Commonality and Standardization of Balanced Scorecard's Measures across Perspectives.

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ABSTRACT

This study aims at understanding the process of elaborating and selecting performance measures in the framework of the balanced scorecard (BSC). Previous studies in the now well-investigated effect that decision makers tend to give a much higher weight to common measures compared to unique measures (Banker et al, 2004; Lipe and Salterio, 2000) did not explore differences between perspectives in terms of commonality of measures used for performance evaluation purposes. We will explain why there are common measures in all perspectives and which their shared characteristics are. Based on a simulation with graduate students, we argue that common measures are found in every BSC's perspective but with a significant degree of difference. Financial measures are by far the most common ones, internal process measures are the least common ones with customer and learning ranging somewhere in between. Our study implies that the idea of standardization beyond financial measures is based on three performance measures characteristics: 1) reliance on data already available, 2) easy benchmarking, and 3) possibility of being audited by third parties. We advanced implications for managers and for future research on the information generated in the BSC.

Keywords: Balanced scorecard, financial and non financial measures, performance measurement, standardization, judgmental effects, multidivisional firms.

1. INTRODUCTION.

This paper has been motivated by the evidence of some limitations of the balanced scorecard (Lipe and Salterio, 2000; Banker et al., 2004). These authors examine the judgmental effects of the balanced scorecard (BSC) and found that when evaluating the performance of different strategic business units (SBU), superiors tend to focus on common measures of the BSC of the units. Therefore, the BSC would fail in multidivisional firms since while using this model, senior managers will remain focusing on common traditional financial measures for the evaluation process.

The purpose of this paper is to fill a gap in the BSC literature by going a step further and studying the design and selection of performance measures to see if there's a significant difference in the usage of common measures between perspectives. The question that we aim at answering is if common measures are found only in the financial perspective of the BSC. Although there is a call to balance financial and non-financial measures made mostly by Norton and Kaplan, most of the studies done reflect that there is a general feeling that the most (less) frequently used measures of performance are common (unique) and mostly financial (non-financial) of lagging (leading) nature. These arguments, plus the findings of Lipe and Salterio (2000: 297) that humans rely on simple decision strategies (using only common measures for judgmental effects) are ad odds with the deepest essence of the BSC.

Our study, by entering in the BSC design arena, is able to reveal interesting findings although the subjects considered are few and the methodological limitations to gather the data. The main finding, with implications for practice and future research, shows that the most common measures used are located in the financial perspective. Then with less common usage are measures in the customer perspective and learning and innovation processes, while quite far away are the measures used in the internal process perspective. In summary, this paper explores whether, and to what extent, financial and non-financial performance measures of different SBUs are specific or common measures and the characteristics that all common measures share regardless of the perspective where they are reported.

The rest of the paper is organized in three main sections. The objectives of the literature review are to present the reasons that gave rise to the BSC as well as to summarize the limitations documented; also we will discuss the idea of commonality of measures and the requirement of standardization in order to justify the research question and to elaborate on the hypothesis to test. The second section of this paper describes the empirical method employed with its main limitations and caveats.

Section Three presents the main results, findings and implications. A conclusion closes the paper outlining the most significant issues addressed.

2. LITERATURE REVIEW.

Traditional financial measures have diminished in relevance in business models that reflect the "new economy" and that has led to a new challenge: how to measure the new value drivers of the organizations . There is a need for measurement systems that are able to capture the relevant information that managers need in managing their organizations. In devising such new measures a first step is to identify "value drivers", i.e. factors that lead to strategic success and improve firm's value and a second step is to measure these specific factors. There is a clear position that financial measures are not value drivers because they do not capture the new organizational reality, especially when referring to traditional performance measures that focus solely on financial metrics (Kaplan and Norton, 1996; Atkinson et al., 1997; American Accounting Association -FASC-, 2002).

Non-financial measures can be better value drivers due to their predictive ability. This means that non-financial performance measures are better measures of future financial performance than financial measures (Amir and Lev, 1996; Banker et al., 2000). In the last years great effort has been made in giving empirical evidence of this lead-lag relation between non-financial measures and future financial results. Ittner and Larcker acknowledged the mixed evidence on this issue, succeeding in providing empirical clarity (Ittner and Larcker, 1998, Ittner et al., 2003a). Since then other authors have contributed to improve clarity with their research (Behn and Riley, 1999; Banker et al., 2000), demonstrating the predictive ability of non-financial measures that has been incorporated in the BSC model (Kaplan and Norton, 1992: 71).

2.1. Commonality of Measures in the Balanced Scorecard (BSC).

The BSC is considered an important and useful tool for strategy implementation and performance evaluation. However, many people ignore its previous long existence outside the US corporate world (Bourguignon et al., 2004) and the difficulties of designing a BSC, specially the measures selection and their relationships. Nevertheless, several studies have examined the use of BSC in evaluation, communication, implementation and control of strategy (Ittner et al., 2003b). Though the relevance of BSC has been widely recognized, some authors have been concerned with the lack of empirical evidence on performance improvement in the organizations that implemented it (Hoque and James, 2000). Further, the reasons for implementing - e.g. efficiency versus legitimacy - have not been clarified sufficiently (Norreklit, 2003).

Attending to the papers published regarding the use and implications of the BSC, Lipe and Salterio (2000) were among the firsts to question the appropriateness of the BSC due to the "judgmental effects" it arises. In their approach to the topic, they distinguish between financial and non-financial measures, and lead and lag measures (Lipe and Salterio, 2000: 284), which has been lately confirmed by Kaplan and Norton (2001: 148). Their explanation by reviewing Kaplan and Norton publications identify that those measures that are common across units, often tend to be of a lagging nature and financial measures of performance. In contrast, unique measures are more often leading and non-financial measures. Based on that argument, they conclude their research showing that for evaluation purposes, the more used measures are the common and lagging measures mostly financial (Lipe and Salterio, 2000: 285 and 294). These results are confirmed in Banker et al. (2004) although they show that those measures that have a strategic link are more heavily weighted by the decision makers, whether or not they are common measures. The critiques to the BSC relevant for our purpose are well summarized by Lipe and Salterio (2000: 297) when saying that if common measures are supra weight in ex post evaluations of the business unit and its manager, these measures are likely to receive great ex ante weight in the unit's decision.

Our concerns are related with the comparability among the different SBUs in a multidivisional organization. To the extent that surveys of firms practice show that financial measures are more common (Lingle and Schiemann, 1996; Perera and Baker, 2005) and standardized across the organization's subunits, we expect a greater weight to be placed on these measures. This focus on common measures undermines one of the major exposed benefits of the BSC, namely, that each business unit will have and use a scorecard that uniquely captures its business strategy, and it is at odds with the declared purpose of implementing the BSC: to expand the set of measures that managers use in decision-making (Kaplan and Norton, 1996).

The dichotomous division of measures between financial/common and non-financial/unique does not corresponds with reality. Existing literature assumes that financial measures are often common (Table 1 - quadrant 1) and non-financial tend to be unique (quadrant 4) (Lipe and Salterio 2000, Banker et al., 2004). What we expose is that there are other two really relevant combinations to consider. There are financial unique measures (quadrant 3), and what is more relevant, there are non-financial common measures (quadrant 2), which can be explained through the idea of standardization of the subjacent process which is in the end the leading indicator of performance.

Table 1 – Literature Gap found in Characterizing BSC Measures

Measures	**Financial**	**Non-Financial**
Common	Quadrant 1: Usually found in the accounting literature and mentioned as **highly useful** for performance measurement evaluations by top managers of **diversified firms**.	Quadrant 2: **not mentioned** in previous published studies in the accounting journals.
Unique	Quadrant 3: there are some examples in studies done in **particular industries**, such as airlines (Wong, 2000).	Quadrant 4: usually mentioned in the accounting literature, but **not useful** for performance measurement evaluations by top managers of **diversified firms**.

1.2. Standardization of Measures.

Theoretically, business units devise customized scorecards to fit their environment, mission, technology and culture but mostly to capture their strategy. As said, critics to the BSC are based on judgmental effects, which produce some bias when comparing BSC of divisions that use different measures, because it was found that top managers rely mostly on common measures. With diverse business units, senior management cannot have a detailed understanding of the relative impact of particular processes improvements on each unit (De Hass and Kleingeld 1999), however, senior managers understand output targets, particularly when they are displayed with historical trends and future targets (Kaplan and Norton, 1993). A way to explain this important drawback of the BSC is to look for underlying knowledge about certain measures, whose construction and meaning is shared among managers according their specific background.

Typology of Measures

All the measures presented in a BSC should be strategic measures - those that define a strategy design for competitive excellence - rather than diagnostic measures - those considered hygienic factors - (Kaplan and Norton, 1996). All SBUs use certain generic measures, and these generic (core) outcome measures reflect the common goals of many strategies as well as the similar structures across industries and companies. The generic measures include profitability, market share, employee skills, customer satisfaction and retention (Lingle and Schiemann, 1996). The value drivers are the ones that tend to be unique for a particular business unit. The value drivers reflect the uniqueness of the business unit's strategy: the drivers of profitability, the market segments in which the unit chooses to compete, the value propositions delivered to customers and

growth capabilities that enable that financial and customer objectives to be achieved. A good BSC should have an appropriate mix of core outcome measures and the value drivers of these outcomes. Some authors have attended to managers' experience and provided empirical evidence on the real use of the measures; for instance Ittner et al. (2003a) offer experimental evidence that outcome measures will be weighted more heavily than the driver measures. They argue that considering financial results the ultimate goals of the BSC, these measures - the financial results - will receive a higher weight that non-financial results. In the opinion of the American Accounting Association Financial Accounting Standards Committee (2002), the usefulness of non-financial performance measures is not universal. They emphasize that the relevance of non-financial measures depends on firm-specific characteristics and also, for some industries, these measures could not be a good predictor of the future financial performance.

Literature has explained that the lag, external and financial measures are the more weighted for evaluation proposes in a BSC. But, how does it work when we compare different SBUs? Lipe and Salterio (2000: 297), based on studies in organizational behavior that argue that common information has greater impact because it is easier to use in comparing the candidates, conclude that the participants in their experiments succumbed to the simplifying strategy of using only common measures in evaluating multiple managers. Hence, if we consider Kaplan and Norton's definition of a common measure, these could be measures located in any of the perspectives of the BSC and not only in the financial perspective as suggested by the main critiques.

Standardization of Processes and Measures

If all the perspectives may be considered as a process, one of the characteristics of the process is that they can be standardized, so why this approach cannot be adopted with the non-financial perspectives of the BSC for performance measurement purposes? As it happens with traditional financial measures, it is possible to condense the information using a selected set of measures. Obviously this task could be harder in the case of operative measures than it is in financial ones because of the specificity of non-financial measures. Nevertheless, it could be considered a matter of different backgrounds, since the training in the use of financial measures varies according the formal studies, continuous training, positions occupied and background in general what is evidenced by the articles published in specialized trade or scholarly journals or magazines discussing performance measures for operations (Neely et al., 1996; McCrea, 2006) or for customers (Anderson et al., 1997; Ittner and Larcker, 1998; Waters, 2005). Hence, we can conclude that even though companies have different products and value propositions, and belong to different

industries, managers need to understand the importance of unique measures tailored to their specific situations and fitting the firm's needs in the design of a BSC.

Previous studies showed that due to judgmental effects the measures considered in a BSC for performance measurement purposes are the common ones that tend to be of financial nature - also outcome, external and lag measures-. However those studies did not explain if the financial perspective is where the majority of common measures can be found. Therefore as implied above our research question is: Whether common measures are found only in the financial perspective. In consequence, in unrelated SBUs not having common underlying processes the hypothesis to test is:

H1: for performance measurement the only common measures are in the financial perspective.

3. METHOD DESCRIPTION.

The simulation was designed as an exploratory test of the outcomes of the design process of a BSC conceived as a devise for performance measurement of unrelated SBUs. The subjects were required to develop a BSC comprising a set of measures of at least three perspectives once after a real example of a BSC was presented in class and the group collectively solved one case. Since the goal was to evaluate the process of coming up with performance measures in unrelated SBU, the design surrogate SBUs belonging to the same corporation by public firms not reporting to the same corporation; it is expected that the effect that we are trying to measure will remain unaffected by this research design. The participants were assigned a widely known public listed company with its businesses mainly focused in one type or line of products very familiar to the subjects. Each participant was in charge of developing the BSC of one company based on all its available information and assuming it was an SBU of a larger corporation composed by all firms assigned to the group of participants. When possible the companies were arranged in pairs belonging to the same industry, being the final arrangement detailed in table 2.

Table 2: Companies Assigned to the Subjects of the Study

Industry	**Companies**		
Entertainment	Disney	Time Warner	
Transportation	Union Pacific		
Retail Stores	Sears	Sara Lee	
Office Supply	Office Max	Staples	
Food	Kellogg's	Campbell	
Consumer products	Unilever	Procter and Gamble	
Pharmaceutical	Abbot	Bayer	Johnson and Johnson
Computers	IBM	Compaq	
Defense	Lockeed Martin	Boeing	
Aluminum	Alcoa		

3.1. Subjects.

The simulation was done with 25 subjects, obtaining 19 complete and valid responses. The subjects of this study were students of a master of sciences in accounting in a Portuguese university. More than one third of them were employed in private firms, other third worked for the government, and the rest were professors in colleges and universities. The average experience exceeds 7 years in the whole group (6 years for private firms, 7 years for government employees, and 10 years for professors). Regarding training, 10% are economists, 15% accountants and the rest have diverse backgrounds in general business management showing a bias towards the terminology and use of financial measures. Almost all the subjects have been exposed to performance measurement systems in their workplace, while 2 of them were at the time of the simulation involved in a BSC design.

3.2. Design and Procedure.

The subjects were required to develop a BSC for one company comprising a set of measures grouped in perspectives, after other activities were performed with the group. Along with the introduction of the theoretical basis of the BSC, it was presented a real example of the BSC

implemented in a Portuguese firm in the automotive industry. In the next session the group solved a case[1] and was also asked to design a BSC of an US airline company, it was built based on the company's annual report and personal experiences of the subjects and was not aimed at providing a performance assessment system. The BSC built by the group in the class is in Table 3). The instructor of the course controlled the discussion to make sure that all perspectives were equally weighted (financial perspective has 11 measures, customer perspective has 17 measures, internal processes perspective has 13 measures, and learning and improvement has 14 measures). The instructions given to the subjects to prepare the BSC assignment are replicated in Table 4.

Table 3 – Delta Airlines Balanced Scorecard

Mission: create the world's greatest airline
Strategic goals: 1 becoming number 1 in the eyes of our customer
2 taking passengers from anywhere to everywhere
3 continuing to build a superior Delta team
4 achieving consistently superior financial results

Learning and Improvement			Internal Processes Perspective			Customers Perspective			Financial Perspective		
Output measures (lagging)	**1999**	**1998**	Output measures (lagging)	**1999**	**1998**	Output measures (lagging)	**1999**	**1998**	Output measures (lagging)	**1999**	**1998**
Employees:	74000	67400	Cancellations			Market share:	1º in US		Operating Income	1870	1694
Customers per employee	1446	1500	On-time arrivals	86%		Anual seats:	144003	140149	Net Income / Total assets	6.65%	6.85%
Seat miles per employee	1.9460	2.0794	Baggage handling	2º best		Flights per day:	5200		Passenger Mile yield	0.1283	0.1285
			Operating cost per available						Operating revenue per		
Employee turnover			seat	0.0892	0.0888	Destinations:	351		available seat mile	0.1022	0.1009
Employees claims			Accidents and incidents:			Customers:	107	101	Operative cash flow	2929	2916
Sick or others leave			Age of aircrafts	11.60	12.30	Customer complaints:	3º best		Market value	41 / 71	41 / 64
Wages and incentives	top		Number of aircrafts	676	569	Ratings:	1º best		Price / earnings ratio	9.3054	9.6386
Process measures (leading)	**1999**	**1998**	Process measures (leading)	**1999**	**1998**	Process measures (leading)	**1999**	**1998**	Process measures (leading)	**1999**	**1998**
Training			Length of passenger trips	978	971	Hub location	Atlanta	Atlanta	Revenues from different line of business		
Empowerment			Length of aircraft flights	852	804	Hubs investments	139		(D.Express, D.Shuttle, Atlantic Southeast,		
Team work			Aircrafts utilization	8.7	8.7	Alliances	Air France		Domestic, International and Cargo)		
Performance evaluation			Loead factor	72.6	72.2	Menu	reviewed		Asset utilization		
Stock option plans			Breakeven point	62.5	62.8	Boarding time			Cost reduction		
Time flexibility programs			Information technology			Price			Productivity improvement		
Employee initiatives						Flight frequency					
						Frequent Flyer program	yes	yes			
						Corporate identity					
						New look of the fleet	all				

Table 4 – Assignment instructions: Balanced Scorecard

Assume that you are the general manager of the assigned company and the corporation CEO (the manager to whom you report) requested you to elaborate a short report that will be used as the starting point for discussions regarding the performance evaluation of your unit and of yourself as a strategic business unit manager. The CEO, after attending a seminar for executives about the balanced scorecard, has requested to all business units' general managers to prepare a draft of a balanced scorecard of their own units because he is thinking that having a corporate balanced scorecard might help to improve the overall performance of the corporation.

The presentation format can resemble a report elaborated by an external consultant that recommends a certain design of the balanced scorecard. In terms of content the report should follow certain steps:

- Review relevant facts and identify potential performance evaluation concerns.
- Review the history of your business unit (only include those events that are significant for performance measurement or evaluation purposes).
- Perform an industry analysis to identify the position of your business unit.
- Whenever possible try to identify the strategy of the business unit, or mention that it lacks any strategic orientation or intent.
- Perform a SWOT analysis in order to identify the distinctive capabilities (and align them with the strategy and industry competitive position).
- Think about the performance measurement system in place and its alignment with the corporate one. Do they help to implement and achieve the strategy? Are they related with the strategy and critical resources (distinctive capabilities)? Is there any way that can be improved (to come with ideas regarding this last issue you can try a SWOT analysis of the performance measurement system)?
- Based on the diagnostic done, elaborate a proposal for a balanced scorecard of only one page with at least 3 perspectives.
- Explain the selection and importance of the perspectives according to the mission and strategy of the company (build a cause-effect chain).
- Explain the selection and construction of the measures (leading or lagging measure).
- Make sure that the measures used in the BSC can be evaluated either quantitatively or qualitatively for two annual periods.
- Mention other measures that would be included (for the case of measures with data not available for two periods).

In terms of format the written report must satisfy the following:

- The cover page of the report must indicate the name of the company, date of preparation/submission, name and e-mail of the author.
- Have a length of up to 10 pages not including cover page, titles, charts and tables (text: 2.54 cm margins, 12 point Times New Roman font, and 1.5 line spacing).

2.3. Limitations.

Lipe and Salterio (2000) offer evidence that people apparently succumb to use only the common measures for judgmental effects. This paper tries to overcome Lipe and Salterio (2000) limitations by working on three fronts. First of all, we selected more than one industry, introducing the contingency factor in the selection of measures. Secondly, the subjects participate in the design of the BSC. Thirdly, we did not organize the measures and offer the mix of unique and common measures, what has been the normal practice in previous experiments and that might affect the comparisons that the subjects make.

Although this study tries to complement others, we have to recognize some limitations. The most important limitations are the expertise of the subjects, subrogation of SBUs and sample size. The first refers to the concept of standardization that is restricted to the common knowledge and work experience shared by the subjects of this experiment. The second refers to the fact that subjects were assigned public firms and they were required to assume they were only SBUs of a larger corporation, and the last limitation is the sample size of 19 subjects. Therefore more research is needed to overcome all these limitations. Future research should replicate this simulation with larger samples (cross sectional or longitudinal designs), transform it into a controlled experiment and ultimately document the BSC design process in real companies.

4. RESULTS, FINDINGS AND IMPLICATIONS.

The study reveals interesting findings although the subjects considered are few. The more common measures found are in the financial perspective as expected, and then with less common usage are measures in the customer perspective and learning and innovation processes, while quite far away are the measures used in the internal processes perspective. Although this research design disregard the contingent factor of the industry that is considered in other studies, it can explain that also among different industries it is possible to find common measures being them highly used for evaluation purposes.

4.1. Common Measures.

To reject or not the null hypothesis a simple procedure was followed. Once the subjects had handed in the solutions containing all the items required as Table 4 indicates, the researchers organized the data of the BSC into a table. After reading each BSC proposal, four perspectives were considered with ten measures in each perspective, disregarding the distinction between leading and lagging[ii]. The forty categories of measures comprise all those mentioned by the subjects; some measures are very precise, while others are a category that groups some of them. Each measure proposed by the subjects was assigned to one and only one category of measures

of the forty possible. To ensure reliability the coding was revised by a research assistant, there was initial disagreement on approximately five percent of the items, but these disagreements were resolved via further discussion. The table was transformed to reflect the usage or not of each measure by each subject, being that transformation a change from an ordinal variable to a binary variable (being 0 when not used and 1 when used regardless of the times it was mentioned). With the binary table reflecting all the measures selected by the subjects a count per each measure was run in order to find out the most common measures used in each perspective regardless of intensity of use, the final absolute and proportional results are in Table 5.

Table 5 – Percentage of Usage of Each Measure – Single Count (Binary Table)

Financial Perspective			**Customer Perspective**		
Measures	Companies' Usage		Measures	Companies' Usage	
n = 19 companies	Count	Percentage	n = 19 companies	Count	Percentage
Return	19	100%	Customer Satisfaction	17	89%
Opertive Income	18	95%	Market Share	15	79%
Total Revenues	16	84%	Income or Sales per Client or per Product	14	74%
Per Share Measures	15	79%	New Markets or New Clients	9	47%
Cash Flow Measures	11	58%	Investments in Brand Development	9	47%
Investments	11	58%	Geographical Coverage	8	42%
Total Costs	10	53%	On time Delivery	7	37%
Stock Index	6	32%	Product Price	7	37%
Value Added Analysis	6	32%	Product Quality	7	37%
Total Assets	6	32%	Investment in Corporate Image	6	32%
Average Frequency of use		**62%**	**Average Frequency of use**		**52%**
Learning and Innovation Perspective			**Internal Processes Perspective**		
Measures	Companies' Usage		Measures	Companies' Usage	
n = 19 companies	Count	Percentage	n = 19 companies	Count	Percentage
Employee satisfaction	14	74%	Investment in Information Technology	14	74%
Training	13	68%	Products' Rejection Rate	12	63%
New Products	12	63%	Productivity	10	53%
New Ideas	11	58%	Information Technology Uses with Clients	6	32%
Education	9	47%	Expenses or Revenues per Employee	6	32%
Empowerment	9	47%	Capacity Utilization	5	26%
Remuneration	8	42%	On time Development of Products	5	26%
Continuous Improvement	7	37%	Environmental Issues	4	21%
Employe Turnover	6	32%	Inventory Turnover	4	21%
Patents	4	21%	Product, Service or Process Costs	3	16%
Average Frequency of use		**49%**	**Average Frequency of use**		**36%**

Tables 5 and 6 show that although financial measures are more commonly used the other perspectives also show a medium to high common usage of measures despite the significant differences between perspectives. Interesting is to notice the low probability of having the data from the four perspectives coming from the same underlying population that have the same mean in terms of use of common measures (t-tests in table 6). Based on those results hypothesis 1 stating that "for performance measurement the only common measures found in a BSC are in the financial perspective" can be rejected because there are also common measures found in other perspectives being all their proportions significantly different from zero in statistics terms,

although financial measures are the ones with higher common usage. This result confirms and expands conclusions of previous studies (Ittner et al., 2003a: 731)

Table 6 – Descriptive Statistics and t-Tests of Commonality of BSC Measures

Perspective	Mean	95% Confidence Interval	Customer	Learning and Innovation	Internal Process
Financial Perspective T-test (p value)	0.62	0.84 - 0.40	0.049 *	0.010 **	0.000 **
Customer Perspective T-test (p value)	0.52	0.75 - 0.30		0.539	0.002 **
Learning and Innovation Perspective T-test (p value)	0.49	0.71 - 0.26			0.013 *
Internal Process Perspective T-test (p value)	0.36	0.58 - 0.15			

** significant at the 1% level
* significant at the 5% level

The more common measures found are in the financial perspective, and then with less common usage are measures in the customer perspective and learning and innovation, while quite far away are the measures used in the internal processes perspective. The BSCs designed by the subjects used similar financial measures 62% in average (with four measures used in more than two thirds of the cases), used similar customer measures 52% (with three measures used in more than two thirds of the cases), used similar learning and innovation measures 49% (with two measures used in more than two thirds of the cases), and used similar internal processes measures 36% (with only one measure used in more than two thirds of the cases). These percentages show how the dispersion in the use of measures increases when we go from financial perspectives towards internal processes. However researchers caveat on these results based on the commonality produced by the interconnection and information shared by the subjects as well as by their educational background.

The repeated and common usage of some measures can be explained by the nature of data. Financial data are common to all companies since all of them have to prepare a set of financial statements according to some type of standards, whether FASB, IFRS, or those issued by any other regulatory body. Therefore, we can talk about standardization of the financial perspective and is normal to observe in it the larger number of measures most commonly used in different SBUs regardless of the business activity. For instance all BSCs contained at least one measure of profitability in the form of any well known ratio such as ROI, ROA, ROE, etc. Customer based data relies on three measures broadly used therefore we can also talk about some type of

standardization. Market share (79%) is a global measure that indicates the company position in its industry, customer satisfaction (89%) is a more particular measure of the revenue sustainability of a firm, and level of sales per client (74%) is an overall measure easy to audit. Although the three measures are heavily used, market share high usage rate maybe due to the fact that can be obtained from third parties and cannot be biased by employees as in the case of customer satisfaction and sales. Learning and innovation perspective also has three measures broadly used. Training provided (68%), employee satisfaction (74%) and new products released (63%) are considered in most BSC maybe due to its objective measurement, easy to audit, of factors that positively impact on the development of the personnel. Finally regarding the internal process perspective we can observe that there are two measures more used; product rejection rate (63%) is an available and reliable measure set in place for any productive process, and investment in information technology (73%) is considered because it is easy to measure and is a measure of future development of the firm although it amount can be manipulated by managers to a certain extent. As seen, the majority commonly used non-financial measures are internally driven and not so easy to audit, therefore is more difficult to talk about standardized measures.

The main contribution of this simulation is related with commonality in use. Although financial measures are the most common ones used for performance evaluation in multidivisional firms by top managers, measures from other perspectives such as customer and learning and innovation also show a high degree of commonality in its use. Our study implies that the idea of standardization of processes beyond financial measures allows the identification of a small set of non-financial measures that can be common to many SBUs regardless of their strategy, industry or management style. All the performance measures common in non-financial perspectives share the characteristics of being easily obtained from the existing information system although most of the time they are publicly available increasing the chances of doing some sort of benchmarking, and also important is the possibility of being audited by third parties.

5.2. Implication.

As the results of our simulation evidences, common measures could be share out by different organizations under different conditions. As has been exposed in this article the use of outcomes and drivers, financial and non-financial measures offers a picture of the present and future of the company. Short-term financial results under the current market conditions are not evidence of future success. Under this conditions to find common measures could be more difficult and more possibly financial measures will be the elected ones, or almost, where more weight will be placed.

To overcome the bias towards the perception and use of financial measures as the only common measures found in BSC of unrelated multidivisional firms, we suggest the following:

(1) Based on the predictive ability of non-financial measures, and assuming that financial measures are the more used: if the effect of current non-financial measures on the future financial measures could be calculated a new kind of comparisons may be proposed. Current common financial measures could be compared, but also, future expected common financial measures could be considered.

(2) If common measures in all the perspectives could be considered without judgmental biases: a way of weighting different measures may be formalized in an attempt to give an objective approximation to the evaluation process.

(3) A new challenge for performance measurement researchers is the searching for generally accepted measures of the more relevant key value drivers for current organizations. A good example is Hagedoorn and Cloodt (2003) paper where a composite construct was developed based on four measures that clearly catch the latent variable of innovative performance. So if the idea of innovation may be capture, why not put more effort on other key value drivers offering to managers a new way of obtaining profitability of the investment they have made for using this new non financial measures and tools.

6. CONCLUSION.

Perhaps the popularity of financial measures is that they provide an apparent, comprehensive measure of performance. By denominating all operating added performance measures in monetary units, we can aggregate across diverse operating units and divisions to get an overall performance measure. In contrast, real or physical measures are local measures that are difficult or impossible to aggregate into a single overall measure (Kaplan, 1983: 688/9). Although companies have understood the relevance of non-financial measures, they still do not know how to use them, and instead of obtaining hundred percent benefits of the effort of using these new measures they are wasting a huge potential. Banker et al. (2004) and Lipe and Salterio (2000) offer evidence of how managers apparently succumb to use only the common measures for judgmental effects.

It is assumed that each single and peculiar strategy is supposed to come in a specific set of performance measurement for each firm or SBU. As Lipe and Salterio (2000) pointed out, only common measures affect the superiors' evaluations in a multidivisional firm context although Banker et al. (2004) showed that those linked with the strategy are more heavily weighted. These common measures are mostly financial measures of the global results (lagging) of the activities performed, and therefore, similar to those used by traditional control systems. As a result of those analyses, BSC

should not be considered a useful instrument for conducting cross-units evaluations in multidivisional companies, since it losses its particular benefits of capturing the business strategy by relating financial and non-financial measures in a cause and effect chain of relationships.

The results of this study reflect that the use of the BSC in a corporation with multiple divisions dedicated to unrelated businesses would require an enormous effort to the corporation managers when they wanted to measure and compare performance if the processes are not standardized. The amount of effort is inversely related to the degree of standardization of the perspective, commonality that can be captured by common performance measures across unrelated SBUs. Accordingly, the perspective that will require less effort and can be used as a common denominator will be financial, followed by customer perspective and learning and innovation, while the comparison of internal processes will require even larger amounts of effort when considering BSCs of unrelated business.

Despite the statements of pros and cons regarding the BSC, our results show that in each perspective there are common measures. Consequently, if among the pros we usually forget to mention the limitations of the BSC in multidivisional firms with unrelated businesses, among the cons we forget to say that the BSC can provide a basis for performance measurement beyond single units because there are some measures, beside those financial, that can be common to all business units if they adopt a common process definition allowing for a standardization of measures meanings and measurement procedures.

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[1] Chadwick Inc. taken from Simons (2000: 539)

[ii] Being a lead or lag measure is not a given assumption for a measure. On the contrary it depends on how it is located in a specific cause-effect chain. Thus, "training efforts" can be a lead measure of the "number of suggestions by employee" that measures the level of workers' motivation in the learning and growth perspective of a specific BSC. But it does not mean that the "number of suggestions by employee" must be defined as lag measure. It is just true in the horizontal cause-effect chain of learning and growth perspective. The same measure could be a lead measure of the "number of defects" (lead measure in the internal process perspective) or "liability of the service" (lead measure of the customer satisfaction).