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# Influence of Internationalization on Management Accounting Tools: evidences from Italian Firms

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## Abstract

This paper aims at analyzing the diffusion of management accounting tools in Italian manufacturing firms. More specifically, this paper investigates, with an exploratory purpose, the role of internationalization.

The elimination of trade barriers, the markets globalization and the environmental turbulences affected company strategies. The search for new partners, new clients and new suppliers from foreign countries are only some of recently Italian firms' trends due to the up-above phenomena.

The research is based on the qualitative data analysis collected through a survey by questionnaire. In particular, 264 questionnaires of Italian manufacturing companies were analyzed.

The results of this paper provide empirical evidence on a high positive correlation between the increasing foreign client percentage and the management control tools, activity-based costing and target costing in particular.

In the range of internationalization contingency variables, this exploratory study considered only the impact of foreign customers. Further researches can involve other factors as foreign suppliers, joint-ventures, and technological exchanges.

This paper contributes to analyse the impact of internationalization, a contingency variable today not fully investigated in management accounting system researches.

In fact, managerial control systems and management accounting systems can be considered as key variables in each kind of organization (Anthony, 1956), both publicly-owned and private, both in manufacturing industries and services.

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**Keywords:** management accounting systems, internationalization, managerial tools, contingency theory.

## 1 –Introduction

The diffusion of managerial rules for managing a company is related to the adoption and the implementation of management accounting tools (Anthony, 1956), both from operative and strategic point of view (Anthony, Dearden and Vancil, 1965; Newman, 1975).

However, even if scholars affirm the importance of management control systems to manage an organization (for instance for price fixing, product mix and investment decisions, employees and managers evaluation, choices among alternative suppliers, negotiations with customers), these tools are not uni-

formly adopted by companies (Horovitz, 1979; Goold and Quinn, 1990). If management accounting systems are usually implemented in large firms, in small and medium organizations they are sometimes unapplied or unknown (Lombardi Stocchetti, 1996). In fact, in these enterprises, administrative, bureaucratic, and taxation issues usually become more important than managerial matters (Vergara, 2004).

Many scholars affirm that there is no a unique and universal management control technical structure, but it changes with internal and external firm characteristics (Otley, 1980; Chenhall, 2003).

This paper aims at analyzing the diffusion of management accounting tools in Italian manufacturing firms, especially in Piedmont. More specifically,

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this paper investigates, with an exploratory purpose, the role of internationalization.

The elimination of trade barriers, the markets' globalization and the environmental turbulences affect company strategies. The search for new partners, new clients and new suppliers from foreign countries are only some of recent Italian firms' trends due to the up-above phenomena. In this changing context, companies' features and elements (such as strategy, suppliers and customers relationships, management control system, and accounting system) need to modify.

Operatively, using qualitative data analysis, collected by a survey by e-mail questionnaire, this research investigates the linkage between internationalization and the adoption or the absence of managerial accounting instruments.

In this paper "internationalization" will be defined, according to literature, in terms of foreign clients revenues and membership to a multinational group; the observed management accounting tools are the following:

- budget;
- variances analysis;
- financial measures;
- cost accounting (cost centers);
- simple cost accounting (no cost centers);
- productivity and quality indicators;
- customer satisfaction indicators;
- human resources indicators;
- Activity Based Costing;
- Balanced Scorecard;
- target costing;
- benchmarking;
- throughput accounting.

## 2 –Literature review

The diffusion of management control systems in the companies is a relevant debating point for scholars and experts in management. In the last three decades, many authors focus their researches on the causes of diffusion of management accounting systems in private organizations (Langfield-Smith, 1997; Chenhall and Langfield-Smith, 1998; Chenhall, 2003; Luft and Shields, 2003). However, these studies do not offer unanimous conclusions. In fact, if many scholars affirm that the diffusion of management control systems is mainly due to environmental factors, such as national culture (Hofstede, 1980; Ciambotti, 2001) or industry features (Khandwalla, 1972; Otley, 1980), according to other researchers the main variables are referable to internal firms characteristics, such as size, complexity, technology, organizational structure, strategy, or internal culture (Chenhall, 2003).

In the last years globalization phenomena, economic transitions and financial turmoil have deeply

influenced the structure and diffusion of management control systems.

In the following paragraphs, we will focus our attention both on internationalization and contingency theory, in order to explore the impact of these elements on the diffusion of management accounting tools.

### 2.1 – *Internationalization*

Internationalization has been defined by literature in many different ways, referring to different frameworks.

Some researchers have taken into consideration vary dimensions, such as market, product, time and performance (Ruzzier, Antonicic, Hisrich, 2007), with particular reference to SMEs, to propose a new SME internationalization concept that would integrate the older theoretical stream explaining SMEs' internationalization.

Other scholars, defining the degree of internationalization, affirm that it is possible to measure it through both foreign revenues over total revenues and foreign assets over total assets (Belkaoui, 1999).

In addition Fletcher (2001) identifies as factors causing internationalization management and organizational characteristics, external impediments or external incentives.

Our study will aim to analyze the impact of internationalization on the diffusion of management accounting tools; for this purpose, considering the data collected, we have defined internationalization in terms of foreign revenues over total revenues.

### 2.2 – *Contingency theory*

The original contingency framework, developed within organizational theory (Woodward, 1965), affirmed that there is no a unique and universal organizational structure for each organization. The impact of technology and environment, typical contingency factors, influenced the organizational structure (Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Galbraith, 1973). Early accounting researchers drew on this theory to investigate the role of environment, technology, organizational structure, and size to the structure of management control systems (Hayes, 1977; Waterhouse and Tiessen, 1978; Otley, 1980).

The external environment, in terms of uncertainty and turbulence, is a powerful contextual variable in contingency-based researches.

Khandwalla (1972 and 1977) and Imoisili (1985) stated that a turbulent and hostile environment was associated to formal management control systems, characterized by standard budgeting system and based on short-run financial indicators. Other studies (Merchant, 1984; Brownell, 1985) found that environmen-

tal uncertainty was linked especially to non-financial indicators.

Moreover, as regards budgeting, if environmental uncertainty emphasizes formal processes (Ezzamel, 1990), on the other hand, it spurs the participation of employees and the integration between accountants and other managers (Merchant, 1990; Chapman, 1997; Hartmann, 2000).

Technology has many meanings in contingency theory. In fact, it includes hardware (machines, tools, and materials), people (technical skills, knowledge), software, and organization's work processes. This section takes the following items into consideration: complexity, task uncertainty, and interdependence (Chenhall, 2003).

Companies characterized by standardized and automated processes implement formal management control systems and tend to adopt traditional management accounting tools, such as budget, cost accounting, and financial indicators (Merchant, 1985; Dunk, 1992). As regards the other two variables, the more technologies are characterized by high levels of task uncertainty and high levels of interdependence, the more traditional management control systems are informal, including less reliance on accounting performance measures and high participation in budgeting (Chenhall, 2003).

Beside this, technologies based on human activities and high quality performance is related to a low reliance on traditional accounting techniques.

This was proved by researches analyzing the impact of contemporary advanced technologies (Just in Time, Total Quality Management, and Flexible Manufacturing System) on management accounting systems (see Kalaganam and Lindsay, 1999 for a review).

These studies highlight a relevant change in reporting variables: from financial indicators to more complex systems also including productivity indexes (Banker, Potter and Schroeder, 1993; Sim and Killough, 1998), customer satisfaction (Perera, Harrison and Poole, 1997), quality (Sim and Killough, 1998), time and timeliness (Foster and Horngren, 1988).

Organizational structure, third contingency factor, includes many items: from the roles and tasks for single members and groups, to the outcomes of structure and to the structural mechanisms. This paper will focus on the last side. Empirical studies pointed out clear correlations between decentralization and the introduction of formal management accounting systems (Burns and Waterhouse, 1975; Merchant, 1984).

Gosselin (1997) highlights a positive linkage between mechanistic and centralized organizational structures and the adoption of activity-based costing.

Another contingency factor, today increasable used in management accounting researches, is "size". Most contingency-based managerial accounting research has studied the effect of growth in size for ma-

anagerial tools. When a company grows in size, the need for managers to handle greater quantities of information increases to a point where they have to institute formal controls such as rules, documentation, specialization of roles and functions (Child and Mansfield, 1972).

However, Chenhall (2003) highlights the little attention in contingency-based studies received by small and medium sized companies. Therefore, in last lustrum, many studies focused on management control systems in small and medium firms. Davila (2005), analyzing 95 Californian technology-oriented small growing companies, found that a new CEO, the company age and the rapid increasing are positively correlated with the adoption of formal management control systems. Similarly, Speckbacher and Wentges (2007) studied the role of management control systems in family firms. They stated that in these organizations informal control is still more widespread than formal one; however, when a family firm hired external managers, formal management control system was implemented. As regards size, Speckbacher, Bischof and Pfeiffer (2003) show a greater adoption of balanced scorecard in large sized companies.

Lastly, the product life-cycle (Moore and Yuen, 2001) was recently applied in contingency-based management control system researches. In fact, Hoque and James (2000) noticed how balanced scorecard was adopted especially in large sized companies and in firms managing products in development stages (birth and growth).

### ***2.3 – Management accounting and internationalization***

Some scholars in the field of management accounting have investigated the linkage between management accounting tools and internationalization: for instance Granlund and Lukka (1998) outline that internationally-oriented Finnish firms are deeply involved into innovative management accounting tools.

Other studies, such the one of Haldma and Lääts (2002), highlight the importance of internationalization towards the diffusion of management accounting systems and the fact that economic transitions (for example, from close to open economic system) affect the usage of management accounting tools.

In addition, Anderson and Lanen (1999) recognize the relevance of economic transitions and the intensity of international competition for management accounting tools' implementation in Indian companies.

Luther and Longden (2001) found a positive relationship between pressure exerted by controlling shareholders and management accounting change; in our study, we will consider this aspect, referring to the belonging to a multinational group.



### 3 –Methodology

This section will provide an overview on the data used for this study and the main characteristics of the sample.

As regards methodology approach, following recent examples (Baird, Harrison and Reeve, 2004; Sulaiman and Mitchell, 2005) a survey by questionnaire (Corbetta, 1999) was realized to gather information about the diffusion of managerial tools in Piedmont manufacturing companies.

Survey method is often used because it is time and cost-efficient and it permits statistical analysis. In addition, the replication of the questions is possible permitting to compare results and analyse patterns.

First step was the definition of sample. Using Aida data bank, we grouped companies according to these features:

- belonging to manufacturing industries<sup>1</sup> (banks, insurance companies, trade firms, services companies, and public organizations were excluded);
- settled in Piedmont.

As far as concerns the first feature, selecting only manufacturing companies, the choice was related to the fact that management accounting has been adopted, from the very beginning, by manufacturing companies.

The second feature, geographical localization, instead, led to pick Piedmontese companies, because the Region in which the companies are settled presents the following characteristics (Ferrero, Lanzetti, Marchi, Resegotti, Vitelli, 2007; Buran, 1999; Lanzetti, Mutinelli, 1998):

- manufacturing companies widespread on the entire Region (not only in restricted area);
- production diversification;
- industrial recovery after the early Nineties, relevant investments in research, development and education;
- presence of heterogeneous companies according to the size, from very small companies to multinational ones;
- presence of heterogeneous companies according to the foundation period;
- presence of listed companies;
- presence of industrial districts in evolution towards productive net relationships (from 1991 up to day, 27 industrial districts has been recognized in Piedmont by Regional laws);
- presence of companies with international relationship (exchanges, investments, etc);
- presence of steady relationships with University and research entities.

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<sup>1</sup>Italian Standard Industrial Classification (Ateco) codes: from D15 to D36.

A list of 2.575 companies was therefore drawn (see tables 1 and 2).

The survey was conducted sending to the company sample a fully standardized questionnaire by mail. A link to the electronic questionnaire was attached to the mail.

The questionnaire was structured in two parts (see Appendix A).

The first part was composed by 21 questions concerning general information, whereas the second part was focused on management control system and management accounting tools.

The questionnaire was pre-tested by several academics and then sent to several practitioners for further reviews.

Minor adjustments in wording and layout were made in order to enhance understandability of the questionnaire.

It was then sent to all 2,575 companies with an introductory mail clarifying purposes and objectives of the research project.

Moreover, a brief description of the general features of each management accounting tool was provided in the questionnaire.

In fact, it is possible that firm use techniques similar to those studied, without being familiar with the concept.

For instance, Alnestig and Segerstedt (1996) found that Swedish firms used costing techniques with principles similar to activity-based costing without realizing this; Dekker and Smidt (2003) found that most of Dutch companies adopting target costing system (with other names and descriptions), without being familiar with the Japanese practice. Therefore, a short list providing decoding information was attached to the questionnaire (appendix B).

The questionnaire was exclusively sent to CEO, CFO, and to controller or, in small companies, directly to the entrepreneur.

After a first dispatch in October 2007, a follow-up was necessary after five months, in March 2008. At the end of June 2008, the returned questionnaires were 266<sup>2</sup>, with a response rate of 10.33%.

The return quota is in accordance with previous studies realized in Italy with the same method (Abdel-Maksoud, Cerbioni and Ricceri, 2005; Lucianetti, 2006).

Moreover, the data (tables 1 and 2) showed no significant bias, both from geographical and from dimensional point of view.

In addition, Kolmogorov-Smirnoff and chi-square tests show no significant differences in the size of respondents and non-respondents, in many of descriptive characteristics of early and late respondents, and in the adoption frequency of managerial tools between early and late respondents.

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<sup>2</sup> All data are available on request from the authors.

Table 1 – *Sample: detail for size*

Size	Sample		Replying firms	
	<i>Absolute value</i>	<i>Percentage</i>	<i>Absolute value</i>	<i>Percentage</i>
Small compagnie	1,875	72.82%	213	80.08%
Medium and large companies	700	27.18%	53	19.92%
<b>Total</b>	<b>2,575</b>	<b>100%</b>	<b>266</b>	<b>100%</b>

Table 2 – *Sample: detail for province*

Province	Sample		Replying firms	
	<i>Absolute value</i>	<i>Percentage</i>	<i>Absolute value</i>	<i>Percentage</i>
Alessandria	288	11.18%	30	11.28%
Asti	118	4.58%	6	2.26%
Biella	199	7.73%	26	9.77%
Cuneo	266	10.33%	23	8.65%
Novara	275	10.68%	39	14.66%
Torino	1,230	47.77%	119	44.74%
VCO	95	3.69%	9	3.38%
Vercelli	104	4.04%	14	5.26%
<b>Total</b>	<b>2,575</b>	<b>100%</b>	<b>266</b>	<b>100%</b>

## 4 – Results

### 4.1 – *Diffusion of management control systems*

The first empirical evidences of the survey have been displayed through the usage of descriptive statistic. By analyzing firms' replies, firstly we noticed that management control systems are known in more than 90% of companies (242 out of 266 firms). However, this information, extremely positive, puts in doubts the full validity of responses, especially in small firms. Therefore, focusing on management accounting tools, we noticed that a part of the analyzed companies that claimed adopting management control systems, actually implemented only financial accounting. In consequence, replying firms were divided into three groups:

- adopting management control systems;
- adopting only financial accounting systems;
- not adopting management control systems.

Table 3 shows that only 202 out of replying firms (75.56%) effectively adopt management control systems. In the remaining 40 companies, we found, as said before, only financial accounting system. Financial accounting is, in Italy along with the most of other countries, an instrument required by law in each company. Therefore this instrument may be seen as a “data source” for managerial analysis rather than a managerial tool.

Table 3 – *Diffusion of management control systems*

	<i>Absolute value</i>	<i>Percentage</i>
Adopting	201	75.56%
Only financial accounting systems	41	15.41%
Not adopting	24	9.02%
<b>Total</b>	<b>266</b>	<b>100%</b>

Moreover, this misunderstanding let us to stress that still today many firms do not understand what

managerial control is, especially in small and medium ones. In fact, these organizations are usually managed directly only by the owner and financial accounting and balance sheet are often seen as the “sufficient condition” for monitoring all firm’s variables and, therefore, for managing the organization.

#### 4.2 – Diffusion of accounting tools

Table 4 shows that budget (63.18%), revenues and costs variances analysis (58.71%), and financial measures (54.23%) are the most applied managerial tools in Piedmont firms, whereas activity-based costing, balanced scorecard, target costing, benchmarking, and throughput accounting are the least implemented. In other words, the analyzed companies, and generally Italian firms, mainly adopt traditional management accounting tools, whereas the “innovative” techniques are known in a small number of enterprises. This would prove that nowadays Italian firms are late adopting managerial accounting tools and, generally, management control systems.

A first reason that could explain the gap between Italian and foreign companies would stem from a lack of knowledge: Italian companies usually are not

aware of managerial instruments, especially for small ones. Moreover, a second reason could lie in the characteristics of management accounting tools: they are primarily designed to solve homeland companies’ issues; therefore it is difficult to adopt them, in different context, without making adjustments. Besides, Italian culture’s features would limit new management accounting tools’ adoption: the high level of uncertainty avoidance does not allow Italian companies to try new management accounting instruments out.

In addition, table 4 shows that financial indicators are more adopted than non-financial ones. In fact, ROI, ROE, cash flow, etc., typically short terms indicators, are the most important measures to evaluate organization performances. This may stress that short term view, a cultural feature of European and North American countries, would influence firms’ choices in terms of performance measurements.

However, empirical evidence highlights an increasing group of companies adopting non-financial measures.

In particular, productivity indicators are the most implemented (21.39%) rather than customer satisfaction index (16.42%) and human resources measures (14.43%).

Table 4 – Diffusion of management accounting tools

Tools	Diffusion (percentage)	Importance (mean) <sup>3</sup>	Importance (median) <sup>4</sup>	Variance
Budget	63.18%	5.110	5	3.353
Variances analysis	58.71%	4.880	5	3.313
Financial measures	54.23%	4.762	5	3.656
Cost accounting (cost centers)	24.38%	4.962	5	4.242
Simple cost accounting (no cost centers)	23.38%	4.845	5	4.247
Productivity and quality indicators	21.39%	4.667	5	3.831
Customer satisfaction indicators	18.91%	3.690	3.5	3.902
Human resources indicators	14.43%	3.431	3	3.934
Activity Based Costing	14.43%	3.714	3	4.708
Balanced Scorecard	10.45%	3.103	2	5.382
Target costing	9.45%	3.733	4	5.306
Benchmarking	5.47%	2.367	2	2.516
Throughput accounting	1.00%	2.133	1	3.839

<sup>3</sup> Scale ranging from 1 (not applied) to 7 (systematically applied).

<sup>4</sup> Scale ranging from 1 (not applied) to 7 (systematically applied).



This proves previous studies' conclusions (Arena, Azzone and Caimi, 2004; Abdel-Maksoud, Cerbioni and Ricceri, 2005; Lucianetti, 2006): Italian firms focus their attention on financial and manufacturing performance, whereas human resources are not yet perceived as a strategic variable.

Finally, the empirical evidences point out the low adoption (10.45%) of balanced scorecard: most of Italian firms monitor organizational performances using specific financial and non-financial measures, without any logical linkages.

### 4.3 – Contingency factors – qualitative analysis

As described in the first paragraph, the research aims at analyzing which factors deeply influence the adoption and the usage of management accounting tools in Italian manufacturing companies. In particular, this section focuses on the correlations between the previous tools and traditional firms' contingency factors: among all factors, we will focus on internationalization and the membership to a multinational group (the company interviewed belongs or not to a multinational group).

The elimination of trade barriers, the markets' globalization and the environmental turbulences affect company strategies. The search for new partners, new clients and new suppliers from foreign countries

are only some of recent Italian firms' trends due to the up-above phenomena. In this context, we deeply analyze the effect of "internationalization" on management accounting tools.

Specifically, as far as regards Piedmont Region, the internationalization degree will be evaluated only using the variable "foreign customers"; the most recent studies focused on the subject outline that more than 57% of Piedmontese companies have foreign customers, while the foreign relationships are very rare for purchasing and investments (Barberis, Iano, Lanzetti, 2007).

Operatively, the following investigation is a qualitative data analysis.

For each contingency factor, the sample is divided into homogeneous sets; then, in every set, the percentage of adoption of each managerial tool will be calculated.

#### 4.3.1 – Foreign customers

This section focuses on foreign clients and on the potential linkages between this variable and the diffusion of management accounting tools.

First of all, qualitative data, summarized in table 5, highlight that the diffusion of managerial tools is higher in companies numbering foreign clients among the loyal customers.

Table 5 – Diffusion of management accounting tools in case of presence/absence of foreign clients

	Without (A)	With (B)	$\Delta$ (B - A)	$\Delta / B$
Activity Based Costing	6.90%	17.48%	10.59%	60.55%
Variances analysis	55.17%	60.14%	4.97%	8.26%
Balanced Scorecard	6.90%	11.89%	4.99%	41.99%
Benchmarking	1.72%	6.99%	5.27%	75.34%
Budget	46.55%	69.93%	23.38%	33.43%
Simple cost accounting (no cost centers)	22.41%	23.78%	1.36%	5.73%
Cost accounting (cost centers)	10.34%	30.07%	19.73%	65.60%
Financial measures	46.55%	57.34%	10.79%	18.82%
Customer satisfaction indicators	5.17%	24.48%	19.30%	78.87%
Human resources indicators	10.34%	16.08%	5.74%	35.68%
Productivity and quality indicators	12.07%	25.17%	13.11%	52.06%
Target costing	6.90%	10.49%	3.59%	34.25%
Throughput accounting	0%	1.40%	1.40%	100%

Moreover, the empirical evidences show a clear difference in case of activity-based costing, balanced scorecard, target costing, and non-financial indicators.

In other words, the presence of foreign customers is positively correlated especially with “innovative” managerial tools.

Next step was the study of companies with foreign customers.

The companies were divided into three groups: low level of foreign clients (up to 10% of total sales of revenues), medium level (from 10% to 50% of total sales of revenues) and high level (more than 50% of total sales of revenues).

The results (table 6) suggest the following considerations:

- the higher the percentage of foreign clients, the higher the adoption of target costing and activity based costing;
- the higher the percentage of foreign customers, the lower the diffusion of cost accounting, both with and without cost centers;
- the higher the percentage of foreign customers, the higher the implementation of customer satisfaction indicators.

In the next tables we will focus the analysis only on the following managerial tools:

- Activity Based Costing;
- variances analysis;

- Balanced Scorecard;
- budget;
- cost accounting (cost centers);
- financial measures;
- customer satisfaction indicators;
- human resources indicators;
- productivity and quality indicators;
- target costing.

The selection criterion is the relevance of the findings shown in the previous tables 5 and 6.

Table 7 highlights the diffusion of management accounting tools in the extreme classes: up to 10% of foreign customers revenues and more than 50% of foreign customers revenues.

In particular, the last two columns show the differential between the two classes and the increase in the diffusion of the selected tools.

The results obtained suggest the following considerations:

- the higher the percentage of foreign clients revenues, the higher the adoption of financial measures, variances analysis and customer satisfaction indicators;
- the higher the percentage of foreign customers revenues, the lower the implementation of productivity and quality indicators, cost accounting (cost centers) and human resources indicators;

Table 6 – *Diffusion of management accounting tools for foreign clients percentage*

	Up to 10%	From 10% to 50%	More than 50%
Activity Based Costing	9.80%	20.37%	23.68%
Variances analysis	47.06%	68.52%	65.79%
Balanced Scorecard	9.80%	14.81%	10.53%
Benchmarking	5.88%	1.85%	15.79%
Budget	68.63%	68.52%	73.68%
Simple cost accounting (no cost centers)	29.41%	20.37%	21.05%
Cost accounting (cost centers)	35.29%	29.63%	23.68%
Financial measures	41.18%	68.52%	63.16%
Customer satisfaction indicators	17.65%	24.07%	34.21%
Human resources indicators	21.57%	12.96%	13.16%
Productivity and quality indicators	27.45%	31.48%	13.16%
Target costing	7.84%	9.26%	15.79%
Throughput accounting	0%	1.85%	2.63%

Table 7 – Comparison between two classes of foreign clients revenues

	Up to 10%	More than 50%	$\Delta$	$\Delta / B$
	(A)	(B)	(B - A)	
Activity Based Costing	9.80%	23.68%	13.88%	58.61%
Variances analysis	47.06%	65.79%	18.73%	28.47%
Balanced Scorecard	9.80%	10.53%	0.72%	6.86%
Budget	68.63%	73.68%	5.06%	6.86%
Cost accounting (cost centers)	35.29%	23.68%	-11.61%	n.a
Financial measures	41.18%	63.13%	21.98%	34.80%
Customer satisfaction indicators	17.65%	34.21%	16.56%	48.42%
Human resources indicators	21.57%	13.16%	-8.41%	n.a
Productivity and quality indicators	27.45%	13.16%	-14.29%	n.a
Target costing	7.84%	15.79%	7.95%	50.33%

– the negative variance in the diffusion of cost accounting with centers can be justified by the higher diffusion of activity based costing;

– the higher the percentage of foreign customers revenues, the higher the diffusion of ABC, target costing and customer satisfaction indicators.

The following table shows the comparison, referred to the diffusion of management accounting tools, between firms without foreign clients revenues and firms with more than 50% of foreign customers revenues.

It is possible to affirm that in the firms with more than 50% of foreign customers revenues all the management accounting tools are more used, compared to the firms without foreign clients revenues, in particular and in order:

- the tool Activity Based Costing for about the 71%;
- the tool target costing for about the 56%;
- the tool cost accounting (cost center) for about the 56%;
- the tool budget for about the 37%;
- the tool Balanced Scorecard for the 35%;
- the tool variance analysis for about the 16%.

Consequently it is relevant to observe how, in the firms with more than 50% of foreign customers revenues, are more widespread advanced management accounting tools like Activity Based Costing and target costing.

It is also possible to assert that in the firms with more than 50% of foreign customers revenues both

financial and non-financial measures are more used, with particular attention to the last category of indicators and in order:

- customer satisfaction indicators are more widespread for about the 85%;
- human resources indicators are more widespread for about the 21%;
- productivity and quality indicators for about the 8%.

The difference more relevant is referred to the use of customer satisfaction indicators, more utilized in these firms.

#### 4.3.2 – *Multinational companies*

The following table is referred to the membership to a multinational group: this data is relevant to investigate whether the adoption of accounting tools is a consequence of the holding's policy or not.

As shown below, the main differences, comparing "Yes" and "Not" categories can be listed:

- for both categories, the most adopted tools, are Budget and Financial measures (even if for companies belonging to multinational group, the adoption percentage is higher)
- there is a gap in adopting innovative tools: Activity Based Costing reaches 36.36% in companies belonging to multinational group, while in the other case the percentage is 8.28%; Balanced Scorecard comes to 31.82% from 4.46%.

Table 8 – *The diffusion of management accounting tools: comparison between firms without foreign clients revenues and firms with more than 50% of foreign clients revenues*

	Without (A)	More than 50% (B)	$\Delta$ (B – A)	$\Delta / B$
Activity Based Costing	6.90%	23.68%	16.79%	70.88%
Variances analysis	55.17%	65.79%	10.62%	16.14%
Balanced Scorecard	6.90%	10.53%	3.63%	34.48%
Budget	46.55%	73.68%	27.13%	36.82%
Cost accounting (cost centers)	10.34%	23.68%	13.34%	56.32%
Financial measures	46.55%	63.16%	16.61%	26.29%
Customer satisfaction indicators	5.17%	34.21%	29.04%	84.88%
Human resources indicators	10.34%	13.16%	2.81%	21.38%
Productivity and quality indicators	12.07%	13.16%	1.09%	8.28%
Target costing	6.90%	15.79%	8.89%	56.32%

Table 9 – *Belonging to multinational group*

	No (A)	Yes (B)	$\Delta$ (B - A)	$\Delta / B$
Activity Based Costing	8.28%	36.36%	28.08%	77.23%
Variances analysis	54.14%	75.00%	20.86%	27.81%
Balanced Scorecard	4.46%	31.82%	27.36%	85.99%
Budget	59.24%	77.27%	18.04%	23.34%
Cost accounting (cost centers)	22.29%	31.82%	9.53%	29.94%
Financial measures	53.50%	56.82%	3.31%	5.83%
Customer satisfaction indicators	15.29%	31.82%	16.53%	51.96%
Human resources indicators	11.46%	25.00%	13.54%	54.14%
Productivity and quality indicators	17.20%	36.36%	19.17%	52.71%
Target costing	8.28%	13.64%	5.36%	39.28%

## 5 – Conclusions and outlook

Management control system, whose main goal is to assist managers achieving their goals in line with those of their organization, is an unavoidable element in each kind of company. However, management control systems, and specifically management accounting systems, are not evenly used in companies. In fact, companies with the similar features adopt different managerial tools; moreover, most of small and medium firms do not use these instruments.

Focusing on contingency-based framework, this paper analyzed the diffusion of management accounting systems in Italian manufacturing companies and the role of two contingency variables. The achieved results (through a specific survey by questionnaire) highlight the following considerations regarding the diffusion of management accounting tools in Italian manufacturing companies.

Focusing on management accounting systems, the empirical evidences show that traditional managerial tools are the most common ones in Italian companies, whereas “innovative” techniques are known

and adopted only by medium and large companies. These results are in line with the previous researches realized by Arena et al. (2004), Abdel-Maksoud et al. (2005), and Lucianetti (2006) in Italian companies.

From a cultural point of view, the up-above phenomenon could be ascribable to the high level of uncertainty avoidance, one of typical Italian culture feature.

Moreover, empirical evidences highlight that the most of Italian companies measures their performances only with financial indicators, whereas non-financial indexes are known and applied mainly by large companies. More specifically, Italian firms are adopting customer satisfaction indicators and productivity indexes, whereas, as already stressed by Abdel-Maksoud et al. (2005) and Lucianetti (2006), human resources measures are the least implemented. This let us to affirm that today human resources are not still seen as a strategic element in Italian companies.

In addition, the up-above empirical evidences confirm the results of previous researches concerning the diffusion of managerial instruments (Chenhall, 2003; Speckbacher and Wenteges, 2007): management and organizational characteristics, external and external factors are connected with the diffusion of management control system.

Empirical evidences highlight the high influence of internationalization in management accounting systems diffusion. In particular, we noticed that companies numbering foreign customers among the loyal ones have a higher percentage of diffusion of managerial tools, especially "innovative" instruments and non-financial indicators, than companies trading only in local markets. In other words, these results are in line with Khandwalla's studies (1977) concerning the environmental characteristics. In fact, in a setting connoted by high competitiveness levels, companies need an internal system monitoring also, and mainly, non-financial elements (customer satisfaction, quality, timeliness) in order to keep their current clients and, consequently, their competitiveness.

As regards the influence of internationalization on the diffusion of managerial accounting tools, the main results are explained as follow.

- a) The presence of foreign clients determines a widespread use of managerial techniques, both traditional and innovative ones.
- b) For companies operating also in foreign markets it is possible to notice a clear diffusion of innovative tools.

Specifically the most widespread ones appear to be target costing, ABC and customer satisfaction indicators. A possible explanation can be ascribed to the competitiveness this kind of companies has to face with. Operating also in foreign markets, more open than the domestic ones, these companies have to adopt managerial

techniques oriented to optimize efficiency and effectiveness; in this context, cost control techniques are required, but not sufficient to maintain and acquire competitiveness, because cost management tools become crucial.

- c) Companies with a high level of foreign clients revenues (more than 50%) show a considerable adoption of ABC.

The adoption of ABC is linked to the necessity to manage costs and activities, in order to maintain competitiveness; consequently, one can notice a negative trend in diffusion of simple and cost centers accounting.

- d) In companies with a high level of foreign clients revenues (more than 50%) the adoption of customer satisfaction indicators is very clear: customer satisfaction is intended as a critical element to competitiveness.

As far as regards the influence of multinational group' membership, empirical evidences shows that the most diffused tools are Balanced Scorecard and ABC.

Deeply analyzing the reasons behind these phenomena, it appears that the adoption is due to the influence of the holding that imposes uniform management accounting system for all the subsidiaries.

In conclusion, this exploratory study, focusing on specific contingency relationships between internationalization and the adoption of management accounting systems, highlights a cause-effect link between "innovative" managerial instruments (such as activity-based costing, target costing, and balanced scorecard) and internationalization.

The aim for future research will be the focus on the variable internationalization widening the analysis on further elements such as collaborations, joint ventures, technology exchanges, and direct investments in foreign trades and its linkage to the diffusion of management accounting systems.

This choice is due to the fact that defining internationalization only through foreign clients can be a limitation to catch the deep meaning of internationalization itself; in fact, for the sample under investigation, the majority of foreign clients is represented by close countries, as shown in Appendix C.

Therefore, it's necessary to add other elements defining internationalization, in order to verify if the linkage found (using "foreign clients") is confirmed.

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**Appendix A**

*In this appendix will be presented a selection of the questions contained in the questionnaire submitted to companies: the questions selected are those which are relevant for the study.*

**GENERAL INFORMATION ABOUT THE COMPANY**

## III) PROVINCE IN WHICH THE COMPANY IS SETTLED

<input type="checkbox"/>	Alessandria
<input type="checkbox"/>	Asti
<input type="checkbox"/>	Biella
<input type="checkbox"/>	Cuneo

<input type="checkbox"/>	Novara
<input type="checkbox"/>	Torino
<input type="checkbox"/>	V.C.O.
<input type="checkbox"/>	Vercelli

## VIII) SALES' REVENUES (last year)

<input type="checkbox"/>	From 0 to 2.000.000 Euro
<input type="checkbox"/>	From 2.000.001 Euro to 10.000.000 Euro
<input type="checkbox"/>	From 10.000.001 Euro to 50.000.000 Euro
<input type="checkbox"/>	More than 50.000.000 Euro

## XI) PRESENCE OF FOREIGN CUSTOMERS

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

## XII) PERCENTAGE OF SALES' REVENUES WITH FOREIGN CUSTOMERS

<input type="checkbox"/>	Less than 10%
<input type="checkbox"/>	From 10% to 50%
<input type="checkbox"/>	More than 50%

## XXI) DOES THE COMPANY BELONG TO A MULTINATIONAL GROUP?

<input type="checkbox"/>	Yes
<input type="checkbox"/>	No

**INFORMATION ABOUT MANAGEMENT ACCOUNTING SYSTEM**

## 1) DOES THE COMPANY ADOPT MANAGEMENT ACCOUNTING TOOLS?

<input type="checkbox"/>	Yes
--------------------------	-----

No

3) WHICH TOOLS DOES THE COMPANY USE?

- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | Activity based costing                                |
| <input type="checkbox"/> | Variance analysis                                     |
| <input type="checkbox"/> | Financial measures (ROE, ROI, ROS, etc...)            |
| <input type="checkbox"/> | Balanced Scorecard                                    |
| <input type="checkbox"/> | Benchmarking  |
| <input type="checkbox"/> | Budget  |
| <input type="checkbox"/> | Simple cost accounting (no cost centers)              |
| <input type="checkbox"/> | Cost accounting (cost centers)                        |
| <input type="checkbox"/> | Customer satisfaction indicators (market share, etc.) |
| <input type="checkbox"/> | Human resources indicators (turn-over, etc.)          |
| <input type="checkbox"/> | Productivity and quality indicators (lead time, etc.) |
| <input type="checkbox"/> | Target Costing  |
| <input type="checkbox"/> | Throughput accounting                                 |

4) HOW OFTEN ARE THE TOOLS USED?

(SCALE FROM 1 to 7 ; 1= RARELY- 7= OFTEN)

- |                          |   |
|--------------------------|---|
| <input type="checkbox"/> | Activity based costing                                |
| <input type="checkbox"/> | Variance analysis                                     |
| <input type="checkbox"/> | Financial measures (ROE, ROI, ROS, etc...)            |
| <input type="checkbox"/> | Balanced Scorecard                                    |
| <input type="checkbox"/> | Benchmarking  |
| <input type="checkbox"/> | Budget  |
| <input type="checkbox"/> | Simple cost accounting (no cost centers)              |
| <input type="checkbox"/> | Cost accounting (cost centers)                        |
| <input type="checkbox"/> | Customer satisfaction indicators (market share, etc.) |
| <input type="checkbox"/> | Human resources indicators (turn-over, etc.)          |
| <input type="checkbox"/> | Productivity and quality indicators (lead time, etc.) |
| <input type="checkbox"/> | Target Costing  |
| <input type="checkbox"/> | Throughput accounting                                 |

## **Appendix B**

**Activity based costing:** it is a costing model that identifies activities in an organization and assigns the cost of each activity resource to all products and services according to the actual consumption by each. The measure of the use of a shared activity by each of the products is known as the cost driver (a cost driver is any activity that causes a cost to be incurred).

**Variations analysis:** In budgeting, a variance is the difference between a budgeted, planned or standard amount and the actual amount incurred/sold. Variances can be computed for both costs (variable and fixed) and revenues.

**Balanced Scorecard:** is a strategic performance management tool jointly measuring financial, customer, internal process, and innovation/learning perspectives. Normally, it may see as a dashboard monitoring financial and non-financial indicators together.

**Benchmarking:** it is the process comparing the cost, the cycle time, the productivity, or the quality of a specific process (or method) to another one that is widely considered to be an industry standard or the best practice.

**Budget:** generally refers to a list of all planned expenses and revenues, investments and financial resources that a company plans for the next period. It contains the estimated sales, the estimated number of units that must be manufactured and the estimated costs, the estimated raw materials a company need to purchase, the cash flow trend.

**Simple cost accounting:** cost accounting system characterized by single-basis cost-allocation method and no cost centers

**Cost accounting:** cost accounting establishes budget and actual cost of operations, processes, departments or product and the analysis of variances, profitability or social use of funds. Managers use cost accounting to support decision-making, to cut a company's costs, and to improve profitability. Usually, costs are measured in units named "cost centers".

**Financial measures:** traditional indicators using to monitor company's performances. They include ROI, ROE, ROS, leverage, gross margin, etc.

**Customer satisfaction indicators:** they include market share, the percentage of loyalty, the number of new clients, the weight of specific customers, the number and the typology of complaints, and, obviously, customer satisfaction ranks.

**Human resources indicators:** indicators focusing on human resources, such as the turnover ratio, the level of absenteeism, the total number of hours for training, re-training, and updating.

**Productivity and quality indicators:** they measures internal efficiency, especially in operative area. They cover lead time, the number of faults, the number of reprocessing, the number of scraps, cost per unit of measure, productivity per unit of measure, cycle time of x per unit of measure or defects per unit of measure.

**Target costing:** it is a pricing method used by firms. A target cost is the maximum amount of cost that can be incurred on a product and with it the firm can still earn the required profit margin from that product at a particular selling price.

**Throughput accounting:** conceptually, throughput accounting seeks to increase the velocity or speed at which throughput is generated by products and services with respect to an organization's constraint, whether the constraint is internal or external to the organization. Considering the laws of variation, only costs that vary totally with units of output, e.g. raw materials are allocated to products and services which are deducted from sales to determine throughput.



**Appendix C**

<i>Market localization</i>	1st	2nd	3 <sup>rd</sup>	4th
Activity Based Costing	France	Germany	Usa	
Variations analysis	France	Germany	Usa	Spain
Financial measures	France	Usa	Germany	Spain
Balanced Scorecard	France	Usa	Germany	
Benchmarking	France	Spain	Germany	
Budget	France	Germany	Spain	Usa
Simple cost accounting (no cost centers)	France	Germany	Usa	Spain
Cost accounting (cost centers)	France	Germany	Spain	Usa
Customer satisfaction indicators	France	Spain	Germany	Usa
Human resources indicators	France	Spain	Germany	Usa
Productivity and quality indicators	France	Germany	Spain	Usa
Target costing	France	Germany	Usa	
Throughput accounting	France			