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How Do Companies Implement Process Management? The Case of Cantabrian Companies

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Abstract: The constant, and sometimes radical, changes that are taking place in the business environment demand that companies develop more agile mechanisms and management systems that enable them to adapt and, above all, to be competitive. All this means that companies must be able to continuously and quickly adapt to change. In order to do this, they need to develop agile and flexible structures. Process management is a mechanism that arises to meet these new needs, giving the company the flexibility to develop their business in today's competitive environment. Despite the importance of process management techniques, several authors affirm that a high percentage of process management initiatives fail. Therefore, the aim of this study is to analyse how companies implement process management. Specifically, we would like to know who the people responsible for the implementation were and which phases or steps they followed. In order to achieve this aim, a survey was conducted among companies over 20 employees from Cantabria (a region in the North of Spain) which practised process management. Results show that a high percentage of companies sought external consultancy when implementing process management, especially during the initial stages. Concerning the implementation stages, an implementation methodology is proposed. Results show that it may be considered as appropriate due to the fact that all the stages are frequently used. Overall, we consider that from a theoretical point of view this study adds value to the field as it offers, first, a review gathering together the main implementation methodologies identified along the literature; and secondly it describes the results of an empirical study based on Spain, covering an existing gap. On the other side, from the practitioners' point of view, this study could be used as guide for them. Not only because of the literature review, but especially because of the empirical case. From the obtained result managers could learn what other companies did when implementing process management. And, specially, they can identify what other companies did wrong in order not to repeat it.

Keywords: Process; Management; Implementation; Methodologies; Survey.

1. Introduction

The constant, and sometimes radical, changes that are taking place in the business environment demand that companies develop more agile mechanisms and management systems that enable them to adapt and, above all, to be competitive.

In recent decades, globalization has led to changes in market conditions. Thus, now companies have to deal with more dynamic environments characterized by a fierce competition, better informed and more demanding customers, greater importance of the product/service quality, or greater awareness on environmental and social issues they face, inter alia.

All this means that companies must be able to continuously and quickly adapt to change. In order to do this they need to develop agile and flexible structures. The traditional functional structures that, even today, still exist in many companies do not meet these requirements. In this type of organization hierarchy and departmental distribution acquire vital importance, which is precisely the opposite of what businesses need today.

Process management is a mechanism that arises to meet these new needs, giving the company the flexibility to develop their business in today's competitive environment.

The importance of process management in the business world has been reflected in the academic world too, where many studies have examined these mechanisms from multiple perspectives (definition of the concept, enablers, barriers, benefits ...). However, the conducted international and national literature reviews(Houy *et al.*,

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2010; Sanchez and Blanco, 2014) showed that research related to these concepts in Spanish-speaking countries, specifically in Spain, is still scarce.

Despite the importance of process management techniques, several authors affirm that a high percentage of process management initiatives fail (Abdolvand *et al.*, 2008; Ittner and Larcker, 1997; Karim *et al.*, 2007; MacIntosh and MacLean, 1999; Sarker *et al.*, 2006). Therefore, more research focused on the implementation process should be developed.

Overall, the general aim of this study is to analyse how companies implement process management. Specifically, we would like to know who the people responsible for the implementation were and which stages or steps they followed. In order to achieve this objective a survey was conducted among companies over 20 employees that had already started to implement process management techniques.

Having said that, the structure of the paper is as follows: first, the theoretical background is described in section 2. In section 3 a description of the materials and methods used is included. Results are presented in section 4. Finally, section 5 is integrated by the conclussions, implications and future research lines.

2. Process Management

The concept of process management has been widely studied (Sanchez and Blanco, 2012). One of the most known definitions is the one of Davenport and Short (1990) who defined process management as *a set of logically related tasks performed to achieve a defined business outcome*. A few years later, Elzinga *et al.* (1995) defined process management as *any structured approach used to analyse and continually improve fundamental activities, such as manufacturing, marketing, communications, and other major elements of a company's operation*.

More recently (Smith and Fingar, 2007), highlighting the benefits of process management, affirmed that *not only does it encompass the discovery, design and deployment of business processes, but also the executive, administrative and supervisory control over them to ensure that they remain compliant with business objectives for the delight of customers*. In the same sense, Ko *et al.* (2009) said that process management is said to be a way of *supporting business processes using methods, techniques and software to design, enact, control and analyse operational processes involving humans, organizations, applications, documents and other sources of information*.

Overall, it could be concluded that process management is a way of understanding the company reality which is aimed at, simultaneously, increasing internal efficiency and satisfying the final customer by focusing on the processes of company.

In spite of its apparent simplicity, several authors affirm that a high percentage of process management initiatives fail (Abdolvand *et al.*, 2008; Ittner and Larcker, 1997; Karim *et al.*, 2007; MacIntosh and MacLean, 1999; Sarker *et al.*, 2006). As a result, it seems appropriate to analyse deeper the different existing implementation methodologies in order to identify, on the one side, what companies do and, on the other side, what companies do not do and should do.

2.1. Process Management Implementation Methodologies

In order to achieve the objective of this study, first, a review was carried out trying to identify the methodologies that had been proposed along literature. Table 1 shows a summary of the methodologies found cronologically ordered. In the first column the authors are identified and, in the second column, the stages defined are listed.

Table-1. Process Management implementation methodologies

AUTHOR	STAGES
Melan (1989)	1. Establish ownership of the process 2. Establish workslow boundaries 3. Define the process 4. Establish control points 5. Implement measurements 6. Take corrective action
Elzinga *et al.* (1995)	1. Preparation for process management 2. Process selection 3. Process description 4. Process quantification 5. Process improvement selection 6. Implementation 7. Continuous improvement cycle 8. Benchmarking
Paper (1998)	1. Process selection 2. Process mapping 3. Process improvement 4. Process verification 5. Process implementation
Armistead and Pritchard (1999)	1. The organisation conducts an analysis of its external market value chain and identifies its key

	business processes 2. A process arquitecture is developed as a means of understanding the organization; this may involve mapping of business processes. 3. Process owners are appointed with responsibility for the overall process. 4. Process metrics and effectiveness criteria are established and cascaded down to frontline teams. 5. Performance monitoring is tailored to address the process dimension. 6. Improvement opportunities are identifies and actioned 7. The organization plans, communicates and trains around the process model.
Paper *et al.* (2001)	1. Select process 2. Identify boundaries 3. Form teams 4. Develop "as is" map 5. Identify cycle times 6. Identify opportunities for improvement 7. Develop "should be" map 8. Develop the implementation plan
Gadner (2001)	1. Identify value creation stream 2. Inventory enterprise processes 3. Determine process relevance 4. Determine performance issues 5. Grade processes by maturity 6. Determine priority processes 7. Establish and deploy process owners 8. Management oversight of priority processes 9. Align organisational structures and systems 10. Manage and improve processes i. Monitor process performance ii. Determine improvement needs iii. Launch and manage interventions
Pérez Fernández de Velasco (2004)	1. Understand the "process" and "management" concepts 2. Establish and communicate the process mission and the quality objectives 3. Establish the process boundaries 4. Plan the process 5. Understand the linkages with the other processes 6. Ensure the availability of resources 7. During the implementation stage of the process, and when the manager is not the direct executor, the process manager has to be involved in resolving incidents, in the elimination of risks and to ensure the correct functioning of the controls. 8. Measurement and monitoring 9. Continuous improvement
Sedín Caballero (2004)	1. Process definition 2. Key process selection 3. Activity definition in each process 4. Process mappin 5. Process measuremes establishment: system of indicators 6. Process reengineering or improvement
Weinrach (2006)	1. Understanding processes 2. Documenting processes 3. Implementing processes 4. Measuring processes 5. Improving processes
(Carmignani, 2008)	1. Identifying macro-processes, their mutual relations,

	inputs, outputs, constraints, and necessary resources. 2. Specifying progressively the single macro-processes to the activity level. 3. Building complete flow charts for priority activities 4. Defining the gaps between the activities, the fixed targets and the norm and, if necessary, re-thinking (re-engineering) the activity. 5. Checking the effectiveness of the activities and of the process that subsumes them. If necessary, drafting a document that describes the activity (instruction) or the process (procedure) 6. Repeating steps 3 through 6 for all the processes. 7. At the end, documenting the quality system globally, from process map to policies, to choices and activities (manual, procedures, instructions, indicators, plans, etc.).
(Corallo *et al.*, 2010)	1. Process identification and segmentation 2. Process flow modelling and tolos identification 3. Process modelling 4. Detailed activities and tolos description
Schima (2004) in (Kohlbacher, 2010)	1. Analyse all processes from the customer perspective 2. Description of tasks within processes 3. Classification of processes into core, support and management processes 4. Definition of interfaces between processes 5. Develop an enterprise process model 6. Train the employees 7. Communicate and visualise processes 8. Designate process managers
(Wahlich, 2004) in (Kohlbacher, 2010):	1. Training employees in process management methods 2. Deployment of an enterprise process model and documentation of processes 3. Introduction to process owners 4. Implementation of process performance measurement
Sanchez and Blanco (2012)	1. Committed Management Team 2. Initial diagnosis of the company situation 3. Staff Training and awareness 4. Process Management 5. Process classification 6. Process analysis 7. Process control 8. Process Improvement

Source: Authors

The results of this review were later used for the survey design.

3. Empirical Study

As it was already highlighted in the introduction section, this study is aimed at analysing how companies implement process management. First, we would like to know who the responsible people for the implementation are; and secondly, we would like to know the different stages they followed during the implementation. Based on the information gathered from the literature review two questions were asked to companies (see Appendix 1):

1) Who was responsible for implementing process management?

2) Which were the stages you followed when your company implemented process management?

Concerning the second question, a methodology integrated by the main stages identified in the exisiting methodologies (Table 1) was proposed (see Appendix 1).

The scope of the study was limited to the Autonomous Community of Cantabria (a region in the north of Spain). The fact of focusing the study in our region would allow us to establish a closer contact with the surveyed companies and to monitor the process more effectively. Therefore, the target population was limited to Cantabrian companies over 20 employees that practised process management.

In order to identify our target population, first, all Cantabrian companies with more than 20 employees (808) were asked whether or not they practised process management. Among them, 168 affirmed practising process management. Those companies integrated our final population and they were asked the aboved-mentioned questions. Finally 86 valid responses were obtained.

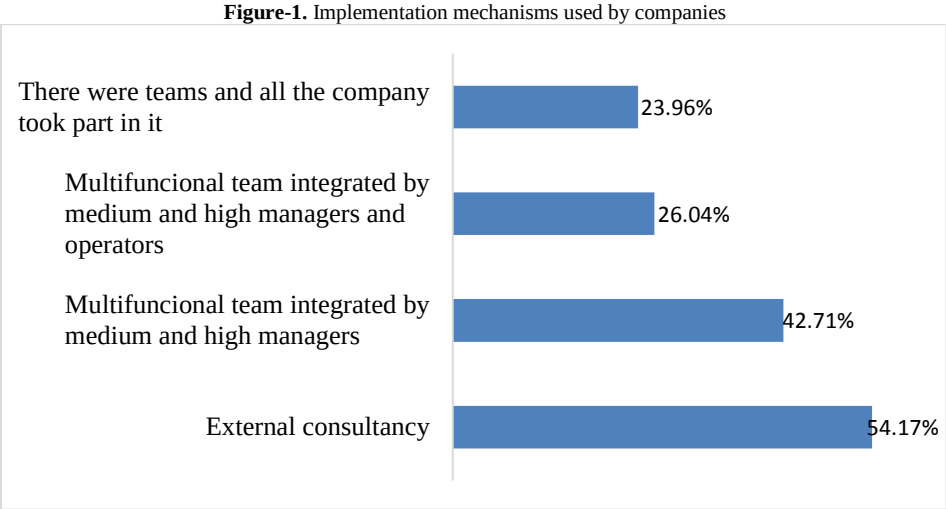
4. Results

Before analysing the results associated to the implementation stages, it seemed interesting to highlight the results related to who the people in charge of the implementation process were.

It should be specified that companies could choose more than one option as the different mechanisms could be combined along the implementation process. Thus, according to results, 50 companies chose just one option (52.08%), 43 companies chose two options (44.79%) and 3 companies chose three options (3.13%).

Among the surveyed companies, 54.17% of the companies sought the assistance of an external consultant when implementing process management. Secondly, 42.71% of the companies affirmed that a multifunctional team integrated by medium and high managers was integrated in order to implement process management. Thirdly, 26.04% of companies used a multifunctional team integrated by medium and high managers and operators. Finally, in fourth place, 23.96% of surveyed companies affirmed that there were teams and all the company took part in it.

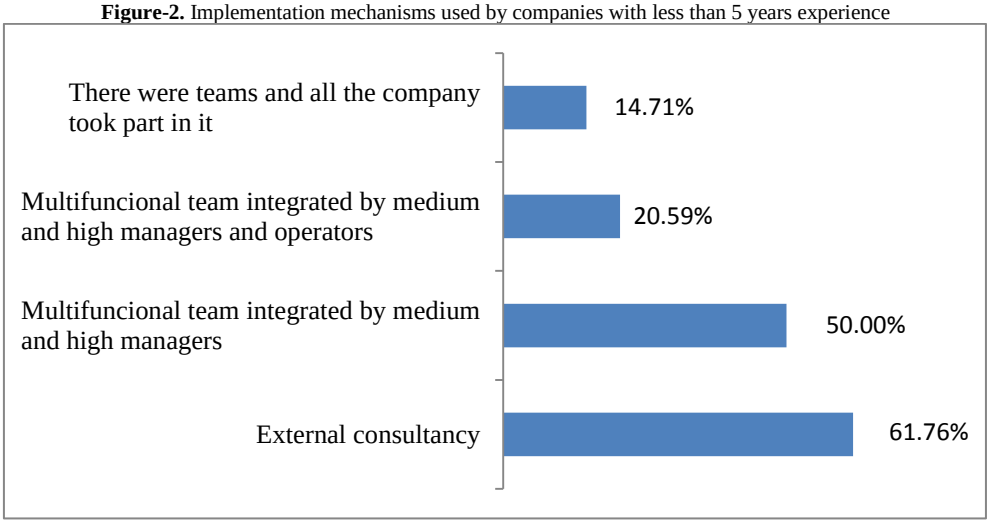
Figure-1. Implementation mechanisms used by companies



Source: Authors

If the analysis is replicated classifying companies in three groups depending on their experience implementing process management techniques: less than 5 years of experience (Figure 2), between 5 and 15 years (Figure 3) and more than 15 years (Figure 4), it could be seen that the percentage of companies that sought the assistance of an external consultants decreases as the experience increases. Similarly, internal participation increases as the experince goes up. However, it should be taken into account that the percentage of companies that sough external help is high, even among the companies with more than 15 years of experience.

Figure-2. Implementation mechanisms used by companies with less than 5 years experience



Source: Authors

Figure-3. Implementation mechanisms used by companies with 5-15 years of experience

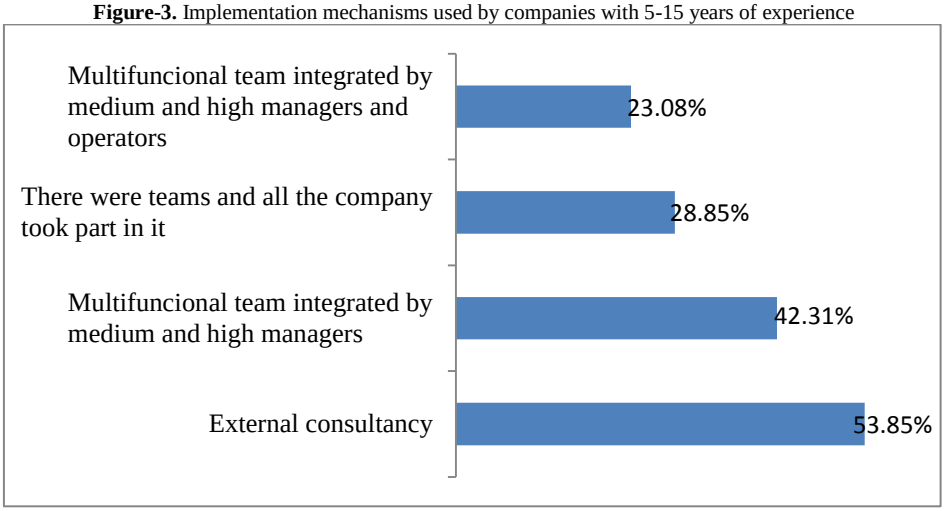


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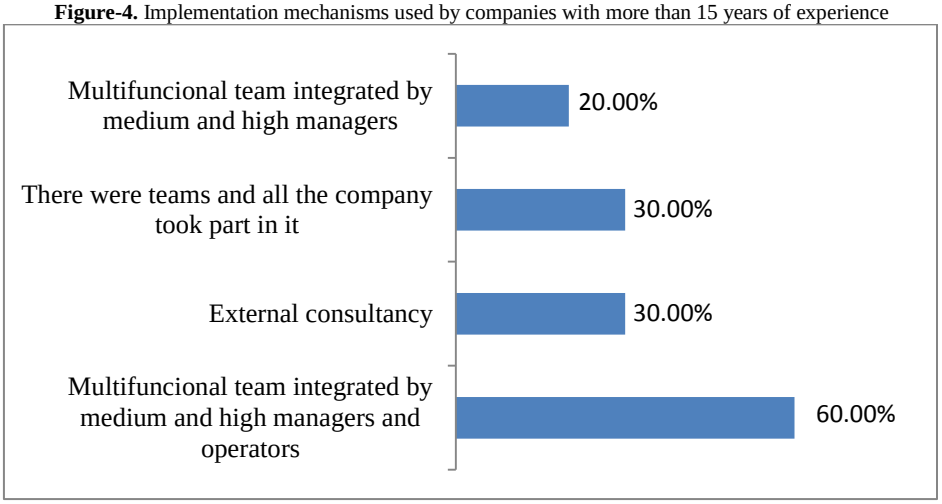
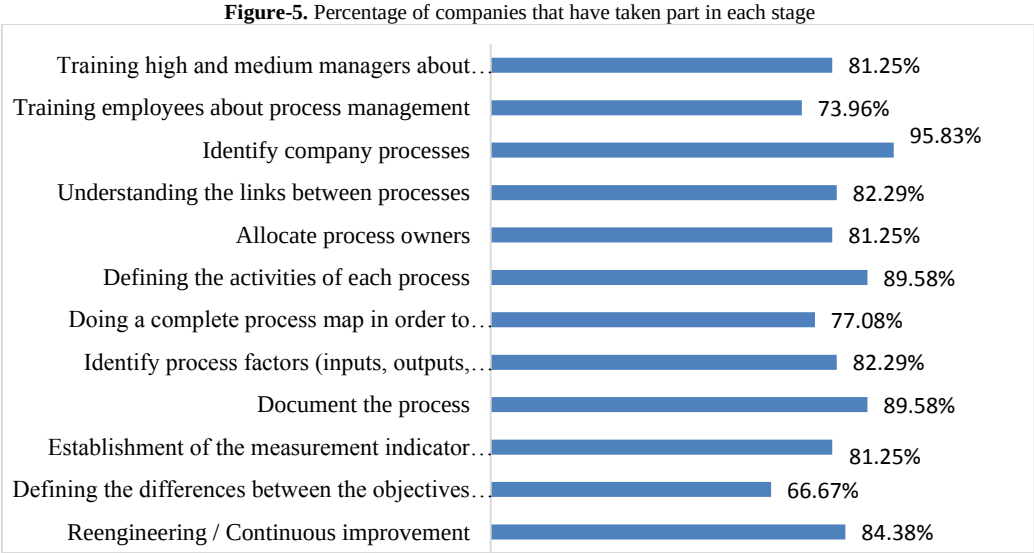
Figure-4. Implementation mechanisms used by companies with more than 15 years of experience



Source: Authors

Regarding the implementation stages followed, it could be concluded that all the defined stages in the proposed methodology are widely used by companies when implementing process management (Figure 5). Then, in general, the defined methodology could be considered to be appropriate. Additionally, the fact that all percentages are similar may indicate that companies, once they have decided to implement process management, continue until the end of the process. If, for instance, the percentages of the final stages were smaller, it would be indicating that process management implementation is not completely developed.

Figure-5. Percentage of companies that have taken part in each stage



Source: Authors

A detailed analysis shows that the most common stages (with higher percentages) are "Identify Company processes", "Defining the activities of each process" and "Document the process". The importance given by companies to documenting the processes is a positive aspect because it provides the implementation process with more formality.

On the opposite side, the less valued stage is "defining the differences between the objectives and the results obtained". Due to the fact that the percentage of companies that affirm practising reengineering or continuous improvement philosophies (last stage included) is much higher, it may be concluded that the definition of differences between the objectives and the results obtained are done as a task included in the last stage. That is, we think that companies do define the differences but they do not identify it as a separate stage.

The second less valued stage is "Training employees about process management". A change to this end is necessary. Employees should be more involved and should be trained. If some action is taken in this end, resistance to change, which is one of the main barriers according to literature, may be reduced.

Finally, it should be highlighted that the third less valued stage is "Doing a complete process map in order to prioritize and link the different activities that integrate the process". This result may be related to the barrier "Traditional structure of the company (functional oriented)"(Sanchez, 2014). So, if departments have difficulties to communicate and work together, the elaboration of a complete process map is a tough task.

5. Conclusions, Implications and Future Research Lines

This paper is aimed at analysing how companies implement process management. In particular it is focused on identifying who the people in charge of the implementation process are and which stages were followed.

With this objective in mind, based on a deep literature review, a survey is conducted among companies over 20 employees that practise process management located in Cantabria (a region in the north of Spain).

Regarding the first subobjective, people in charge of the implementation, results show that a high percentage of companies (more than 50%) sought the assistance of an external consultant when implementing process management. However, it could be also concluded that this percentage decreases as the experience of the company goes up.

This result could show that companies feel they are not able to implement process management without external help, especially during the initial stages. Although more research is needed, this circumstance could be due to the fact that the Lack of understanding of the "Process management" concept is one of the main barriers found by companies when implementing this methodology (Armistead and Pritchard, 1999; Corallo *et al.*, 2010; Sanchez, 2014; Sanchez and Blanco, 2014). As a result, the development of a useful and understandable implementation methodology is paramount.

Furthermore, according to literature, involving everybody (high and medium managers, as well as operators) in the implementation process is the best option in order to succeed (Hung, 2006; Melan, 1989; Mir *et al.*, 2002; Ravesteyn and Batenburg, 2010; Sandhu and Gunasekaran, 2004; Zairi, 1999). However, results show that this is not the most common situation among surveyed companies. In fact, when implementing process management companies sought external help and, if they decide to implement process management internally without external help, high and medium managers are in charge of it. Just a small percentage of companies allow the employess to be involved in the process. This situation should be changed. Otherwise resistance to change, which is one the main barriers to implement process management (Dawe, 1996; Hill and Collins, 1998; Lee and Dale, 1998; Paper *et al.*, 2001; Ravesteyn and Batenburg, 2010; Sanchez, 2014), may appear.

Concerning the analysis of the implementation stages, which is the second subjective of this study, it could be concluded that, in general, all the stages included in the proposed methodology are highly used.

Moreover, taking into consideration that all the stages have similar percentages, it could be concluded that those companies that started the implementation process have continue working until they achieve the last stages. If, for instance, the percentages on the last stages were significantly lower, it could be said that companies are in the initial stages or, even, it could be understood as a failure due to companies do not achieve the final aim of process management: process improvement.

One of the most shocking results is that the second less valued stage is "training employees about process management". It seems that this result reinforces the fact that the level of involvement is quite low among employees. Therefore, managers should be aware of this situation and try to change it as soon as possible. Everybody should be involved in the implementation process. First, through training, and secondly by taking responsabilities.

Finally, we would like to highligh that the third less valued stage is "doing a complete process map". We consider that this could be the result of the traditional structure of the company, usually identified as a process management barrier (Kohlbacher, 2010; Paper, 1998). If departments do not work together, it seems obvious that doing a complete process map is a complex task as it requires the collaboration of all the departments of the company.

Overall, we consider that from a theoretical point of view this study adds value to the field as it offers, first, a review gathering together the main implementation methodologies identified along the literature; and secondly it describes the results of a empirical study based on Spain, covering an existing gap (Houy *et al.*, 2010; Sanchez and Blanco, 2014).

On the other side, from the practitioners' point of view, this study could be used as a guide for them. Not only because of the literature review, but especially because of the empirical case. From the obtained result managers

could learn what other companies did when implementing process management. And, specially, they can identify what other companies did wrong in order not to repeat it.

Despite the rigorous approach, the study has one main limitation: the geographical scope of the study. Therefore this study may be defined as exploratory. It is true, however, that due to the sample size is quite big, results should not be ignored.

As future research lines, it would be interesting to increase the scope of the study, replicating the study in other regions, even in other countries. This would allow analysing whether cultural differences influence process management initiatives.

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Appendix 1: Survey

1. Who was responsible for implementing process management?

Multifunctional team integrated by medium and high managers	
Multifunctional team integrated by medium and high managers and operators	
There were teams and all the company took part in it	
Externalconsultancy	
Others(indicate)	

2. Which were the steps you followed when you implemented process management? Tick all that apply.

Training high and medium managers about process management	
Training employees about process management	
Identify company processes	
Understanding the links between processes	
Allocate process owners	
Defining the activities of each process	
Doing a complete process map in order to prioritize and link the different activities that integrate the process	
Identify process factors (inputs, outputs, customer, supplier...)	
Document the process	
Establishment of the measurement indicator system for each process	
Defining the differences between the objectives and the results obtained	
Reengineering / Continuous improvement	
Others (indicate)	