

Product Valuation Methods: Empirical Study on Industrial SME

Maria Joao Cardoso Vieira Machado

Department of Accounting, Instituto Universitario de Lisboa (ISCTE-IUL),
Avenida Forcas Armadas, 1649-026 Lisboa, Portugal

Abstract: The objectives of the present study are to analyse whether there is a link between what the theory considers adequate product valuation methods and the opinion of the people in charge of management accounting in companies to identify factors that explain why the same method is considered adequate in some companies and in others not. We interviewed the people in charge of management accounting in 58 small and medium size Portuguese industrial enterprises. This study gives a contribution for the knowledge on management accounting in two ways. In the first place its results allow the conclusion that there is no link between what the theory and the people in charge of management accounting consider as adequate product valuation methods. Secondly, the results obtained fill in a gap in knowledge because the empirical data show the existence of a new variable influencing what those in charge of management accounting consider to be adequate product valuation methods: the way by which those methods were conceived.

Key words: Management accounting, product valuation methods, portugal, empirical data, objectives

INTRODUCTION

The objective of this study is to increase the knowledge on the product valuation methods used by the Portuguese industrial Small and Medium sized Enterprises (SME). As more specific goals we state the following: to analyse whether there is a link between what the theory considers adequate product valuation methods and the opinion of the people in charge of management accounting in companies to identify factors that explain why the same method is considered as adequate in some companies and in others not.

Researchers remain deeply interested in studying whether the companies use the product valuation methods considered by the theory as adequate and when that is not the case their concern is with finding variables that explain why not (Hoozee and Bruggeman, 2010; Nassar *et al.*, 2011, 2013; Pike *et al.*, 2011; Stout and Propri, 2011; Schoute, 2011; Charaf and Bescos, 2013; Elhamma and Fei, 2013; Campanale *et al.*, 2014; Dybvig *et al.*, 2014).

Management accounting practices within the organizations are little disclosed in Portugal because of the optional aspect of this branch of accounting. The current financing problems of the Southern European countries demand a stronger management capacity in companies which also renders relevant the study of management accounting practices in Portuguese companies. We have narrowed the universe to be studied to SME because of their weight in the Portuguese entrepreneurial fabric. A study performed in Portugal,

mentions that 99.6% of the national companies are of small and medium size which gives a greater importance to a study of this type of companies in characterizing the country's situation. However, the high number of SME in Portugal-297,000 companies in 2005 requires a higher restriction of the universe to be studied. Therefore, we have limited this study to the companies with the classification of industry-excellence. This is a previously performed selection of companies with objectives similar with those of this study; this classification assesses the economic, financial and management performances of the applicant companies. The universe under analysis is composed of 163 companies, classified in a consistent manner in the current century as industry-excellence SME. Data gathering was performed through interviews made to the people in charge of management accounting because we consider they possess all the information on which we intend to collect evidence. We conducted interviews with those in charge of management accounting in 58 companies situated in 11 Portuguese districts. The response rate was 36%. The non-replies were treated and through this we concluded that there are not any statistically significant differences between the responding and the non-responding companies.

Research questions: Horngren (2004) considers that one of the management accounting dilemmas in 20th century industrial companies was the problem of the cause effect relation between indirect costs and the products, services or clients. The concern with finding more adequate

allocation basis to link indirect costs with the products instigated a change from the use of a single base to multiple allocation bases. This was a systematic attempt to improve the relationship between the chosen basis and the factors causing the cost (Hornigren, 2004). Although, better, the multiple allocation base is still the focus of much criticism. Even if Cooper (1987a, b) recognises that the use of other allocation basis such as machine hour or raw materials value, besides direct labour have improved indirect cost allocation, they are still not adequate because they are all influenced by the amount of each product manufactured which causes an overvaluation of products manufactured in large quantities and the undervaluation of products manufactured in small amounts.

The recognition of this distortion has prompted the development of a new costing system, starting in the mid 80s which became known as activity based costing. Several researchers claim the activity based costing has obvious advantages when it comes to determining the cost of each product (Hoozee and Bruggeman, 2010; Nassar *et al.*, 2011, 2013; Pike *et al.*, 2011; Stout and Propri, 2011; Schoute, 2011; Charaf and Bescos, 2013; Elhamma and Fei, 2013). Those advantages result from the way the costs unrelated with the production volumes but related with other factors such as the number of production orders or the quantity of products are treated (Cooper, 1988). The other methods of product valuation allocate indirect costs through allocation basis influenced by production volumes which may not reflect the true consumption of the organizational resources required by the products (Swenson, 1995).

Despite the limits the theory places on product valuation through one or more allocation basis influenced by the production volumes, several empirical studies report the use of these methods in various countries. The use of a single allocation base in more than a quarter of the companies is reported by Drury and Tayles (1994) in the United Kingdom, Chun *et al.* (1996) in Malaysia and Joshi (2001) in India. The use of direct labour as the most used allocation base is reported by Drury and Tayles (1994) in the United Kingdom; Clarke (1997) in Ireland; Chun *et al.* (1996) in Malaysia; Joshi (2001) in India; Haldma and Laats (2002) in Estonia. On the other hand, despite the theoretic supremacy of activity based costing, several empirical studies report low usage rates for this method. In most countries we find rates equal or inferior to 20%, namely in the United Kingdom (Innes *et al.*, 2000), in New Zealand (Cotton and Jackman, 2002), in Japan (Hopper *et al.*, 1999), in India (Joshi, 2001), in Ireland (Clarke *et al.*, 1999), in Spain (Blake *et al.*, 2000), in Singapore (Ghosh and Chan, 1997), in Malaysia

(Chun *et al.*, 1996), in Estonia (Haldma and Laats, 2002), in Finland (Lukka and Granlund, 1996) and in Portugal (Machado, 2012).

This paradox between theory and practice, reported by the empirical studies already performed, suggests the need to investigate its causes why do companies continue to use product valuation methods considered by the theory as inadequate. An analysis on empirical studies already performed, namely O'Dea and Clarke (1994), Chun *et al.* (1996), Clarke (1997) and Ghosh and Chan (1997), suggest there is no link between what the theory considers adequate product valuation methods and the opinion of the people in charge of management accounting in companies. O'Dea and Clarke (1994) have interviewed people in charge for management accounting in 16 multinationals operating in the Netherlands and have concluded that all of them use product valuation methods considered as theoretically inadequate: they either do not allocate the indirect costs by product or do it through allocation basis influenced by production volumes. However in only two of those companies (12.5%) is the method being changed because those in charge consider it inadequate. Chun *et al.* (1996) have analysed 92 industrial companies in the Malaysian Peninsula and have concluded that although a third of them uses a single allocation base for indirect costs with direct labour the most used base, the majority of people in charge (89%) considers the product valuation method used is adequate with no proof that they intend to change it in the near future. Clarke (1997)'s study performed on 204 Irish industrial companies also reports that even though the most used imputing base is direct labour the industrial cost component with less weight 84% of those interviewed consider the product valuation method as adequate. Ghosh and Chan (1997) analysed the product valuation methods in 109 Singaporean companies of two different types: local companies and subsidiaries of multinational companies. Even though they found significant differences in the way these two groups value their products these differences were not reflected in the way the people in charge of management accounting judge the method as being adequate or inadequate. Most people in charge both from local companies and from multinational subsidiaries, consider the method as adequate (66 and 71%, respectively).

If the empirical studies already performed do not suggest a link between what the theory considers an adequate product valuation method and the opinion of those in charge of management accounting in companies, it becomes important to study which factors lead these people in charge to classify these methods as adequate or inadequate. The importance of this is justified by the fact

that some researchers report that one of the factors inhibiting the introduction of more recent methods such as activity based costing in the companies is the fact that those in charge consider the methods used as adequate (O'Dea and Clarke, 1994; Innes and Mitchell, 1995; Chun *et al.*, 1996; Cotton and Jackman, 2002; Ghosh and Chan, 1997; Bjornenak, 1997; Cohen *et al.*, 2005). Cohen *et al.* (2005) suggest that the opinion of those in charge on the adequacy of the methods used is connected with their own individual characteristics such as their age and not with the method used by the company. These researchers conclude that the people in charge with more seniority in the company which according to them may mean an older age group are the ones that tend to consider as proportionally more adequate the method used. Based on this literature review, we have formulated the following research questions:

- Question A: is there a link between what the theory considers as adequate product valuation methods and the opinion of those in charge of management accounting in companies?
- Question B: are specific individual characteristics of those in charge linked with the fact that they consider the methods as adequate?
- Question C: are there other variables linked with the fact that those in charge consider the methods as adequate?

MATERIALS AND METHODS

Considering the type of research questions defined, we chose to conduct interviews that would us to collect evidence as varied as possible on the issues raised. Equally, we have also intended to collect the most reliable evidence this way, since the basic concepts associated with management accounting may not be used in the same manner by all Portuguese companies. We chose to conduct semi-structured interviews in which there is no questionnaire to support the interview but a group of topics on which to focus on (Bell, 2005). Only the person in charge of management accounting was interviewed. This was because we considered this person possesses all the information on which we intended to collect evidence and given the size of these companies also has a global view of them.

This study's objective was to analyse the universe of the 163 Portuguese industrial SME consistently classified with the grade of excellence in the current century. After three contact stages the interviews were scheduled with the person in charge of management accounting in 58

companies. We analysed companies in eleven districts out of the initial universe of fourteen which is a good geographic coverage. The 58 companies that accepted to take part in this research represent a response rate of 36%, comparable to that of other papers analysed in the literature review, namely Drury and Tayles (1994) that presents a response rate of 35%, Haldma and Laats (2002) with a response rate of 34%, Innes and Mitchell (1995), Innes *et al.* (2000) and Joshi (2001) with response rates of only 25, 23 and 24%, respectively.

However, the existence of non-respondents may cause biased results, namely if the companies who refused to participate have homogeneous characteristics, therefore defining a category with its own characteristics (Van Der Stede *et al.*, 2005). In this study, we have not found proofs of any bias caused by the non-responding companies and this was done through a two factor analysis. The first factor was the geographic coverage of the Portuguese territory: companies from 79% of the districts in the universe were represented and the three non-covered districts only had one company each. This suggests the geographic representation factor is not an indicator that causes biased results. The second factor was company dimension which according to Van Der Stede *et al.* (2005) can be measured by the number workers. We made a comparison between respondents and non-respondents in terms of dimension. This comparison was measured using the average number of workers. The t-student test obtained presents a value of 1.165-161 degrees of freedom with a $p = 0.246$. This reveals there aren't any significant differences in the average dimension of both groups. This analysis allows us to conclude that the results of this study, although not valid for all Portuguese industrial SME may characterize the reality of a sub-set of those companies the ones consistently classified with excellence in the current century. Abernethy *et al.* (1999) conclude that regardless of the method of research used generalization from a single paper is necessarily limited. These researchers consider generalization in management accounting has to be achieved through a successive application in new populations, places and time periods.

RESULTS AND DISCUSSION

Product valuation methods: To analyse Question A, we built two variables: a variable "product valuation", reflecting the method used by the company; the variable "method adequacy" that shows if those in charge of management accounting consider the product valuation method as adequate or inadequate.

The “product valuation” variable has three response categories: 24% of the companies do not allocate indirect costs by product; the higher response frequency is the use of a single allocation base (48%); 28% of the companies use multiple allocation bases. The allocation bases used are all of them influenced by production volumes and as such are considered by the theory as inadequate. The most used allocation basis are machine-hour and direct labour hour. None of the companies uses activity based costing.

The variable “method adequacy” has two response categories: the majority (52%) of those in charge of management accounting consider the method used as adequate; the remaining people in charge (48%) consider the method used as inadequate. However, this last group can be split in two: those that are changing the product valuation method, precisely because they consider it as inadequate (26%) and those that maintain the method despite considering it as inadequate (22%).

We analysed each of the interviews where those in charge considered the method as inadequate. The objective was to find out in the companies where the method is not being changed what are the reasons that justify its classification as inadequate and which causes justify maintaining that situation and in the companies where the method is being changed what are the main changes being undertaken.

The analysis of the thirteen interviews to the people in charge in companies where the method is not being changed allowed us to identify the following causes for its classification as inadequate: six people in charge (46%) declared that the method does not allow indirect cost allocation by product; four of those in charge (31%) considered as inadequate the theoretic imputing of indirect costs because it does not allow them to find the real cost for each product; three people in charge (23%) reported that the computer system used for product valuation is too strict and does not allow them to choose a more Adequate Indirect Cost Allocation Method.

After these causes were analysed, the aim was to inquire how the same people in charge justified the maintenance of a method they considered as inadequate. The justifications presented can be split into three categories: six of those in charge (46%) consider the company has no qualified human resources in the management accounting area which does not allow the creation of better methods; five of those people in charge (39%) consider a correct product valuation is not a key factor for business and therefore the benefit/cost ratio resulting from a possible change in the existing method does not favour changing; two of those in charge (15%) consider the maintenance of the existing method is due to

the high cost associated with that change, since it would imply a change in the management accounting computer system.

In the fifteen companies whose product valuation system was considered inadequate and is being changed, we found three causes for the undergoing changes. In six of the cases (40%) integrated computer systems were used and the people in charge considered their output as being excessive and with information not adjusted to management objectives, namely in what regards product valuation. These companies are trying to match their integrated computer systems’ output to the information those persons in charge consider useful for management. In other six companies (40%), indirect costs are allocated using spread sheets and the people in charge are not satisfied with the lack of integration with the financial accounting and production management elements. The change in course was directed towards developing an integrated computer system for the entire company. In three companies (20%) those in charge considered the contents of the product cost calculation method to be inadequate, namely in what regards the allocation of indirect costs. These three companies have computer systems integrated with production management and are replacing them.

After describing the two fundamental variables for Question A, the aim was then to analyse whether there was a link between them, i.e. whether the fact that those in charge of management accounting consider the product valuation method as adequate or inadequate is linked with the type of method used. The result of crossing these two variables is presented in Table 1. It is important to note that even in companies where indirect costs are not allocated there is a significant portion of people in charge that consider the product valuation method as adequate (43%). This observation suggests there is no link between both variables, since there seems to be a relative homogeneity in the distribution of frequencies among the various response categories. The pearson χ^2 -test validates this information by presenting a value of 0.610 for two degrees of freedom with a $p = 0.737$ which does not allow us to reject the null hypothesis of independence between both variables. The fact that those in charge of management accounting consider the product valuation method as adequate or inadequate is not linked with the type of method used.

Table 1: “Method adequacy” and “product valuation”

Method adequacy	Product valuation			Total
	Without indirect costs	Single base	Multiple basis	
Adequate	6	15	9	30
Inadequate	8	13	7	28
Total	14	28	16	58

Individual characteristics of the persons in charge:

The study of the relation between the variable “method adequacy” and other variables that reflect characteristics of those in charge of management accounting allow us to analyse whether this variable is or not influenced by individual characteristics such as the level in the hierarchy, academic background, gender and age.

The first analysed variable was the level in the hierarchy of the person in charge of management accounting. In all companies where there is a financial manager he/she is the person in charge of management accounting and this happens in the majority of companies (52%). In 40% of the cases, the responsibility for management accounting is centralized in a manager or business administrator. In 8% of the companies those in charge of management accounting are the Official Accounting Technicians (OAT). Given the low frequency of this last response category we grouped it with the first, thus obtaining the variable “hierarchy level”. The link between this variable and “method adequacy” is shown in Table 2.

Figure 1 presents the above information, showing some differences in the response categories for the variable “method adequacy” depending on the type of

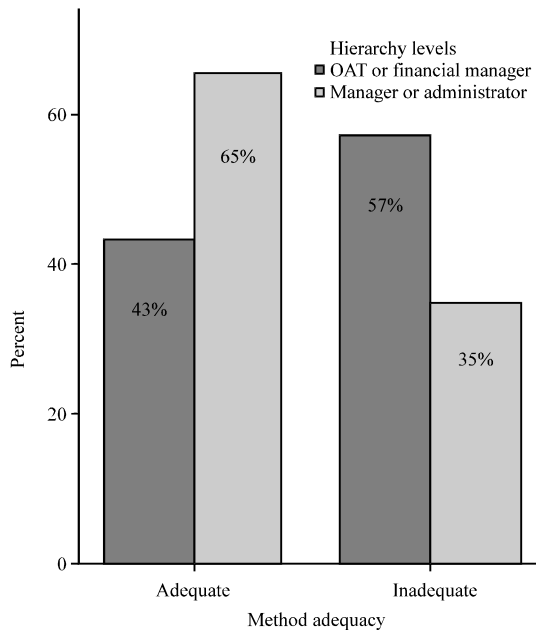


Fig. 1: “Method adequacy” and “hierarchy level”

Table 2: “Method adequacy” and “hierarchy level”

Method adequacy	Hierarchy levels		Total
	OAT/Financial manager	Manager/Administrator	
Adequate	15	15	30
Inadequate	20	8	28
Total	35	23	58

people in charge which suggests a link with their behaviour. While the majority of people in charge that are managers or administrators consider the method used as adequate (65%), the majority of people in charge that are OAT or financial managers consider the method as unsuited (57%). This analysis was statistically validated by the pearson χ^2 -test that presents a value of 2.779 for one degree of freedom and a p = 0.096. This allows us to reject the null hypothesis of independence between both variables (accepting a level of significance of 0.1). The fact that those in charge of management accounting consider the product valuation method as adequate or inadequate is linked with their level in the hierarchy.

The second analysed variable was the academic background of the people in charge of management accounting. In 21% of the companies, those in charge of management accounting do not have a higher academic background. The majority of those in charge (60%) have higher academic education (bachelor’s degree or master’s degree) in management or accounting. The remaining 19% have a higher academic education, at university graduate level in other areas. The link between the variable “method adequacy” and “academic background” is presented in Table 3 which shows some homogeneity in the response categories for both variables.

This suggests there is independent behaviour. The pearson χ^2 -test validates this information by presenting a value of 0.051 for two degrees of freedom with a p = 0.975. This does not allow us to reject the null hypothesis of independence between both variables. The academic background of those in charge is not linked with the fact that they consider the product valuation method as adequate or inadequate.

The third variable analysed was gender: female or male of the person in charge of management accounting for which we found a proportion of 24 and 76%, respectively. The link between the variables “method adequacy” and “gender” is shown in Table 4. This table

Table 3: “Method adequacy” and “academic background”

Method adequacy	Academic background			Total
	Up to 12th grade	University graduate Account./Management	Other college degree	
Adequacy	6	18	6	30
Inadequacy	6	17	5	28
Total	12	35	11	58

Table 4: “Method adequacy” and “gender”

Method adequacy	Gender		Total
	Female	Male	
Adequate	7	23	30
Inadequate	7	21	28
Total	14	44	58

also shows some homogeneity in the response categories for both variables which suggest the absence of a link between their behaviour. The result of the pearson χ^2 -test validates this observation by presenting a value of 0.022 for one degree of freedom with a p = 0.882. This does not allow us to reject the null hypothesis of independence between both variables. The gender of those in charge of management accounting is not linked with the fact that they consider the product valuation method as adequate or inadequate.

To end the study on the relation between the variable “method adequacy” and other reflecting individual characteristics of the people in charge of management accounting, we have analysed their age. Due to some awkwardness related with directly asking the interviewers their age, we created three age groups where they placed themselves. The first category includes those in charge with <40 years of age. This age group was chose to include the first people holding specific management bachelor degrees in Portugal. This category included 31% of those in charge. The second age group covers those between 40 and 60 years old and holds the majority (53%) of the cases. The third age group covers those in charge over 60 years old. This age group was chose with the objective to include the generation about to step down out of the workforce, representing 16% of the cases. The link between the variables “method adequacy” and “age” is presented in Table 5. Figure 2 translates this information graphically and shows some relative differences between the opinion of the younger and the older.

The majority of the younger people in charge consider the method as inadequate (56%) while the majority of the older ones consider the method as adequate (67%). It is not however, possible to statistically validate this relation given the low number of observations at both ends of the age groups. The pearson χ^2 -test is not valid because its assumptions were not complied with.

Search of other explanatory variables: The analysis already done to the variable “method adequacy”, suggests that one of the causes linked with the fact the people in charge consider the product valuation method as inadequate is the rigidity of the computer system used. In the 44 companies that value their products, we found

Table 5: “Method adequacy” and “age”

Method adequacy	Age (years)			Total
	<40	>40 and <60	>60	
Adequacy	8	16	6	30
Inadequacy	10	15	3	28
Total	18	31	9	58

three computer system categories: in 41% of the companies the costs are calculated using spread sheets in 29.5% of the companies there are integrated computer systems for the whole company which causes both the financial and management accountings use the same software in the remaining companies (29.5%) product valuation is integrated with the production management computer system with financial accounting being done using another autonomous program. The relation between the variables “method adequacy” and “computer system” is presented in Table 6 and shows some homogeneity in the response categories for both variables.

This suggests some independent behaviour. The pearson χ^2 -test validates this information by presenting a value of 0.685 for two degrees of freedom with a p = 0.710. This does not allow the rejection of the null hypothesis of independence between both variables. The computer system used is not linked with the fact that those in charge of management accounting consider the product valuation method as adequate or inadequate. In the companies with integrated systems, 50% of those in charge consider the product valuation method as

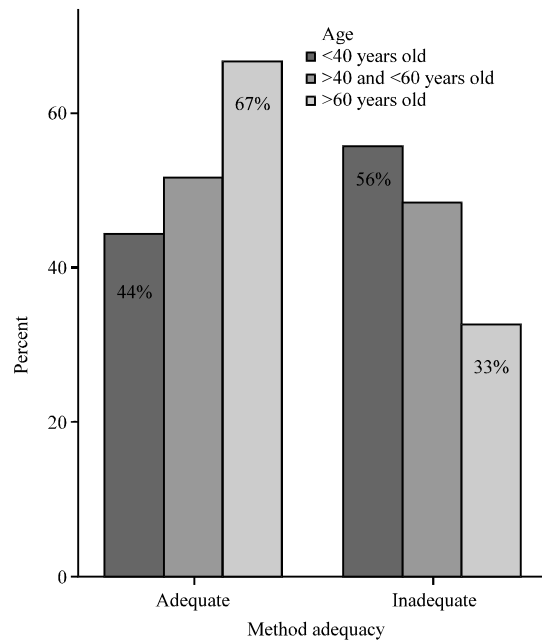


Fig. 2: “Method adequacy” and “age”

Table 6: “Method adequacy” and “computer system”

Method adequacy	Computer system			Total
	Spread sheets	System integrated with production management	System integrated with the whole company	
Adequacy	11	6	7	24
Inadequacy	7	7	6	20
Total	18	13	13	44

adequate, despite the fact that the analysis performed on the variable “method adequacy” has shown that one of the inadequacy causes was the use of integrated computer systems. We have then analysed the interviews of these thirteen companies and detected a common factor to all of them: they are different from the others due to the fact that they did not acquire standard integrated systems they developed instead their own computer system using internal resources, tailoring it according to management needs. The analysis of these interviews suggests that there may be an influence from another variable: the conception of the product valuation method.

Although, we have not found empirical studies on the relation between the person in charge of conception and the product valuation methods used by the companies there are articles partially treating this question (Bjornenak, 1997; Cohen *et al.*, 2005), reaching, however, contradicting results. Both studies analyse the influence of external consultants in spreading the activity based costing but nevertheless Cohen *et al.* (2005) conclude that there is no statistically significant relation between using external consultants and the use of this method by Greek companies while Bjornenak (1997) concludes that all Norwegian companies analysed that already use or are implementing activity based costing also used external consultants.

Regarding the manner how the product valuation methods were conceived, we found the following categories: the majority companies (61%) created the method internally; the remaining companies (39%) used computer systems companies (30%) or management consulting companies (9%) to suggest them management software that would allow them, among other things to value their products. The relation between the variables “method adequacy” and “conception” is shown in Table 7.

Figure 3 translates the above information and shows some response frequency concentration which suggests a link between the behaviour of both variables: in the companies where the method was conceived by external consulting companies the majority of those in charge (77%) considers it as inadequate in those where the method was conceived by internal resources, the majority of those in charge (74%) considers it as adequate.

The value obtained by the pearson χ^2 -test is of 10.749 for one degree of freedom with a $p = 0.001$

Table 7: “Method adequacy” and “conception”

Method adequacy	Conception		Total
	Internal resources	External consultants	
Adequate	20	4	24
Inadequate	7	13	20
Total	27	17	44

which allows the rejection of the null hypothesis of independence and the acceptance of an alternative hypothesis for a relation between both variables. The coefficient of cramer has a value of 0.494 with a $p = 0.001$. This confirms the rejection of the null hypothesis of independence of the variables and accepts the existence of a strong link between the way the product valuation method was conceived and the fact that those in charge of management accounting consider it as adequate or inadequate.

The results obtained can be confirmed through relative risk, since each of the variables has only two response categories. The value obtained is 2.381 for the category “internal resources” for the “conception” variable which means the companies where the product valuation method was conceived through internal resources have twice the probability of having people in charge considering it as adequate than inadequate which confirms the results of the previous testes.

To obtain information on the direction of that link we used the asymmetric Lambda. The value obtained in this test is 0.450 for classifying the variable “method adequacy” as dependent. This means information on the variable “conception” category allows the reduction of the forecast error on the variable “method adequacy” category in 45%. The results of the test are statistically significant given that its $p = 0.021$ and they confirm the direction of the relation, i.e., the conception of the product valuation method influences the fact that those in charge of management accounting consider it as adequate or inadequate.

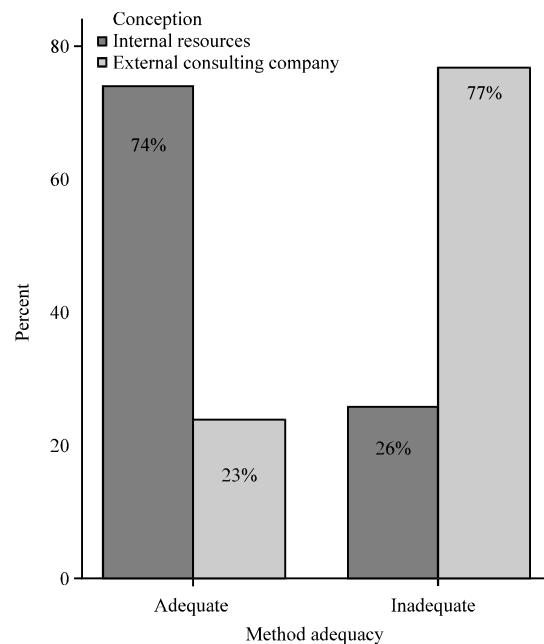


Fig. 3: “Method adequacy” and “conception”

CONCLUSION

Despite the limitations placed by the theory on product valuation through one or more allocation basis influenced by the production volumes, several empirical studies report the use of these methods in various countries. On the other hand, despite the advantages the revised theory gives to activity based costing, the empirical studies performed report low usage rates for this method. This paradox between theory and practice prompts a need to research on its causes why do companies continue to use product valuation methods considered by the theory as inadequate. An analysis on empirical studies already performed does not suggest a link between what the theory considers adequate product valuation methods and the opinion of those in charge of management accounting in companies. Regarding the first research question to analyse whether this link is present in the Portuguese industrial SME the information gathered allows us to conclude that the fact those in charge of management accounting consider the method as adequate or inadequate is not linked with the type of method used.

This conclusion renders important the analysis of the factors that lead these people in charge to consider adequate or inadequate the methods used for product valuation. The importance of this is justified by the fact that some researchers report that one of the factors that lead to a non-introduction in the companies of more recent methods such as activity based costing is the fact that those in charge consider the methods used as adequate.

The objective of the second research question is to analyse whether there is a link between the opinion of the people in charge of management accounting on the adequacy of the methods and their individual characteristics such as suggested in the reviewed literature. The evidence collected allows us to conclude that there is a statistically significant link between the hierarchy level of those in charge and their opinion on the adequacy of the product valuation methods. Regarding the last individual characteristic analysed, age, the evidence collected suggests the people in charge from a higher age group tend to consider more the product valuation method as adequate but this relation is not statistically proven due to the reduced number of observations in the extreme ends age groups.

These conclusions give importance to the research on other factors that may be related with the opinion of those in charge of management accounting on the adequacy of the product valuation method. The third research question was built with this aim in view. The

individual analysis of each interview allowed the detection of a new variable related with the opinion of those in charge: the way the method was conceived.

A statistically significant link was found between the conception of the product valuation method and the fact that those in charge consider it as adequate or inadequate. In the companies where the method was conceived by external consulting companies the majority of those in charge considers it as inadequate. The opposite happens when the method was conceived using internal resources and here the majority of those in charge consider it as adequate.

As main limitations of this study we state the small number of companies that have accepted to participate and the possibility that the information collecting method the interviews may influence the replies of the interviewees. However, this study contributes for the knowledge on management accounting for two reasons. In the first place, its results allow us to conclude that there is no link between what the theory and those in charge of management accounting consider as adequate product valuation methods. Secondly, the results obtained fill a knowledge gap because the empiric data show the existence of a new variable influencing what those in charge of management accounting consider as adequate product valuation methods: the way those methods were conceived. The evidence gathered suggests a need for further research with the objective to detect new causes for the fact that the companies do not use the product valuation methods considered as more adequate by the theory.

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