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Explaining the Evolution of Performance Measures – A Dual Case-Study Approach

Mohammed Salloum
Financial Controller, Department of Finance and Business Control, Volvo Construction Equipment. E-mail: mohammed.salloum@volvo.com

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Abstract: Few empirical studies have examined how performance measures change in practice and the driving forces behind this change. The existing body of literature has taken a prescriptive approach to how managers and organisations ought to manage change in performance measures without any concern for studying the phenomenon itself and thus a theoretical gap exists. With this gap in mind, the purpose of this paper is to outline how and why the performance measures have changed at two case companies over the time period 2008-2011. In order to fulfil the purpose of this paper two case studies at two different case companies have been conducted. The choice of data collection method is justified by the ambition to attain an in-depth and holistic understanding of the phenomenon. For each case, the data collection was based on four components: an interview study, analysis of archived data, documentation and direct observations. In total, 28 interviews were conducted, 14 at each case company. The empirical findings exhibit that the performance measures are exposed to continuous and considerable change from several perspectives. The measurement scopes at both case companies are steadily expanding, the individual performance measures are constantly replaced and their characteristics are continuously altered. An array of change triggers has been identified in the empirical findings. In contrast to what is advocated in literature, the findings illustrate that the most frequent reason for change is the will to improve the performance measures, the measurement process and the overall performance rather than changing internal and external environments. There are several challenges that need to be addressed in the future research agenda.

Keywords: Performance measures, performance measurement system, performance management

1. Introduction

Performance measures (PM) are used in organisations for a wide array of reasons: to gauge performance (Slack et al., 2004), direct behaviour and improve motivation (Spitzer, 2007), continuously improve processes (Cross and Lynch, 1992), enhance productivity (Bernolak, 1997), identify areas of attention, improve communication, increase accountability (Waggoner et al., 1999), implement strategy (Kaplan and Norton, 2001), support goal achievement (Tapinos et al., 2005) and provide information on strategy implementation (Neely, 1999). Regardless of the reasons to why PM are deployed, they need to be modified and changed continuously in order to reflect the ever-changing context that organisations operate within (Kennerley and Neely, 2002). However, little of the research available today does give an accurate picture of how and why PM actually change after implementation in practice. The understanding of how measures change is pivotal in order to develop adequate procedures, mechanisms and processes for managing the change in practice. In this paper the evolution of the performance measures at two case companies is outlined.

The aim of the paper is to present how and why the PM at two case companies have evolved over time. The paper presents PM change from three perspectives: the overall measurement scope, the individual PM and their characteristics. Moreover, the triggers of PM change and the need for more research are also discussed. This paper is divided into six sections. The following section presents the background and literature. The third section introduces the applied method and the two case companies. The fourth section of the paper outlines the empirical findings. The succeeding section then contrasts and discusses the empirical findings to their theoretical dittos. The last section concludes the discussion and highlights the necessities of the future research agenda.

2. Background

A performance measurement system (PMS) lifecycle consists of four phases (Bourne et al., 2000; Neely et al., 2002a; Bititci et al., 2004; Searcy, 2011). The first phase, deals with the design of the system i.e. deciding what to measure and how. The implementation of the PMS is the second phase. The third phase deals with the actual use (or management), thus how to act to achieve the intended performance objectives. The fourth phase, named

evolution, entails how to ensure that the PM remain relevant over time. The necessity of keeping PM relevant over time originates from the need for a PMS to comply with the strategic direction and both the internal and external environments of the organisation (Kaplan and Norton, 1993; Neely et al., 1994; Lynch and Cross, 1995; Cokins, 2004; Melnyk et al., 2005; Kaplan and Norton, 2008; Lima et al., 2009; Srimai et al., 2011). The link between PMS and strategy is powerful if achieved, creating alignment between the two components will provide information on whether the strategy is being implemented and encourage behaviours consistent with it (Neely, 1999). Thus, PM do not operate in a vacuum; rather, PM are heavily influenced by the strategic context of an organisation that is inherently dynamic (Bourne et al., 2000; Morrey et al., 2013). Within a given PMS, there are measures that are indeed indispensable. However, within the same PMS, a considerable amount of measures are of temporary nature. Once the objective, failure or problem behind a PM is redeemed, it should be abolished. Even indispensable measures should be recurrently updated and fine-tuned (Neely et al., 2002a). In order for the PMS to be dynamic and continuously reflect the environment, capabilities need to be in place to systematically review and update the PMS. Since Eccles (1991) highlighted the need for companies to keep their PMS up to date the interest among academicians for the evolution phase of the PMS life-cycle has increased. Several frameworks, concepts, models and investigations have emerged addressing how to manage change in PM and the factors affecting it (Dixon et al., 1990; Ghalayini et al., 1997; Waggoner et al., 1999; Bititci et al., 2000; Medori and Steeple, 2000; Neely et al., 2002a; Neely et al., 2002b; Kennerley et al., 2003; Najmi et al., 2005; Searcy, 2011). However, few empirical studies, besides the study conducted by Bourne et al. (2000), examine how PM change in practice and the driving forces behind this change. As the existing body of literature has taken a prescriptive approach to how managers and organisations ought to manage change in PM, a distinct gap exists concerning how PM actually change in practice.

3. Method

In order to fulfil the purpose of this paper two case studies at two different case companies have been conducted. The choice of data collection method is justified by the ambition to attain an in-depth and holistic understanding of the phenomenon as argued by Yin (1994) and Merriam (1994). The term case company will be used in this paper to distinguish between the two companies that the case studies were executed at. The choice of case companies was guided by two factors. Firstly, the researcher wanted to choose case companies of the same employee size, industry, geographical area and company group. Secondly, unrestricted access to interviewees, data and documentation was sought in order to ensure rich data samples. The unrestricted access was obtained as the researcher is an industrial PhD at case company A. Moreover, at case company B the research was executed with a local industrial PhD student. In order to amplify the comparability, the two case companies were deliberately chosen from the same company group. Parts of the empirics from case company A has been previously published in Salloum and Cedergren (2012). However, it needs to be underlined that the findings published in the earlier paper were confined and done in the early stages of data analysis of the findings at case company A.

For each case, the data collection was based on four components: an interview study, analysis of archived data, documentation and direct observations. In total, 28 interviews were conducted, 14 from each case company. The interviewees were chosen from the same hierarchical levels in order to ensure comparability. Moreover, the interviewees were chosen on the basis of being either a PM owner or a support function facilitating a set of PM. All interviewees chosen on the basis of being PM owners were managers from across the organisation. All interviews were transcribed and validated by the each interviewee before the analysis commenced. The archived data and documentation consisted of measurement system design documentation, process manuals, performance scorecard sheets, PM review sheets and management system manuals. The direct observations were primarily made at factory visits and performance review meetings. The data analysis followed five pre-established steps. Firstly, the quantity of data was reduced in order to make the remaining phases manageable. The data was reduced by reading through the transcribed interviews and separating the relevant text from the abundant ditto. The obtained documentation was also read through and reduced. Secondly, the interview findings were clustered into a matrix in Excel. Thirdly, basic statistical analysis was conducted from the matrix. In Excel, the pivot table function was extensively used in order to handle the large amount of data and variables. Fourthly, the findings from the direct observations, archived data and documentation were used to strengthen, refute and triangulate the interview findings. Finally, the redundant data from the initial step was revisited in order to ensure that nothing of relevance, in the light of the output in step three, had been left out. The creation of the categories and allocation of reasons are in the end based on subjective judgements. However, in order to ensure the highest possible objectivity several precautionary measures were taken. Firstly, the interview answers regarding why measurement change had been initiated were clustered after resemblance, leaving the indistinctive and ambiguous reasons on the side. Secondly, from the clustered answers the categories were erected. Thirdly, the indistinctive reasons were placed under the most appropriate category after dialogue with other researchers. Fourthly, the categories and clustered reasons were reviewed and alterations were made before the analysis was concluded.

The case companies are in the business of heavy machinery. The sites where the case studies were executed are two of the company´s manufacturing units in Europe. However, the industrial footprint is global with operations spread out over several continents. The company group employs over 100 000 employees worldwide with sales of 35 billion EURO.

4. Findings

4.1. Measurement Scope

Direct observations at PM review meetings and analysis of PM scorecard sheets underline that case company A (CCA) measures performance from five different perspectives: safety, quality, delivery, cost, and human resources. The five perspectives were measured throughout the organisation, from the general manager to the first-line managers. Case company B (CCB) on the other hand measured performance from six perspectives: safety, environment, quality, delivery, cost and human resources. CCB measured all perspectives down to the first-line

managers whilst limiting the scope to only the safety, quality and delivery perspectives for the production teams. As Fig. 1 illustrates, the measurement scope (the total number of deployed PM) has expanded at both case companies. CCA went from 124 PM in 2008 to 141 PM in 2011. The expansion at CCB was more aggressive, from 98 PM in 2008 to 168 in 2011. At CCA, the safety and quality perspectives accounted for the larger part of the expansion. In contrast, the delivery and environment perspectives dominated the expansion at CCB. In 2008, 14 out of the 124 PM (ratio of 1 to 8) deployed at CCA were owned by the top-management. At CCB, 6 out of the 98 PM (ratio of 1 to 15) were owned by the top-management. Four years later, 20 out of the 141 PM (ratio of 1 to 6) at CCA were owned by top-management members whilst 13 out of 168 (ration of 1 to 12) PM were owned by CCB top-management. As illustrated by Table 1, the expansion in the scope of measurement was mitigated by the replacement rate at both case companies. The replacement rate in Table 1 illustrates if a new PM has either expanded the measurement scope or replaced another PM over the time period of 2008-2011. As highlighted, a considerable amount of established PM did replace existing dittos. Interviewee responses explained that it was common that untested PM were replaced after being deployed because they did not function as intended.

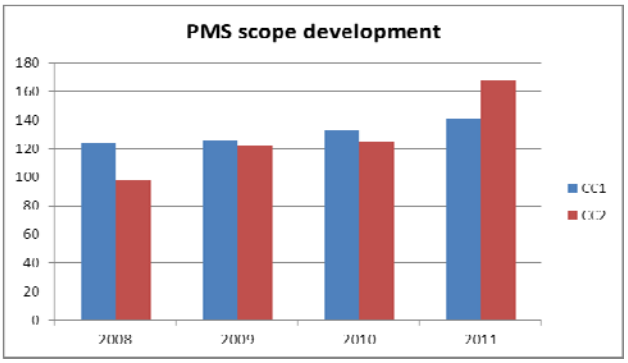

Fig. 1. PMS scope development

Table 1. The PM replacement rate

	New measure		Replaced old measure		Not able to determine	
	CCA	CCB	CCA	CCB	CCA	CCB
Safety	45%	29%	14%	41%	41%	30%
Environment	N/A	24%	N/A	38%	N/A	38%
Quality	53%	50%	8%	19%	39%	31%
Delivery	42%	51%	8%	22%	50%	27%
Cost	16%	73%	37%	15%	47%	12%
HR	10%	39%	17%	29%	73%	32%
Total	35%	49%	16%	25%	49%	26%

4.2. Changes of Individual PM

Statistical compilation of the empirical findings highlights that 40 percent of the total 141 PM identified at CCA had been created within a three-year period (Table 2). As indicated, it was not possible to determine the "age" of 19 percent of the PM. This was due to two reasons. Firstly, some interviewees had not been at the case company long enough or could simply not recall when the PM had been created. Secondly, the introduction date of the PM was not existent in the process and system material obtained. At CCB, 55 percent of the 168 PM were created during the last two years. As the PM were documented with more accuracy at CCB, the "age" of all PM were able to be determined. Interview analysis and direct observations at PM review meetings outlined that several changes in the internal and external environments of both case companies had created the volatility in PM turnover. From a global context, the financial crisis of the latter half of 2008 drastically reduced the production rates of both case companies. Consequentially, the functionality and appropriateness of the majority of PM became heavily reduced. Cost, quality and environment PM were in general related to either production hours or production output and thus sensitive to large volume changes in the production apparatus. The delivery PM lost relevance as the sales slumped quicker than the case companies managed to slow down the production output. Consequentially, inventories of final goods accumulated and reduced the relevance of measuring the delivery capability of the production processes of the case companies. The safety and HR PM were related to the amount of head counts at each company. As both companies shrunk their work forces, 25 % (CCA) and 30 % (CCB), these PM partially lost relevance. The recovery in the global economy late 2009 changed the premises for production at the case companies. With rapidly rising order intakes the PMS was once again altered in order to reflect the contemporary conditions. From a local context, both case companies had major changes in their respective internal environments that increased the PM turnover. Interview results revealed that a 150 MEURO investment, initiated at CCA in 2007 with the purpose of restructuring the production system from functional to lean impacted the PMS. Moreover, at CCB, the change of site manager in 2010 triggered change in both the PM and processes.

4.3. Changes within Individual PM - Ownership and Goals

Interview results and analysis of performance scorecard sheets and PM review sheets highlight that the rate of goal alterations differed between the case companies. As Table 3 visualises, CCB reviewed all goal levels, besides a portion of the safety PM, annually. In converse, at CCA alterations were made annually for only 50 percent of the total PM. Moreover, ten percent of all goal alterations were made either semi-annually or quarterly whilst a quarter of all PM had fixed goal levels at CCA. Interview responses from managers across both organisations and analysis of process material underline that the two case companies approached the review of PM in contrasting manner, CCA deployed a process that reviewed PM on a quarterly basis whilst CCB reviewed PM annually. The CCA process was developed and implemented by an external management consultant firm and was brought to the company by the site manager. The process required every employee in the organisation to be involved in the review of the departmental PM. In contrast, the CCB process was ad-hoc and initiated in connection to the annual budget each autumn. The process was not established as a way of working at CCB and the organisational involvement was confined and fragmented.

Table 4 illustrates the extent of change in PM ownership at top-management level. Table 4 highlights the volatility in PM ownership at both case companies. CCA peaked in 2008 with an 85 percent change rate whilst CCB peaked in 2011 with a 62 percent change rate. However, both case companies also witnessed low ownership change activities in between, no changes at all for CCA in 2009 and 11 percent for CCB in 2010. Direct observations at PM review meetings, interview responses and analysis of performance scorecards/PM review sheets exhibit that change in ownership was driven by two factors, change in management personnel and appropriateness of owner. The first factor is simply due to the fact that managers, like everyone else, swap positions and jobs. The second factor is exemplified by an experience at the top-management level of CCA. The inventory turnover PM had traditionally been owned by the finance manager. However, as the focus on cash flow and working capital amplified in the aftermath of the financial crisis the target for these PM were dramatically increased. The financial department had little impact on these PM and the finance manager argued that his department could not trigger enough activities that would enable the company to reach the target. The ownership was thus switched to the logistics manager that was deemed to be in a better position to handle the challenge as both the materials control and production planning units were located under her function. Moreover, interview responses on questions concerning changes made in PM and comparisons of PM review sheets from the different years at CCA proves that the overriding portion of PM had been modified (data source, data formula, ownership, measurement frequency and priority) since implemented in order to increase the accuracy and quality of the PM and the measurement process.

Table 2. PM turnover

	Safety		Environment		Quality		Delivery		Cost		HR		Total	
	CCA	CCB	CCA	CCB	CCA	CCB	CCA	CCB	CCA	CCB	CCA	CCB	CCA	CCB
2011	9%	39%	N/A	39%	8%	36%	0%	39%	5%	31%	0%	21%	6%	35%
2010	25%	21%	N/A	22%	17%	17%	25%	17%	21%	19%	0%	29%	17%	20%
2009	11%	15%	N/A	22%	28%	17%	8%	17%	26%	19%	13%	25%	18%	19%
2008	7%	12%	N/A	3%	8%	18%	8%	12%	0%	21%	20%	12%	9%	13%
Before 2008	34%	12%	N/A	9%	6%	15%	50%	18%	26%	18%	53%	6%	31%	13%
Not able to determine	14%				33%		8%		21%		13%		19%	

Table 3. PM goal alteration overview

	Monthly		> Anually		Anually		Semi-annually		Quarterly		Never		Not able to determine	
	CCA	CCB	CCA	CCB	CCA	CCB	CCA	CCB	CCA	CCB	CCA	CCB	CCA	CCB
Safety	0%	0%	9%	0%	36%	59%	5%	0%	5%	0%	39%	41%	7%	N/A
Environment	N/A	0%	N/A	0%	N/A	100%	N/A	0%	N/A	0%	N/A	0%	N/A	N/A
Quality	0%	0%	14%	0%	56%	100%	0%	0%	11%	0%	17%	0%	3%	N/A
Delivery	0%	0%	25%	0%	33%	100%	8%	0%	0%	0%	25%	0%	8%	N/A
Cost	0%	0%	0%	0%	84%	100%	11%	0%	0%	0%	5%	0%	0%	N/A
HR	0%	0%	13%	0%	47%	100%	0%	0%	7%	0%	33%	0%	0%	N/A
Total	0%	0%	11%	0%	50%	93%	4%	0%	6%	0%	26%	7%	4%	N/A

Table 4. Overview of change in ownership at top-management level

	2008		2009		2010		2011	
	CCA	CCB	CCA	CCB	CCA	CCB	CCA	CCB
Safety	100%	0%	0%	100%	100%	100%	100%	100%
Environment	N/A	0%	N/A	100%	N/A	0%	N/A	100%
Quality	0%	33%	0%	67%	0%	0%	80%	67%
Delivery	100%	100%	0%	50%	0%	0%	0%	100%
Cost	100%	0%	0%	0%	0%	0%	100%	100%
HR	100%	0%	0%	0%	100%	0%	100%	0%
Total	85%	50%	0%	50%	35%	11%	75%	62%

4.4. Triggers of Change

Statistical analysis of the interview data concluded that the interviewees listed 111 reasons for triggering change in PM and goal levels. These have been allocated into 9 categories as outlined in Table 5. As made evident in Fig. 2, change in the environment is the main reason for triggering change. The changes are of both global and local context. The business cycle is of global context and impacts on the whole industry whilst the strategic direction and investments is of local nature and confined to the decision making at the case companies. Change in the environment is closely followed by improving the measure and the measurement process as the second catalyst for change. The managers at the case companies changed PM, owners, goal levels, data sources, formulas and measurement frequencies until they felt that the PM was as intended and that it had "found its place". It was argued by interviewees from both case companies that little are known about the functionality of the PM pre-implementation. The PM is designed and implemented without any previous experience or knowledge of it. Once the PM is operating and experience is accumulated, changes are done in order to improve the accuracy and quality of the PM and the measurement process.

Moreover, managerial decisions is another frequent reason for change. This category includes three types of change catalysts: decisions from the company headquarters that are cascaded down to the case companies, decision-making at the top-management levels of the case companies and company-wide policies. An example of the nature of this category is taken from the CCB interview results. The finance manager explained that sometimes situations arouse in which the site manager insisted on a given PM decision that was opposed by the majority of the top-management, but as the site manager had the final say that decision was executed.

Challenging the organisation and learning were also frequent mentioned reasons for change. The interviewees disclosed that situations could arise in which managers and individuals felt that they could leverage higher performance and/or amplify the learning process by either increasing the target levels or changing the PM. Initiating changes due to historical values was another reason mentioned frequently. Interviewees from both case companies explained that sometimes they needed to reassess the PM and/or the goal levels in the light of the outcomes. If the target level seemed unattainable or the PM did not trigger enough actions to reach the target level then the PM could be modified, abolished or replaced. The urge to increase communication regarding PM was another reason for change. Four CCA interviewees explained that in order to make people want to be involved it was important to have PM that could be easily communicated and understood by the whole organisation. Hence, changes could occur to PM on the basis that they were difficult to communicate and understand.

Another reason for change that emerged was changes in management personnel. Interviewees from both case companies discussed how a change in manager could trigger change in PM. One interviewee at CCA shared an experience:

We got a new manager and he did not think that it [the PM] was as important [as the predecessor]. He first gave the ownership to one of my peers. Then after a while he reduced the priority and increased the time span between the follow-ups until he decided to scrap it.

Another contrasting experience was shared by one of the CCB interviewees:

He [the manager] was new and wanted to mark his presence. We had a good structure but I don't think he simply wanted to facilitate what our former manager had established so he replaced two measures and abolished another two.

Regulation was the least frequent reason for change and seemed to be confined to the safety and environment PM. One example of regulation triggering change was shared by a CCA interviewee that was in charge of the safety and environment policies at the case company:

The occupational safety and health act requires us to conduct a check once a year to ensure that we are complying…it was decided here a long time ago that it was the responsibility of each manager to conduct this check…the top-management realised that people were misbehaving and not doing the checks, they forgot or said that they had too much to do…the countermove was to create a functional PM that required each manager to conduct a health and safety check quarterly.

Table 5. Overview of the categorisation

Defining the categories	
Management	HQ, local management and company-wide policies guide decisions on PM and goal levels
Challenge the organisation	Challenge the organisation and trigger actions to reach higher performance
Regulations	Changes due to the external regulatory body
Changing environment	Internal/external changes such as strategic direction, investments and business cycle
Communication	Changes in order to enhance internal communication of PM and results
Improve measuring	Improve the precision of the PM and measurement process
Learning	Amplify the learning process of the organisation
Historical values	Goal levels and PM are altered based on historical values/performance
Change in management	Personnel changes on management levels trigger change

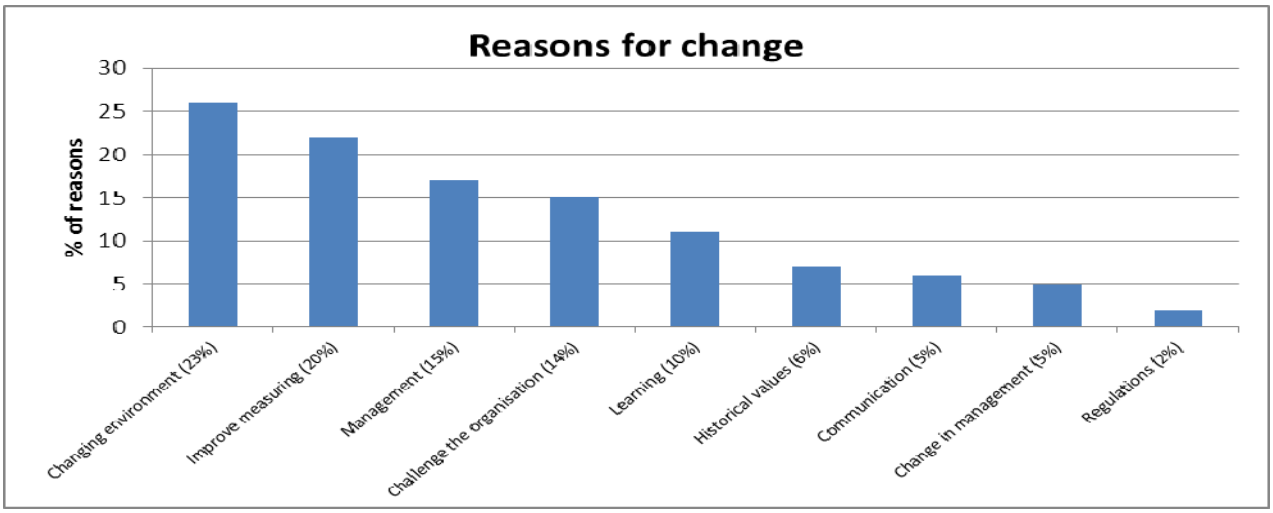

Fig. 2. Reasons for changing PM in percent

5. Discussion

Both case companies increased their measurement scopes and are measuring more in 2011 than they did in 2008. CCB´s expansion is far more aggressive than CCA's. A plausible explanation to the expansion in measurement scope could be the shape of the deployed review practices. CCA had an established process that involved the whole organisation and executed frequently whilst CCB approached the review on an ad-hoc and confined basis. The explosion of the CCB PM could be due to the lack of means to distinguish appropriate from less appropriate PM due to the non-existence of a structured review process. Consequentially, the PMS at CCB evolved unchecked and was given ample space to expand. The rate of goal alteration (Table 3) also seems to be tied to the way of working at each case company. Most of the PM at CCB are altered on an annual basis, consistent with their yearly approach to review PM. Moreover, CCA´s diversified goal alteration rate is consistent with their quarterly review approach. No empirical data exists to validate this explanation but it would concur with findings made by Bourne et al. (2000) that argue that if targets and PM are allowed to evolve unchecked, this evolution may lead to the PM diverging from strategy. Even though the measurement scope increased, both case companies managed to mitigate the ratio of top-management owned PM. As this suggests that more PM are owned by the organisation it is probable to assume that the involvement has been increased. If the assumption of expansion in involvement is correct, this would constitute a healthy step in the management of PM as argued by several researchers (Franco and Bourne, 2003; Mendibil and McBryde, 2006).

The measurement scope would have been further expanded if not for the replacement rate outlined in Table 1. The replacement rate sheds some light on the contextual nature of PM in practice. PM are established as means to achieve end-results. However, these end-results are not known pre-implementation of the PM. They are thus theoretical assumptions until tested. Once implemented, the management gets a feeling if the PM are right for the purpose, if the ownership is allocated correctly and if the data formulas and sources are appropriate. The PM are then replaced, abolished or fine-tuned until they have "found their place". The findings summarised in Table 1 and Table 2 further strengthens the notion of the contextual nature of PM. The changes outlined were due to alterations in the global and local contexts. As production hours, output and head counts abruptly shift and the external and internal environments were dictated by new conditions changes in the current set of PM were altered in order to ensure that the PMS remained relevant. As outlined in the beginning of this paper, change in PM is often related to evolving internal and external environments (Kaplan and Norton, 1993; Neely et al., 1994; Lynch and Cross, 1995; Bourne et al., 2000; Cokins, 2004; Melnyk et al., 2005; Kaplan and Norton, 2008; Lima et al., 2009; Srimai et al., 2011). The findings made in this paper strengthens this notion, the data shows that the changes in the strategic direction, investments, business cycles, personnel and regulations all trigger change in PM. All these categories are changes either in the internal or external environment. However, the findings also suggest that the majority of changes are not due to changing environment but in order to improve the PM and increase performance. The will to improve the accuracy and quality of the PM and measurement process, the performance in the light of recent outcomes, the learning process and the understanding and communication are all change drivers that together accumulate to more than half of the change outlined in Fig. 2. Thus, the main trigger of PM change does not seem to be changing environments but progress towards higher performance, more accurate PM and more efficient measurement processes. From a life-cycle perspective, the will to improve and become better connects the evolution phase with the management ditto. As PM are of contextual and hypothetical nature change cannot be exclusively confined to being a consequence of changing environments. It needs to be established that change is also needed for fulfilling the purpose of the third lifecycle phase, to achieve the intended performance objectives. These findings suggest thus that the PMS life-cycle ought to be viewed as three-phased rather than four-phased (Bourne et al., 2000; Neely et al., 2002a; Bititci et al.,

2004; Searcy, 2011) with the management and evolution phases intertwined.

Moreover, with the CCB expansion in mind, the question regarding the cost of measurement arises. Even though this paper did not set out to investigate the optimal number of PM that ought to be deployed, questions arise regarding when the limit is reached, if the expansion is good or bad and at what point the sheer size of deployed PM will become contradictory to the initial purpose of PM. These are questions that cannot be answered in this paper but are of interest for academics and practitioners alike and needs further investigation.

6. Conclusions and Future Research

The aim of this paper was to present how and why the PM at two case companies have evolved over time. Little of the previous research gives us an accurate picture of how and why PM actually change after implementation in practice. In order to fulfil the aim of the paper two case studies were executed at two different case companies. From the empirical findings it has been concluded that the PM are exposed to continuous and considerable change from several perspectives. The measurement scopes at both case companies are steadily expanding, the individual PM are constantly replaced and the PM characteristics are continuously altered. An array of PM change triggers have been identified in Fig. 2. In contrast to what is advocated in literature, the findings illustrate that the most frequent reason for change is the will to improve the PM and the measurement process rather than changing internal and external environments.

There are several challenges that need to be addressed in the future research agenda. Firstly, more descriptive empirical studies addressing how PM evolve in practice are needed. Most research today takes a prescriptive approach and provides solutions to how PM change ought to be handled. However, these solutions are insufficient if they are not based on a solid understanding of how PM do actually change. Furthermore, several other issues need to be addressed by researchers in the future:

- The findings made in this paper suggest that a considerable amount of change activities within a PMS does not expand the measurement scope but fine-tunes and aligns it with its purpose. However, the measurement scopes of both case companies had expanded. It would be interesting to investigate why the measurement scopes expand over the years, the cost of increased measurement scopes and if they are beneficial or detrimental to the management of PM.
- Another interesting aspect would be to gather data on the main drivers of change. In this paper it was concluded that changing environments and the drive to improve the PM and measurement process were perceived to be important triggers. However, more research is needed into understanding the triggers of change.
- Finally, more studies are needed from both stable and dynamic industries in order to understand how the characteristics of the external environment drive change in PM. The findings presented in this paper are from two case companies within the same industry.

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Mohammed Salloum is an industrial PhD student at Volvo Construction Equipment in Sweden. His main research interest is within the field of performance measurement and management with focus on how to keep performance measures relevant over time. Mohammed holds a BCom degree from Griffith University in Australia, an MSc from Mälardalen University in Sweden and a VF degree from Massachusetts Institute of Technology (MIT). He currently visits the centre of strategy and performance at the University of Cambridge.