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# The Ethics of Metrics: Overcoming the Dysfunctional Effects of Performance Measurements Through Justice

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**Abstract** The last two decades have seen a great deal of scandals in the business world. Many of them have to do with accounting and management control, but in substantially different ways. This paper focuses on the dysfunctional effects of systems of measurement and incentives, and the possible ways to overcome those dysfunctional effects, achieving a stable state of goal congruence through the introduction of justice in the design and use of management control systems, by contributing to the ethical development within the organization. We first analyze how the discipline of control systems came into being, and show how, in the last decades, both in theory and practice, has gone in a direction of becoming more 'automatic,' and then, we provide some case studies of how they are at the origin of many of the scandals. Borrowing from Rosanas and Velilla (J Bus Eth 57:83–96, 2005) and from Cugueró-Escofet and Rosanas (Manag Account Res 24:23–40, 2013), we develop a model of control systems based on justice, where we make the distinction between formal and informal justice. We are then able to show how *informal* justice is the key element in the dynamics of a control system: to preserve formal justice, or to evolve toward formal justice. In any case, it is a necessary condition to reach a state of maximum goal congruence, stable through time, as a consequence of the ethical development that this type of systems are able to generate.

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*"Corruptissima re publica plurimae leges" (The more corrupt the state the more laws)*
*Tacitus Annales Book III 27*

## Introduction

The 21st Century has been characterized from the beginning by a series of economic scandals, many of which had an accounting basis. A predecessor of this century wave of scandals was that of Bausch and Lomb in the mid-nineties of the 20th, and then it continued with Enron, Tyco, WorldCom, and Arthur Andersen at the beginning of 00s. A few years later, once the Great Recession began, it went on with Lehman Brothers, Madoff, Societe Generale, Parmalat, Bear Stearns, AIG, HealthSouth, Satyam, Qwest, Global Crossing, Cendant, Rite-Aid, Lucent, Xerox, Adelphia, Fannie Mae, Freddie Mac (Murphy 2012).

Many, if not all, of these scandals had to do with accounting and management control, but in different aspects and in different ways. Broadly, we may classify them into three categories. First, the most common practice is misreporting, i.e., producing "false" accounting numbers that do not reflect reality. A blatant (and rather unsophisticated, in spite of the amount) case of misreporting is that of Worldcom: about $11 billion were reported as investments, when in fact they were current expenses, thereby substantially increasing reported income in a way that is totally contrary to the accepted accounting standards. Also, there have been in the last couple of decades many cases

(starting with Bausch and Lomb) of fictitious transactions (i.e., accounting numbers that reflected something that did not happen, like fictitious sales). This practice is the accounting translation of the word "lying" in the ethnic languages.

Second, the practice that has been called 'window dressing': using accounting procedures 'correctly,' according to the accounting standards, but having previously taken some actions that will make the accounting statements misleading, i.e., making the reader believe something that is not, typically by not reporting something (perhaps even when accounting standards are strictly followed) that is supposed to be 'bad' for the company. One of the practices that Lehman Brothers did is a good example of this at a big scale. It has been called "Repo 105," because the firm "sold" assets for a value of 105 in exchange for 100 in cash. They sold assets (at least partly toxic) before the end of the period for a total value of $50 billion to third parties (in the Cayman Islands, for example) with a guarantee of repurchase afterward. Thus, in the meantime, they could repay loans for that value, and show a Balance Sheet with much less leverage and less "risky" assets; and in due time, go back to the previous situation. This is not telling a lie or misrepresenting what actually happened: the financial statements reflect it quite correctly; but it is not telling the whole truth either: it is ignoring the repurchase guarantee, which is an important commitment for the future. But in fact, no accounting standards are violated with this practice, which reflects two facts that actually happened (the sale of the risky assets and the cancelation of the debt), but in a way that hides, in fact, their implications for the future. It may also hide the fact that that transaction had a cost, possibly recognized in the following period.

Finally, some scandals have to do with taking actions that are "bad" or "not so good" for the firm because they result in "high" (accounting or non-accounting) measures that are taken as the basis for evaluation. Therefore, the financial statements (and maybe other numbers not having to do with accounting) reflect reality, but reality has been "manipulated" to result in positive performance indices instead of good real results.

This practice may be called "heating the thermometer": take actions that increase the measured performance through some indicators (named KPIs, Balance Scorecard, or any other acronym), that are not so "good" for the organization, essentially because, as we will see, no set of indicators can ever guarantee that the actions taken to maximize them are perfectly aligned with organizational objectives.

In this paper, we want to focus on the analysis of the third practice. On the one hand, because the other two are not a "problem" from an ethical point of view, for they are clearly unethical: in one you lie, and in the other you take actions that mislead people. In contrast, in the third a practice may look perfectly ethical and, depending on how it is done, not be ethical at all. We will provide examples of that. A second reason for analyzing this problem is that, often, this third practice is at the origin of many of the cases of the other two. We will provide a few more detailed examples below, but a very common example in the current crisis is the mortgage salespeople, whose performance was measured (and therefore rewarded) as the total dollar amount of mortgages sold, ignoring the very high risk of many of them (the subprime problem), which provided a reason for manipulation of the accounting statements. The aim of this paper is to show how in situations where specific people or organizational units are evaluated almost exclusively through a formal system of index numbers, these indices do not push them in the direction of what is good for the organization, and creates injustice. In order to achieve the desired congruence between the individual's objectives and the organizational goals it is necessary to operate with justice, beyond the requirements of the formal control system.

We will proceed as follows. First, we review the basic concepts of management control systems, including the 'traditional' approach of the 50s and 60s of the past century. We then show how both theory and practice have evolved mainly in the direction of a more quantitative, formal ('engineering,' or 'automatic') approach, which has been at the origin of many dysfunctional behaviors, among them many of the recent scandals of the last two decades. We show how the 'traditional' approach is an essential condition for a good system that fosters ethical behavior, and present recent real-world examples of dysfunctional behavior attributable to performance measurements. We then combine the results from Rosanas and Velilla (2005) and Cugueró-Escofet and Rosanas (2013) to reach significant consequences for management.

## Management Control Systems: the Foundations, Their Context, and Their Evolution

'Management control' is an essential element in the managing of any organization. But there are a lot of disagreements about some of the essential ideas. The word 'control' itself is often misunderstood, misinterpreted, and therefore misused. In the everyday language, it suggests to many people the idea of domination or command. In the Webster's Dictionary, control is "the act or power of controlling; regulation; domination or command," or "the situation of being under the regulation, domination, or command of another" (1996). Even in the management literature, expressions like "hierarchical control," "rational

control," or "control and command" have been used to describe a type of management that is based on mistrust of the employees, on strict submission to quantitative measures and objectives, and on formal procedures (Ghoshal and Moran 1996).

From an academic point of view, Management Control is a discipline that started at the Harvard Business School toward the middle of the 20th Century, with Robert Anthony as the leading figure (Zeff 2008). First, he established the foundations of the discipline in his "framework for analysis" (Anthony 1965), which later evolved into "The Management Control Function" (Anthony 1988) and, also, together with his colleagues Dearden and Vancil, published the first textbook on the subject (Anthony et al. 1972) which later became, in subsequent editions (e.g., (Anthony et al. 1992, 7th edition, Anthony and Govindarajan 2003, 11th edition), the classical textbook of the area. In the foundations book (1965), he focused on people and their behavior, in a way that derives more from social psychology than from economics, even though both disciplines are important; he established the inseparable nature of 'planning' and 'control' as two sides of the same coin, and insisting in that separating them, sequentially or for analysis, "is not a useful breakdown" (Anthony 1965, p. 10). Instead, he distinguished between three levels of planning and control: (1) Strategic Planning, (2) Management Control, and (3) Operational Control, later called Task Control in his follow-up book (Anthony 1988); and in the three of them there were activities that may be qualified as "planning" and activities that may be qualified as "control." This three level distinction is crucial, because the Operational or Task Control typically focuses on measuring, appraising, and improving worker's efficiency, and, thus, has a strong 'mechanical' component and focuses mainly on quantitative variables, while Management Control focuses on formulating budgets and plans and evaluating *management* performance and, thus, looks predominantly at qualitative variables, without disregarding the quantitative ones, which are the ones around which the analysis is organized. Finally, the Strategic Planning level is a very broad set of activities of choosing company's objectives and setting appropriate policies, and evaluating them.

Management Control is a process "…by which managers influence other members of the organization to implement the organization's strategies" (Anthony 1988). This influence should take place in a way that there is 'goal congruence,' i.e., such that when managers pursue their personal goals they pursue at the same time the organizational goals.

Organizational objectives and strategies come partly from the history of the company or from its foundational spirit, and should be based on the "key economic variables" (Anthony et al. 1972, Chap. 2), which means essentially a focus on what is it that the company has to do well to succeed in business. They can be considered as the foundation of what today is called a 'business model.' The firm is then divided in 'responsibility centers' for that purpose, and for each one of them, a financial variable is chosen that becomes the central variable in the evaluation of its performance. This variable depends, of course, on the 'key economic variables' as well as on the strategy. The design of a management control system, then, has to be highly situational, i.e., the structure of the system is supposed to be tailored to the specifics of its situation: *this* company, *this* company's business, and *this* company's managers (Anthony et al. 1972, p. 147).

To be sure, 'fairness' was also included as important from the beginning, but reduced to the controllability criterion. To "exclude those factors over which (the controllee) has no control" (Vancil 1973, p. 77). This has often been misunderstood. For one thing, this traditional approach has been accused of looking only at financial variables, when exactly the opposite is true. For instance, when in Chapter 2 Anthony et al. (1972) give examples of "critical success factors" they include mostly non-financial variables.

Another aspect worth mentioning is the number of variables under consideration. Again, Anthony et al. (1972, p. 153), state that in most industries there are "three to six factors that determine success." They were aware of the fact that using many variables would only succeed in producing 'noise.'

A crucial implication of all this is that a control system has to have both formal and informal elements or forces that try to influence people. Formal forces are essentially the performance measurement systems and the 'automatic' systems of rewards that follow. Informal forces include external factors like 'work ethic' and other norms of desirable behavior that exist in the environment of the firm and also internal factors, like the culture of the organization, and the attitudes of the different levels of management about control toward their subordinates (the *controlees*).

At the individual level, there is a literature that is concerned with the several uses of performance appraisals. Cleveland et al. (1989), in a descriptive vein, studied the reasons why organizations set up a performance appraisal system, and group these reasons in consistent factors (labeled 'uses' by the authors) reaching the conclusion that companies can have four uses: between individuals use, within individuals use, system maintenance, and documentation. It is undoubtedly interesting to group descriptively the possible objectives and uses that a MCS can potentially have. However, we are interested here in a primary variable that we can consider the ultimate objective of a management control system implementation:

aligning individuals in management positions on the one hand (and, therefore, the organizational subunits they manage) and the organization on the other, to achieve common goals.

Since our purpose is to analyze the ethical problems of management control systems, it is important to see the evolution that they have suffered in the last 50 or 60 years. They have gone from a managerial, non-technical, even a somewhat humanistic approach, to a more specific, quantitative view closer to the mechanical or 'engineering' approach of a thermostat control system: measuring performance and attaching an incentive to it automatically, which purportedly fulfills the role of the fuel in a thermostat.

In the 15 years that followed the publication of Anthony et al. (1972), research seemed directed toward a softer, more qualitative approach consistent with the managerial view of that book. This would then extend and structure the traditional approach. Good examples of that trend are the papers of Hofstede (1978, 1981), Flamholtz (1979), Flamholtz et al. (1985), Ouchi (1980), and many others. Hofstede (1981) argues that the engineering ('cybernetic,' in his words) model of control can be used only if four conditions are met. First, objectives are clear and unambiguous; second, the variables are easily measurable; third, the effect of interventions are known and, finally, the situation is repetitive. Which is something that happens only in relatively simple, mechanical situations.

These four conditions have been rediscovered recently by Speklé and Verbeteen (2014) They put the first three together under the name of 'contractibility,' in order to show that 'contractibility' helps mitigate the unfavorable effects on performance of the performance measurements. Flamholtz (1979) shows how control systems are a useful organizational tool, but under some conditions of a very qualitative nature. Flamholtz et al. (1985) attempt to provide a wider framework for management control that attempts to integrate different views of control. Finally, Ouchi (1980) showed how the possible mechanisms of control were of three kinds (markets, bureaucracies, and clans) and that at least the last one (the "clan mechanism") could not be formalized and structured in any reasonable amount.

But this approach was already at that time (the 80s) almost "fading away" while a harder, economics-based approach built on agency theory was taking over. This approach derived from one of the two branches of agency theory, the one that Jensen (1983) called the "principal-agent model," highly formalized and mathematically structured. It began with the work of Ross (1973) and Holmström (1979) in economic theory, and Demski (1976) applied it for the first time to a management control setting. Concepts like 'observability' and the study of risk sharing and risk versus insurance were the main focus of these early studies (Gibbons 1998). Later on, many of the theoretical papers related to management control systems in most of the leading journals have practically reduced to more and more mathematically sophisticated agency-based models. Typically, they exclude informal elements: principals and agents are expected utility maximizers, the arguments of their utility functions are essentially monetary, or at most they have some 'work aversion' (negative utility for effort), with unbounded rationality. Only relationships between two people (a principal and an agent) are contemplated in that literature. Today, unfortunately, the management control systems percentage of the total accounting literature is rather small, and in high quality journals is concentrated in two or three of them (mainly *Management Accounting Research*, partly in *Accounting Organizations and Society*, and to some extent in *Critical Perspectives on Accounting*). Just to cite a small sample, we take three articles published in some of the top journals: Dutta and Reichelstein (2010), Heinle et al. (2014), and Demski et al. (2008). Thus, most journals have evolved into the form that Demski (2007) calls "homogenized, tribal and governed by self-protective social networks."

Interestingly, a (relatively small) part of the agency literature published in Economics journals (as opposed to Accounting journals) has been more realistic in this sense and has tried to approach the real-world problems better than the accounting literature. A good example of this is the paper by Holmström and Milgrom (1991), showing the problems of multidimensional objective sand how the evaluation of these different dimensions have trade-offs with each other. Gibbons (1998), in a survey article where he analyzes the qualitative extensions of agency theory that have been formalized mathematically. Baker et al. (1988) examine issues related to the informal authority and show how different information structures produce different decisions by changing the underlying incentives, under the hypothesis that decision rights, in firms, are not contractible because the 'boss' can always overrule what subordinates intend to do or have done.

To be sure, accounting journals (Management Accounting Research mainly) continue to publish articles that are in line with what we have called the 'traditional' approach (Ferreira and Otley 2009). Nevertheless, the other stream (contracts on observable, measurable variables coupled with incentive formulae) dominates in most of them, even though it has been decreasing in terms of quantity as a consequence of the growing share taken mainly by financial accounting. In a world of imperfect performance measurements, those measurements may 'push' people in the wrong direction (Gibbons 1998; Rosanas and Velilla 2005). The ethical dilemma for many

managers then is whether they do what they really think is good for the organization, or else what increases measured performance, in order to increase the value of an index number. This creates situations of injustice: people who just attempt to maximize the value of an index are rewarded, and people who do what they believe is good for the organization are penalized.

The practice in management control systems has evolved in parallel with the theory. Where the traditional approach emphasized learning and informal relationships in organizations, the current practice in the last three or four decades has emphasized measurability and incentives. Where the traditional approach would say that performance should be evaluated with only a few variables, and that some of them had to be qualitative, the 'Balanced Scorecard' approach (e.g., Kaplan and Norton 1996, 1992) was an attempt to summarize (in a 'scorecard') all (typically many) relevant variables for management control in quantitative indices.

The traditional analysis was based on the assumption that no objective(s) of an organization could be 'summarized' in an indicator or set of indicators. The theoretical economics literature has shown this in a more rigorous way (see Rosanas and Velilla 2005, for a brief summary). In spite of that, many firms have adopted and used management control systems that go directly against this basic assumption, as witnessed from the success of the 'Balanced Scorecard,' which became very popular in the 90s of the past Century. Other expressions often used, like 'Key Performance Indicators' (KPI), or Performance Monitoring Indicators' (PMI), or still 'Key Success Indicators' (KSI) have been proposed as the tools that would solve the management control problems. The spirit with which this has been done is somewhat put into manifest by the widespread use nowadays in this context of the word 'metric' to designate any kind of an indicator. The name, besides suggesting 'novelty,' also suggests precision and some other properties that an indicator in management practice cannot have. In fact, the word 'metric' comes from mathematics and is used in that discipline to denominate a non-negative real-valued function having properties analogous to those of the distance between points on a real line[1]. Thus, it has nothing to do with the kind of 'soft' variables that inevitably are crucial in management.

Qualitative variables can be evaluated only subjectively; thus, some 'subjectivity' is inevitable in management control. In contrast, the developments of the last two or three decades, have rather gone in the opposite direction. From a practical point of view, Kaplan and Norton (1996) may be the best reference in a book that is (partly) based on current practice, intended to provide advice to practicing managers, and has had a considerable influence on practice afterward. The book's major recommendation is to use a set of measures that attempt to reflect the company's strategy: the first part of the book is devoted to finding measures that are consistent with the strategy, and the second part is essentially normative from a strategic point of view. The expression 'balanced scorecard' has been considered as a "commonplace metaphor" by Demski et al. (2008), even though they think that such a metaphor "is somewhat deceptive in that balance implies equipoise and, in the limit, equal distribution of weight," which in practice may be either absurd or impossible to achieve.

In summary, management control systems and performance evaluation have, in practice, tilted (like the theory) toward *formal* systems of measures and 'automatic' ('engineering') types of control, mainly through supposedly 'objective' metrics and incentive systems tied to these metrics. The high number of metrics and the complexity of many automatic incentive systems favors 'gaming' with the system, in the same spirit as the quotation that begins this paper.

## Bad Consequences of Metrics: Four Case Studies

### Medium-Sized Spanish Bank

Medium-Sized Spanish Bank (MSSB) was (and still is, although with a somewhat different structure) a medium-size bank, with a big number of branches in some regions of the country. During the years of the boom, and since the interest rates were very low, the net interest margin, i.e., the margin between rates of interest charged to customers for mortgages and the interests that they had to pay to their lenders (deposits, or perhaps loans from other banks) was very small. Therefore, and since there was a lot of liquidity, one way to increase profits was to increase the size of the operations, by giving loans that were clearly riskier, perhaps with a small increase in the interest rates, which very often was not enough to compensate for the additional risk. Employees at the branch that were selling mortgages were given an incentive payment based on the total amount of loans accepted. So, the 'metric' of their performance was the total € amount of loans, and the associated incentive, a percentage of that amount. The 'metrics' of the branch manager were total margin and return on investment (ROI); and the 'metrics' of the regional managers and above were a little bit more complex, but essentially based, again, in total margin for the region and ROI. To be sure, nominally there were other 'metrics' (in the spirit of the 'balanced scorecard'), but everybody knew that these were *the* 'metrics' to pay attention to.

The criteria for accepting mortgages had always been based on the conservative view of lending the borrower a percentage of the assessed value of the property much

lower than 100 (perhaps 70, or at most 80 %), together with an assessment of the ability of the borrower to repay the loan, so applying informal justice when deciding over the two criteria. This had not changed explicitly; but under the boom, the incentive system just described was pushing everybody in a different direction. Then, the bank was taking higher and higher risks, and often lending amounts higher than 100 % of the assessed value, and to people whose ability to repay was not clear at all. Nevertheless, and since the price of the property was rising, this was not considered a problem: in a few months, or perhaps in a year or two, the value of the property would rise beyond the total amount of the mortgage approved. In fact, even if the borrower could not meet the interest payments, these could be added to the value of a renegotiated mortgage based on the new 'fair' market value of the property. Therefore, there was no problem from an accounting point of view with overvaluing the property or even with adding unpaid interest later on: the real value would increase beyond that. Mortgage sellers were making more and more money by accepting riskier and riskier mortgages at higher and higher values, and the income statement and the ROI looked good, so branch managers and managers above benefited from that too. The system, both in what it was actually doing and in the way it was evaluating managers and even lower level employees, is formally unjust: it gave extra mortgage money to people that did not need it to buy the apartment or house, and did not deserve that because they were unlikely to repay the loan. It was unjust with respect to other, reasonable customers that did not get the extra money and have been repaying the loans afterwards; and it is unjust to the shareholders of the bank, who were exposed to a risk that was much higher that they could reasonably bear. It became formally unjust, because the rules for approving mortgages and the way employees and middle managers were evaluated was promoting this type of injustice.

Honest Branch Manager (HBM), one of the branch managers of MSSB, disagreed. He thought that the historical criteria for giving mortgages were the right ones and, in his branch, he would refuse to accept mortgages above 80 % of the assessed value, and to customers whose income and compromise to repay the loans was not big enough to repay the mortgage without strain, or whose income was rather uncertain. So, by rejecting all these mortgages, the salesmen were losing many of their potential commissions; and the profits and ROI of the branch were lower than they could have been if they had been accepted (even though these profits were fictitious, as was clearly seen when the crisis arrived). This, of course, affected the profits and ROI of the regional manager as well, and even those of some executives above. Therefore, the salesman 'ganged up' with the regional manager and headquarters against HBM asking for his removal. But HBM had been an exemplary employee for many years, so this was a problem. After giving it some thought, the divisional manager finally found a way to separate HBM from the daily operations, 'promoting' HBM to a 'better job,' with a better salary, giving him a bigger, nicer office, but with no decision-making power at all. Immediately, the number of mortgages, their total amount, and the profits and ROI went up, making salesman, the new branch manager, and the people above them very happy. But, of course, after September 2008, property values plummeted, and, therefore the bank was technically bankrupt. It did not actually go bankrupt because later it was bailed out.

HBM was applying *informal* justice: the rules and the formal system of evaluation were clearly against what he was doing. Unfortunately, everybody around him was against what he was doing, so he was denied any decision power, and treated with 'informal justice' by being given 'better' work conditions.

This is a clear case of 'metrics' and incentives pushing people in the wrong direction, and has nothing to do with accounting manipulation, or window dressing. Essentially, the problem is that the real objective of a salesman is *not* to sell any kind of mortgage and to be informally just with the customers being clear about the criteria for lending them the money or not. And the € amount of mortgages is not a good 'metric,' because it does not distinguish between 'good' and 'bad' (i.e., too risky) ones. But more importantly, the situation created is clearly one of injustice, because the middle manager is not being compensated according to the organizational goals; instead, the 'metrics' implemented penalized him while doing what he thought was right for the organization.

For the higher levels of the organization, things are even worse: profits and ROI are not the real objective of divisions and of top management, and are not a good measure of them. This practice was in fact at the origin of subsequent misreporting: when it became obvious that the real value of mortgages was lower than the accounting value, the accounting value should have been lowered, but it was not. Misreporting, thus, followed the lack of goal congruence of the assumed 'metrics.'

### Big Spanish Bank

In one of the big Spanish banks, BSB, at the Board of Directors level, the compensation was based again on total profits of the Bank, growth, and profitability, in a complex formula. One of the members of the Board was a former well-known auditor who had worked in one of the big auditing firms for quite a while and with high responsibilities. An outside observer (a consultant) told him in private that many assets were overvalued, and this was not

an acceptable practice, and suggested that he, as a former auditor, should raise his voice and say that this was unwise because of the risk involved. He replied that he could not do that, because the compensation of the whole board depended on profitability, and that recognizing the loss of value of the bank's assets would probably mean a substantial decrease in this compensation; and that the Board would never accept that. Of course, again, after September 2008 the bank had to substantially lower its asset values and was in a delicate situation for a while. When it became clear that the previous profits had been fictitious, nobody on the Board was asked to give back to the Bank the money they had received as an incentive payment, of course.

This example complements the previous one at higher organizational levels, but presents exactly the same problem of 'metrics' again. While it is true that higher profits, and high ROIs, and so on are something 'good' ('ceteris paribus,' of course), the indices used to evaluate those variables are very imperfect. In fact, what they were doing was from the beginning bad for the Bank: they were accepting intolerable high risks. Yet, there was no misreporting at that time: the financial statements reflected what was happening to a reasonable extent. But this was the bad practice that motivated the misreporting that came later on when the crisis started. The situation created is unjust: managers at the top level are receiving a compensation that they do not deserve, because it is not aligned with organizational objectives, following the 'metrics' even if they know the metrics are at least misleading.

### Bright Information Technology

A company in the Information Technology industry (BIT), belonging to a big Holding company, was worried about its performance measures, perhaps because they saw that many firms around them had 'balanced scorecards' that were assumed to be more precise and 'modern.' A first class consulting company (FCCC) was called in and did a project. In fact, they reasoned, the balanced scorecard that had to be designed based on the strategy, so it would be better to revise the strategy before starting to propose 'metrics' for the company.

Strategy, of course, is the design of the future of the company. That design is necessarily incomplete: not everything that has to be done can be reflected in words in a structured statement. And it is multifaceted, so it cannot be summarized in a simple statement like 'to be the best company in the industry,' or 'being the leader,' or 'to experiment high growth,' and so on. 'Vision' and 'mission' statements are more general, which should be inspiring to the people of the organization, but often are beautiful words without any substantive content (Rosanas 2013). Strategy is more concrete and generally involves setting goals of all kinds, determining what should be done to achieve those goals, what resources have to be used, and how the different tasks are going to be allocated to different people in the organization. In a different level, but closely related with management control systems (Anthony 1988). Parts of the strategy are easily quantifiable (e.g., financial variables); but other parts are not. Thus, if we take any sensible strategy as given, it may be close to impossible to find indicators for some of the variables. Those variables must be 'subjectively' assessed rather than measured, and this has to be an integral part of any management control system.

Going back to our example, when FCCC realized that, given the strategy of BIT (which was not too explicit, but was quite clear and shared by most managers of the company), some of the indicators would not and could not be 'exact,' they proposed to 'revise the strategy.' What they in fact did was to start with a set of quantitative indicators, all of them being important for parts of the strategy, and construct a strategy exclusively based on them that would obviously call for these indicators. Finding the appropriate 'metrics' was then only too easy.

What happened then? What was to be expected: people started focusing exclusively on the variables measured in the balanced scorecard, and all the other variables were forgotten. Some of the managers that previously felt identified with the company and its (partly implicit) strategy, left after a few months, and for a while the financial variables continued to show good results, but anyone in the company could tell that all the other aspects, including the identification of the employees with the company, were slowly deteriorating.

This story is yet unfinished. But it seems clear (to us as external observers, at least) that its evolution is not good. Briefly, we may say that what happened before the change was that the formal system was just and there was an important part of the management control system that was informal, and was handled in a way that people believed to be just, pushing people in the direction of the organizational objectives. The new system was formally very incomplete, not including many intangible variables that had always been considered important, but the informal system that compensated for the (lesser) incompleteness began to disappear. Then, of course, the way the system was used was pushing people to do not what they thought was good for the company, but what had an impact in the 'metrics, thus creating an ethical dilemma in most of the employees, but mainly in the middle managers. Again, the situation generated is one of injustice. Employees are at a crossroads: in one direction they get bonuses doing their job against what they think are the best interest of the company; in the other, they do what they consider right, but

without reward. To some extent, we may say that there is a double injustice, because doing their job 'badly' precludes them from receiving the intrinsic reward of being a good professional, (acting against their own judgment) which is particularly important in this type of service firms.

### Fashion Retailers

Finally, we want to present briefly an example of how the set of quantitative indicators (in this case they were called KPIs by the consulting firm that designed the system) were completely different from what should be the basic objective of the company. It is about a retail chain of fashion products. If we go back to what in the traditional approach we would call 'key economic variables,' immediately one would think of 'design' as almost *the* key variable; and, of course, location and customer attention. Yet, many of the KPIs the firm had were quantifiable variables related to these, but in a very imperfect way: number of people passing by the store, percentage of the people passing by that entered the store, percentage of people who entered that made a purchase, percentage of people who made a purchase beyond some amount, total sales, and so on. The firm had a lot of these KPIs, but which one really could be said to evaluate design? None: this is extremely difficult to quantify, although it can be subjectively evaluated. Yet, it seemed clear that this was the key variable. Therefore, the KPIs would likely push people in a direction completely different from the key variables and therefore from organizational objectives. And this, again, creates a conflict in all the employees that want to do the 'right thing for the firm,' but have to try hard to get more customers into the store and get some of them to purchase, sometimes beyond what is prudent in a business of this kind, if they want to take home the money they need. Again, this situation is very similar to the previous case, of a 'double' injustice: of not receiving the intrinsic reward of being a good professional if the employee routinely follows the incentive system, and of not receiving the reward deserved if not.

## Toward a Control System with Justice, Fairness, and Goal Congruence

After we have illustrated how the dysfunctional aspects of performance management systems are related with justice, we want to go back to their positive function and see how we can overcome these potential and actual problems through justice. "Mechanical" incentive systems do not foster the development of technical skills and moral virtues; rather, by emphasizing and rewarding quantifiable variables, they contribute to de-emphasizing values and they may well be substantial in deteriorating them; yet, development of technical and moral values is crucial to long-term survival of organizations (Rosanas and Velilla 2005).

Greater levels of goal congruence can be achieved through the introduction of justice as a requirement in the design and use of management control systems (Cugueró-Escofet and Rosanas (2013), but their analysis does not have a clear categorization of different types of goal congruence, and does not show how goal congruence evolves through time. In a recent development of their model they try to include learning in it, emphasizing fairness as a consequence of goal congruence (Cugueró-Escofet and Rosanas 2015).

"Fairness" is a concept that in the accounting literature has been used without too much precision. In a classical article mentioned above, Vancil (1973) proposed fairness as crucial in evaluating managers, but reduced to the controllability criterion, even though he possibly wanted to go beyond that.

Later on, Williams suggested that management control system cannot escape from fairness "deliberations" (Williams 1987, p. 178), and that fairness needs to be included in the formal and informal aspects of the system, because "the production of accounting data involves consequences that may be judged as unfair" (Williams 1987, p. 171). Along similar lines, Pallot, believes that in management control systems the concept of fairness needs to be discussed to decide which approach to fairness is the one to be included (Pallot 1991). An example of this, is shown in Luft: she considered fairness as an alternative goal to self-interest (Luft 1997). The specific interest in fairness has been recognized in other areas of research, in which the role of justice in decision making and system design to pursue a healthy organization in the long term has been largely discussed (Colquitt et al. 2005; Greenberg and Cropanzano 2001). Fairness is, thus, a condition often recognized as necessary for a performance evaluation and reward systems; and justice has seen to be a problem in the four examples of scandals above.

### Formal Justice, Informal Justice, Ex-ante justice, Ex-post justice, Fairness, and Justice as a Moral Virtue

However, in the area of organizational justice the concepts of fairness and justice have been used equivocally quite often. According to Aristotle, "justice is divided into the lawful and the fair … but since the unfair and the unlawful are not the same, but are different as a part is from its whole (for all that is unfair is unlawful, but not all that is unlawful is unfair)" (Aristotle 2000, Book V). Following Aristotle "justice is often thought to be the greatest of virtues," and proverbially "in justice is every virtue

comprehended (…) it is complete virtue (…) because he who possesses it can exercise his virtue not only in himself but toward his neighbor also" (Aristotle 2000, Book V). The law has to be adapted to cope with possible rigidities of the systems, to allow for particular situations of the people involved (Aristotle 2000, Book V), acting with the virtue of justice.

In the organizational justice literature, the studies about justice and fairness are mainly empirical. They typically use perceptions of justice to evaluate whether some formal and informal requirements (or decisions) are just or not, as we will see below. Recently, some research has tried to clarify the difference between the two (Cugueró-Escofet and Fortin 2013; Goldman and Cropanzano 2015). In their approach, justice is a moral requirement, whereas fairness is a perception, so that justice refers to the ex-ante provisions of a management control system and the way that system should be used; while fairness refers to the ex-post consequences of the system and of the way it is used (Goldman and Cropanzano 2015). Furthermore, following Cugueró-Escofet and Rosanas (2013), we want to distinguish between two types of justice: formal justice, which refers to rule-based aspects of the formal system, and informal justice, which refers to the specific use made of such a system. These two types of justice have been defined and analyzed in detail in the first part of their model.

Perceptions of justice require a managerial action, because individuals tend to react against those outputs they receive when they perceive them as unjust (Cropanzano et al. 2007; Cropanzano and Randall 1993). Specifically, the aspects of justice that individuals can perceive are linked to (a) the distribution itself (Adams 1963, 1965), (b) the procedure leading to the distribution (Thibaut and Walker 1975, 1978), (c) the information that is provided, and (d) the treatment they receive from their supervisors (Bies and Moag 1986; Bies and Shapiro 1987). All these four types of perceptions have been studied in the organizational behavior literature extensively, and have been linked to most of actual productive and counterproductive individual behaviors that can be observed in organizations (Colquitt et al. 2001). The most widely used model of fairness perceptions has been tested by Colquitt (2001). Colquitt considers four justice facets linked to the perceptions we have mentioned above: 'procedural justice,' defined as the perception of fairness formed depending on the procedures used (Blader and Tyler 2003); 'distributive justice,' defined as the fairness perceived depending on the outcomes received; 'interpersonal justice,' as the fairness attached to the interpersonal treatment (Bies and Moag 1986); and 'informational justice,' depending on the explanations received from the decision maker (Shapiro et al. 1994). All these four perceptions combined lead to the overall fairness perception of justice, even if each of the aspects can create effects of its own (Colquitt 2001).

Recent advances on this literature have suggested that organizational justice must evolve toward an ethical approach, where justice is an ethical value and an ethical principle that goes beyond subjective human ex-post perceptions (Cropanzano et al. 2001a; Cropanzano et al. 2003; Cugueró-Escofet and Fortin 2013; Folger et al. 2005; Melé 2012). This implies distinguishing the concept of justice (both formal and informal) from justice as a virtue and justice as a perception. In this respect, justice is the requirement or moral standard, while justice as a virtue is the learning process that creates a virtuous circle, and the perception is the way this virtuous circle is aligned with the moral standard of justice or is not. Managerial action, if virtuously just, needs to be aligned with the habit of using justice in two ways: first following the moral standard and second by helping people to perceive justice (so judge justice), in accordance to the moral standard that has been thought as the just one. In that respect, informal justice is a crucial element of management control system that trains people to achieve the greatest possible levels of fairness in the results or decisions people receive.

## Goal Congruence and Justice

As stated above, goal congruence is considered to be the central purpose of a management control system (Anthony and Govindarajan 2003, p. 98). The modern definition of goal congruence is that of 'organizational interest alignment,' or "the degree to which the members of the organization are motivated to behave in line with organizational goals" (Gottschalg and Zollo 2007, p. 420). In general organizations achieve only a partial alignment with individual and organizational goals.

Cugueró-Escofet and Rosanas (2013) argued that management control systems can achieve goal congruence when both their formal and informal aspects take into account justice as a crucial element embedded in these systems. Formal justice is thus linked to formal management control systems and some properties of those systems produce goal congruence and fairness in the results. Informal justice has to do with the discretionary decision power of managers, i.e., with the use of the system by them, which is related with what can be seen as the informal control system. In this respect, informal justice is the use of the system following the requirements that we are going to show later on, based on the research of Cugueró-Escofet and Rosanas (2013). Their paper, though, does not address the issue how their model can be used in a more dynamic way. We will attempt to move one step forward here in that direction, to show how it can be used

in performance evaluation systems to develop technical and moral values.

## A Model of a Management Control System Based on Formal and Informal Justice that Develops the Virtue of Justice

We present next a developmental approach to management control systems, to include virtues and learning as a necessary extension of the traditional approach, to show how this model can overcome the problems created by the 'engineering' view using the above examples. After that, we offer some new venues of research that impose learning process in the model, and can show how this learning makes even more important the inclusion of justice in the formal and informal management control systems.

### Developing Technical Skills and Moral Virtues Through Management Control Systems

Table 1 is a further elaboration of the one included in Cugueró-Escofet and Rosanas (2013). In this Table, there are four combinations of formal and informal justice, and their implications in terms of goal congruence. A just design combined with a just use of the management control system leads to what we call *maximum goal congruence*; an unjust design combined with just use, to *occasional goal congruence*; a just design combined with unjust use, to *perverse goal congruence*; and an unjust design combined with unjust use, to *minimum goal congruence*. In what follows we will expand on these four types of goal congruence and briefly indicate the plausible dynamics in terms of ethical development of the four situations. This dynamics paves the way for the third conclusion of Rosanas and Velilla (2005) mentioned above, that the development of technical and moral values is crucial to the long-term survival of any organization, while they are not fostered at all by mechanical incentive systems.

#### *Maximum Goal Congruence-Ethical Development in the Short and Long Run*

In this case, and since both the design and the use of the system are just, the alignment of individual and organizational goals is at its possible maximum for that specific situation. Organizational members are required to perform in a way that is consistent with their achievements and they have some influence (Leventhal et al. 1980; Van den Bos et al. 1996). The level of compensation is beyond some minimum, there are no huge differences between peers (Hambrick and Finkelstein 1987; Siegel and Hambrick 2005), and there are formal mechanisms to repair injustices and updating the system in terms of formal justice (Conlon et al. 2005; Cropanzano et al. 2007; O'Malley and Greenberg 1983; Wenzel et al. 2008). At the same time, managerial actions are consistent with the system, including some necessary degree of balance and flexibility (Aristotle 2000; Bies 1987a, b; Bies and Moag 1986; Posthuma and Dworkin 2000). Fairness in the results will be presumably there, and in case fairness is not present, the manager will try to find the possible cause of the lack of it, as he or she is committed with creating it. Fairness in the results is the glue that makes people behave co-operatively to attain the main goal, as they see their individual goals as a part of this greater goal (Simon 1964).

The ethical behavior of the manager, as a professional and as a person, will help the rest of the members of the organization to improve ethically as well. This situation is stable, because there is no reason for individuals to change such a process of ethical improvement. The lack of injustices helps identifying people with the organization and being committed with the organization itself, and identifying with the other members of the organization as well (Pérez López 1993). People believe that if an injustice should appear, management is committed to repair it, and even to update the system if necessary to restitute the just order.

We define ethical development as the management acquisition of virtues through acquiring the virtue of justice. Caring for justice will generate an organization in which the other virtues can be practiced and developed, justice being a sufficient condition for the rest of virtues to be possible to develop. The concept of informal justice we present here goes beyond the mere considerations of formal justice, where justice is just being equated to the law or the explicit rules. The, we can include ethical development in the following propositions:

**Proposition 1** *If the system is formally just and informally just, then the ethical development can take place in the short and the long run*

**Proposition 2** *In a situation of maximum goal congruence, this ethical development can be implemented in such a way that acquiring virtues, specifically justice, is achieved consistently through time, and continues if no abrupt change is present.*

#### *Occasional Goal Congruence-Ethical Behavior in the Short Run and Ethical Development in the Long Run*

This situation is to some extent similar to that of maximum goal congruence. In this case, the only aspect to be improved is the formal system itself. This state is the most realistic one in organizations that are committed to generate a good internal environment, but they are in the continuous process of doing so. Organizations never have a perfectly just design, but if managers act justly, then the situation can evolve toward one of increased formal justice.

**Table 1** Justice in the design and use of management control systems

| | | Management Control System design | |
|---|---|---|---|
| | | Formally Just | Formally Unjust |
| Management Control System use | Informally Just | *Maximum goal congruence* | *Occasional goal congruence* |
| | | ***Ethical development in the short and long run*** | ***Ethical behavior in the short run and ethical development in the long run*** |
| | Informally Unjust | *Perverse goal congruence* | *Minimum goal congruence* |
| | | ***Unethical behavior in the short run and unethical development in the long run*** | ***Unethical development in the short and long run*** |

This is especially interesting because of the dynamics it can generate with respect to learning and future ethical development.

Managers that act justly are typically willing to repair injustices (Cropanzano et al. 2007). After first repairing injustices, managers may later start proposing changes to the parts of the system that have generated unfair consequences (Aristotle 2000). The virtue of justice is essential when people are able to decide about the recognition others should receive (Aristotle 2000; Folger and Cropanzano 2001). People care about the how they interact with others, and judge actions in terms of how fair they perceive them to be (Bies 1986; Bies and Moag 1986). In fact, the source of the injustice has been regarded as the central actor against whom reactions to the injustice are directed once the injustice has been perceived (Lavelle et al. 2007).

This situation is highly unstable, and evolves toward the better version of maximum goal congruence: informal justice transforms the system from an unjust design into a just design. Managers can improve professionally, as they learn to see that something is wrong in the system by them. Alternatively, they learn to listen to the people they manage when they perceive unfair results. In both cases they improve ethically as professionals and human beings, acquiring technical and moral virtues. This process gets better in the future, because learning makes the future states of affair fairer (Ashton 1976; Maruyama 1963; Weick 1979; Wender 1968).

**Proposition 3** *A system that is formally unjust and informally just, tends to create ethical behavior in the short run.*

**Proposition 4** *In a situation of occasional goal congruence, this ethical behavior consistently performed can allow the acquisition of virtues, specifically informal justice that can allow the achievement of ethical development in the long run.*

**Proposition 5** *In a situation of occasional goal congruence, managers are conscious about the formal injustice and the unfairness that are created through it in the short run, so they intendedly tend to solve these unfairness by transforming the formally unjust system into a formally just one.*

### *Perverse Goal Congruence-Unethical Behavior in the Short Run and Unethical Development in the Long Run*

The case of perverse goal congruence is the worst, as human action in the bad direction could destroy even a just system design that worked quite well in the past. In this situation, there is not an attempt to solve unfairness effectively, and the dynamics will make the situation end up similarly to the one of minimum goal congruence.

Examples of perverse goal congruence are many. In situations where a top manager of an organization is replaced,

it often happens that the system is formally and informally just, but with this change (which may happen because of a change in ownership, for instance) the new management may be hard pressed to 'make the figures' and start behaving unjustly and forgetting the previous culture of the organization. The short run cannot be changed, but over time it will easily evolve toward the state of minimum goal congruence to be described below; and it may well happen that this could be noticed only when the situation has become too difficult to reverse.

This situation often occurs because of dysfunctional learning. Sometimes people ask for changes in the system when they perceive injustices. Then, initially, proposals of increasing formal justice may look legitimate, but when the real problem is in the informal justice. The unjust manager may look as if she were interested in increasing fairness, but in the end, she ends up creating a greater unfairness, worsening the system and transforming it in a formally unjust one (Sitkin and Bies 1993). Of course, this is consistent with our opening quote by Tacitus: more laws to become less just. Applied to our case, empirical evidence suggest that when there is informal injustice in the use of a system and people perceive such injustice, they usually demand greater formal justice (Cropanzano and Byrne 2001). This learning process of injustice is dynamic, and leads to unethical learning in the long run, but more importantly, to unethical behavior in the short run too. Both types of injustice increase over time, and the unity inside the organization is condemned to self-destruction.

Unethical learning occurs because, through using the system unjustly, unjust managers learn how to "cheat" the system every time a new just rule is introduced, and they become more and more skilled at doing this until, in the end, they fully master being unjust (Aristotle 2000), victims of dysfunctional learning. Injustices are unlikely to be repaired, as people either call for more rules or, in the case of managers, learn how to be more unjust by defeating the system and any new rules. Both types of dysfunctional learning—by managers and by people calling for more rules—can transform a management control system into a formally unjust management control systems, so the final situation will be the one of minimum goal congruence. The situation deteriorates, and injustices are not repaired even if the management control system design includes reparation mechanisms, those of the formal justice requirements. In the end systems change, but not by replacing the bad rules with better ones, but instead only merely by increasing the number of rules (Cropanzano et al. 2007).

**Proposition 6** *If the system is formally just and its use is informally unjust, unethical behavior is bound to appear even in the short run*

**Proposition 7** *In a situation of perverse goal congruence, this unethical behavior consistently performed cannot allow the acquisition of virtues, specifically through the informal justice, so unethical development is achieved in the long run.*

**Proposition 8** *In a situation of perverse goal congruence, managers are conscious about the informal injustice and the unfairness that are created through it in the short run, and they also know that the system is already formally just, so they intendedly, solve these unfairness by transforming the formally just system into a formally unjust one, adding unnecessary rules.*

### *Minimum Goal Congruence-Unethical Development in the Short and Long Run*

This situation occurs in cell 4, when the system is unjust and the use management makes of the system is unjust as well. This cell makes impossible the development of moral and professional virtue. This can be the case of a system with only strong economic rewards and relying exclusively on people's extrinsic motives based on objective measures. In this case, the system is formally unjust, and if managers use it unjustly, it makes impossible for all people involved to focus on other aspects of performance that are crucial for the organization and for the other employees. In that situation, the development of virtues is not possible.

Management control systems, at the very least, must not be an impediment in the development of technical and moral virtues. The systems that rely exclusively on heavy economic incentives based on results are strongly simplistic, make people to behave in a way that worsens their professional skills, and motivate people to go against what they perceive to be correct. They lose freedom to act, and are oriented to achieve the explicit results only, even if this implies doing things they consider inappropriate, and to behave unprofessionally.

Consequences of perceptions of organizational injustice have been studied in many empirical studies, showing how those consequences are adverse, and generally imply that workers do not identify with the organization (see e.g., Colquitt et al. 2001; Greenberg 1990b). They may destroy value and make people engage in damaging behaviors to the organization (Brockner and Greenberg 1990; Greenberg 1990a). Also, they may deteriorate people as professionals and also downgrade their moral development.

This situation tends to be stable, unfortunately, and people tend to enter in a negative learning process. It is a situation where one may learn how to become a worse professional and a worse person (Maruyama 1963). The strong consistency between the system and its use may give as a result good people leaving the organization, or

**Table 2** Conditions for effectiveness of informal justice

| Example | Type of Metric | Type of incentive | Informal justice present | Informal justice effective | Conditions for potential informal justice effectiveness |
|---|---|---|---|---|---|
| Medium-Sized Spanish Bank | Bad metric (wrong measure) | Strong | Yes but middle manager | No | Power of the agent |
| Big Spanish Bank | Bad metric (wrong measure) | Strong | No | – | Personal and professional ethics |
| Fashion Retailers | Imperfect Metric (partial measure) | Strong | Partially | – | Decentralization of power |
| Bright Information Technology | Imperfect Metric (partial measure) | Weak | Partially | – | Professional ethics |

surviving inside by isolating themselves and detaching from their human condition of plenitude (professionally and as human beings).

**Proposition 9** *If the system is formally unjust and informally unjust the ethical development cannot take place.*

**Proposition 10** *In a situation of minimum goal congruence, as short- and long-term unfairness are present, the ethical development cannot exist and it can only possibly come to be in presence of some abrupt change.*

## Overcoming the Engineering Approach

In our previous examples, informal justice is a key issue to be taken into consideration when metrics are pushing people in the wrong direction. In Table 2, the examples show how systems with informal justice can overcome some of the dysfunctional effects that such metrics have.

There are two key aspects to be considered. First, informal justice and its possible positive effects depending on who is using the system, and how it is being used; and, second, some characteristics of the metrics themselves: whether the metrics are simply 'imperfect' or 'bad,' and whether they are associated with strong or weak incentives.

In the first row, we have the example of the Medium-Sized Spanish Bank. In this case, we have a "strong," unjust system (by the traditional banking standards; which, incidentally, often include a good dose of prudence). This strong unjust system dominates over everything else, in such a way that when a line manager tries to be informally just and do what he considers to be best for the organization, the rest of the managers and his subordinates agree on using the system as it is. The manager that wanted to be informally just is kept aside in practice in the use of the system. Therefore, informal justice is *not* used to do what is best for the organization because the formal system is so strong. It might be useful if the manager that is informally just were the one in charge of the system and with enough power to propose changes in the system.

In the second row (Big Spanish Bank), the formal system was strong and unjust, because from the beginning it rewarded Board members with bonuses that were not aligned with the Bank's objectives, and, then, at some point in time on accounting numbers that were not 'true.' And while it was possible for a member of the Board to be informally just and to start fixing that situation, he decided not to do so. Of course, being just would imply, both for himself and for the rest of the Board members, receiving smaller incentive payments. In this case there is no informal justice: informal justice would be possible if the member of the Board had personal ethics.

In the third row, Fashion Retailers, it is not that the system is unjust, it is 'only' that the metrics are highly imperfect, and do not capture the key economic variables of the company. But since incentives are weaker, outlet managers can be informally just, by deciding not to follow strictly the metrics imposed, and striving to achieve plain customer satisfaction in each center. In that case, informal justice is present and it is useful, as it helps to achieve the real strategy and the desired outcome even if metrics point at a different direction.

In the fourth row, Bright Information Technology, performance indicators are thought to be imperfect, and top management desires to improve them exists because they believe that performance might be better if a 'balance scorecard' is installed. But the new set of 'metrics' installed is not only imperfect, but 'fake,' because it does not follow from strategy, but the other way around: strategy has been explicitly stated in such a way as to justify the balanced scorecard that the consulting company had in mind from the beginning. Then, if top management pushes to achieve good measured performance according to the new metrics instead of having employees focusing on the long run of the firm according to the old, implicit strategy, people may not be motivated anymore to fight for that strategy. In this case, 'metrics' were imperfect and have become 'bad.' The consequence is that informal justice is not present, and the new system is only an unjust formal system. Informal justice would be useful if people instead

of being professionally unethical start to be professionally ethical.

Of the three points analyzed in Rosanas and Velilla (2005) (the illusion of control, incentive systems that try motivate individuals by appealing only to extrinsic motives, and the development of technical and moral values being crucial to the long-term survival of any organization), the first two are ideas which are at the core of the engineering approach. We have shown them to be wrong simply because in general they are not effective in providing an inducement to do what is right for the organization, as could be seen in the four examples provided above. But we need the notion of justice in order to avoid falling into the trap of the illusion of control or extrinsic incentives only. The illusion of control cannot stand: the discretion of the manager is necessary, and has to be 'just' in order for the results to be perceived as 'fair' (Cugueró-Escofet and Rosanas 2015). Managers have to be aware of their role, and so they cannot rely exclusively on formal systems. Monitoring and controlling everything automatically is impossible, and is bound to become unfair every time the controller does something different from the strict requirements of the formal system. Managers need to rely on their subordinates' discretion to delegate some aspects of their performance; and while using indicators may be a very good basis on which to diagnose a given situation, they cannot produce goal congruence by themselves. In doing so, they must use their subjective judgment; and this subjectivity must not to be arbitrary, but based on reasoning and practical justice. Therefore the managerial informal justice must be added to the formalized management control systems that is merely a diagnose device.

Cugueró-Escofet and Rosanas (2013) defined informal injustice with three propositions. The first is that "just use of a management control systems should include the willingness on the part of the managers to use the system and to care for fairness in the results," and "the willingness on the part of the managers to propose changes to the management control systems design that will make it more just." But they also add a specification of subjectivity that is defined in terms of managerial action, but "making explicit and explaining the specific inequalities in any reward or recognized, based on well-argued criteria, so as to avoid arbitrariness" (Cugueró-Escofet and Rosanas 2013, p. 33)

When individuals pursue only goals that are specifically rewarded, there are three main possible consequences. First, individuals that have motives other than economic rewards, feel detached and unjustly treated, since efforts they do and that they feel the organization need, are not recognized and rewarded properly. Second, in the long run this will make individuals to pursue only those goals that are rewarded, and therefore they will forget what is not rewarded (because it cannot be measured or objectively evaluated) but needs to be done. And third, at the end, the most valuable individuals, the ones who are strongly motivated for ethical and professional reasons, may eventually leave the organization when an external job opportunity appears.

Besides, if only extrinsic rewards and measurable variables are used, an inevitable consequence is the self-fulfilling prophecy: the organization will attract people who blindly follow the system, even if following it goes against the long-term survival of the organization. The ones that have other motivations will eventually leave, as they cannot fight against the automatic system.

The intangibles need to be managed and recognized using the formal and informal aspects of management control systems. But how can managers and systems help to ensure that the objectives are attained, updated and properly balanced? First, by having a specific formal design; but also, by using the system in such a way that allows for delegation, and at the same time, is flexible enough to allow changes and updating. The way proposed in the model of Cugueró-Escofet and Rosanas (2013) is the inclusion of formal and informal justice.

At the same time, justice has been recognized to be a strong motivator by itself. Cropanzano et al. have found that people tend to behave in ways that are beneficial for the organization when they perceive that justice is present (Cropanzano et al. 2001b). People can be motivated by fairness because they find that fairness is beneficial for them (instrumental motives), making them belong to a desired group (sense of belonging) or purely because it is the right thing to do (moral motives). And all these three motives can appear combined, and being more or less important depending on people.

## The Importance of Informal Justice for Ethical Development

Formal systems alone cannot develop virtues by themselves, but an unjust formal system can prevent the necessary virtues from developing. On the positive side, to develop virtues it is crucial to keep acting with informal justice in the use of the systems.

Consequently, informal justice is always necessary. Technically, because it has been shown that relying on formal rules exclusively is suboptimal, specifically when output is not measureable and activities are not perfectly observable (Ouchi 1979). This applies to formally just systems where the only built-in requirements are formal justice requirements. Under bounded rationality, it is impossible to establish a set of contracts that anticipates every contingency that would possibly happen (Milgrom and Roberts 1992, p. 256); and so, a relational contract based on trust, than in turn has to be based on justice, is

necessary. Also there is a dimension of learning that includes the possibility that after an interaction people can change their minds about the desirability of future events, which in turn, can affect possible future interest alignment (Bisbe and Malagueño 2009; Simons 1995). Therefore, subjectivity from the manager is always necessary, and it has to be applied with the spirit that the results have to be fair.

However, it is important to remark that in the four states that we have examined, informal justice always makes formal justice stronger, making it evolve in the right direction; while with informal justice the opposite happens. With it, the engine that makes people engage in behaviors that improve the actual situation is much more powerful (Finnis 1980).

The ethical development can take place in the two states: maximum goal congruence and occasional goal congruence. Informal justice introduces into the system the possibility of ethical development, and thus allows for people identifying with the organization and improving both professionally and as people. Management control systems that include informal justice, can overcome the illusion of control, can go beyond the pure mechanical approach in rewarding, and can allow ethical development. So, they help achieving the objectives for which the management control system was implemented.

Therefore, stressing the importance of the *use* of the management control systems can result into organizations that help people to pursue personal goals that allow them to improve, while at the same time achieving what is good for the organization as a whole and for the rest of the participants.

## Conclusions

In this paper, we have attempted to analyze the concepts and practices of management control systems, and to show how the problems that often take place in that area, which have been at the origin of most of the recent scandals, have to do with a type of behavior in their application that misses the crucial element of justice.

In particular, we have shown how, from the traditional, flexible approach of Anthony et al., theory and practice evolved toward rigid, automatic formal systems that do not even consider informal systems. Their approach did not fully contemplate justice explicitly, except through some ambiguous concept of fairness understood as controllability, but was based in a managerial view of the firm that was intended to be flexible, sensible and based on common sense, leaving space for justice to be incorporated. 'Engineering' approaches are exclusively directed toward an improvement of the formal control system, through incentive systems automatically based on performance 'metrics,' and has been the dominating trend in the last few decades.

What we argue goes in the opposite direction: the 'illusion of control' often exists and should be avoided. Automatic, 'engineering' systems typically lead to dysfunctional behavior in terms of achieving organizational goals and to unjust situations. We attempted to show that the development of the virtue of justice, (formally and informally) is a good way to achieve the opposite. Furthermore, we turn to the framework of Cugueró-Escofet and Rosanas (2013), to show that informal justice is a sufficient condition in the dynamics of a control system: to preserve formal justice, if it exists, and to evolve toward formal justice, if it does not, to reach a state of maximum goal congruence that is stable through time. And we also show how justice can be the starting point of developing other virtues, so, to promote ethical development of managers.

Not surprisingly, the inverse is also true: informal injustice is always a sufficient condition for a negative evolution of the system. No matter how just the formal system is, a repeated application of informal injustice deteriorates the system in such a way that it will go from perverse to minimum goal congruence. Of course, if the system is formally unjust from the beginning, informal injustice will make it remain in that last state.[1]

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[1] The properties are that the distance between two points is independent of the order of the points, the distance between two points is zero if and only if the two points coincide, and the distance between two points is less than or equal to the sum of the distances from each point to an arbitrary third point.

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