed to support future studies. Despite the importance of the theme for research and to be of help in possible organizational decisions to adopt TC, no studies were found in Brazilian journals, which shows a gap that needs to be completed in order to check these questions in companies active in Brazil and also to investigate situational factors in other countries.

Another gap that was observed is the lack of tests involving other situational factors that may be related to TC, such as organizational structure, the production technology used in the companies that adopt TC and the duration of the products' life cycle. Also, the need is highlighted to pay further attention to the specification of the constructs and variables, so as to permit comparisons among studies and leave behind fragmented and stagnant results, like in the studies analyzed. One way to change this situation is through more in-depth discussions about the measures. The presentation of the research instrument, even if summarized, like in some of the studies under analysis, clearly supported the analyses and should be followed in future studies.

Finally, it is concluded that most contributions were individual, without any power of comparison, and no study was found whose results could be generalized to any population. Contributions were found, but doubts remain about the factors that favor the adoption and use of TC as indicated in this study. It is also highlighted that, in this research area, the survey strategy is justified in exploratory studies, while the investigation of questions that involve the understanding of the reasons or motives leading to the adoption of Management Accounting practices would be more favorable through case studies or strategies that permit exploring the study problem in further debts. Thus, future studies in the area should pay attention to these gaps with a view to reaching a further understanding about these issues.

It is necessary to mention that the way of obtaining the papers through the databases can be a limitation of the research, since there may be other papers in other journals not covered in the search.

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