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UNDERSTANDING TOP MANAGEMENT'S DECISION-MAKING ON IMPLEMENTING PROJECT MANAGEMENT SYSTEMS - AN EXPLORATORY STUDY

Juan Arraiza Irujo, M. Amaya Pérez-Ezcurdia

Original scientific paper
Top Management's motivation to invest in improving their organisation's Project Management processes and practices is arguably an important under-researched phenomenon. In this paper we present the results of an exploratory design research whose main purpose is to identify the decision process that Top Management follows and the criteria they use to make their decision when considering investing in improving their Project Management processes. A multiple case study was conducted in the Basque Country region, Spain, followed by a survey to explore the phenomenon in greater depth and compare results. Findings suggest that the decision making process is mostly fast, intuitive, and based on qualitative methods rather than rule-governed and based on quantitative methods. Findings also suggest that the most important criteria considered are related to internal efficiency rather than to external factors.

Keywords: *decision making/process; project management adoption; project management processes*

Razumijevanje donesenih odluka uprave o uvođenju sustava za upravljanje projektima - istraživačka studija

Izvorni znanstveni članak
Motivacija uprave o ulaganju u poboljšanje sustava za upravljanje projektima je svakako važan, ali nedovoljno istražen fenomen. U ovom radu predstavljamo rezultate istraživanja čija je glavna svrha odrediti postupak donošenja odluka kojeg se uprava pridržava i kriterija koje koriste kod odlučivanja o ulaganju u poboljšanje postupaka za upravljanje projektima. Provedeno je ispitivanje u Baskiji, Španjolska, popraćeno opsežnom anketom o ovom problemu. Dobiveni rezultati su uspoređeni i analiza pokazuje da se odluke donose uglavnom na brzinu, intuitivno, i na temelju kvalitativnih metoda, a ne vođene pravilom i zasnovane na kvantitativnim metodama. Rezultati također sugeriraju da su najvažniji razmotreni kriteriji povezani s internom učinkovitošću, a ne s vanjskim čimbenicima.

Ključne riječi: *postupak odlučivanja/odlučivanje; postupci upravljanja projektima; prihvaćanje upravljanja projektima*

1 Introduction

Projects and project management in small-medium enterprises (SME) make a significant contribution to the economy as projects in SMEs represent about one-fifth of the private sector economy thus it is important that this money should be well spent [1].

It is a paradox that although it has been proven that business strategy implementation success is linked to efficient project management (PM) implementation [2÷7], and in spite of the fact that PM maturity in most organizations is still low [8], top management does not pay greatest attention to it [9, 10]. As Van Der Merwe [11] states: "strategies do not fail when they are being analysed or when the objectives are being set. They fail during implementation and, more particularly, due to the lack of proper project management".

In order to be able to persuade top management of the need to improve their organization's PM capabilities, this paper highlights the importance to first understand top management's decision making process when deciding to invest in PM, a phenomenon that is arguably under-researched as it will be shown in the literature review section. Understanding top management motivation and its decision-making process with regard to adopting PM best practices in their organizations would allow PM institutes and associations, PM practitioners and academia to re-orient their efforts and speed up PM adoption growth.

Cicmil et al. [12] studied the causes of the resistance to the adoption of PM methodologies and they found that lack of faith in the concept and fear of losing power were two of the main causes. They also found that there is top management resistance to project manager involvement in practices that relate to strategy, project definition, project integration and communication.

Although there seems to be a contradiction between the proven link between efficient PM implementation and efficient business strategy implementation and the lack of faith in the concept of adopting PM methodologies, the answer is precisely in the "efficient" implementation of PM methodologies. Inefficient PM methodologies adoption seems to be a brake on PM adoption. And here is where the question of what efficient PM implementation comes to. This area of research has been around for many years and is still open [13, 14].

Incorrect application of PM can prevent organizations from gaining much value out of PM [15], so adoption of PM best practices has to be efficient. Efficient PM adoption means being flexible and tailored to the different contexts and to the different business models in the parts of business that relate directly or indirectly to projects.

If we aim to have a more efficient implementation of business strategy through an efficient (successful) implementation of PM we need to understand top management's perceptions about PM as well as how they could be motivated to invest in adopting more efficient PM practices in their organizations.

With the study presented in this paper we make two main contributions to the PM research field. Firstly we identify an important research gap (understanding the decision making process that top management follows when deciding about investing or not in improving their organisation's PM capabilities) and we argue the need to tackle it. And secondly we present the results of the exploratory study in four small and medium enterprises and one large company, from which we also present a tentative hypothesis which we aim to test in future studies. The results of the study presented in this paper

are just a small first step toward developing an understanding of this important topic.

The remainder of the article is structured as follows. Section 2 briefly describes the little relevant literature found on the topic of motivation to invest in adopting PM best practices and we present two research questions. Section 3 presents how research design was defined and how data was collected and analysed. Then section 4 summarises the results of the field study. In section 5, discussion and future research, the findings of this exploratory study are compared to the initial propositions as well as to the related literature, the limitations of the study are also commented, and the need to further research is highlighted, including several future research areas that are proposed. Finally, the conclusions section outlines the importance of this under researched topic and how the results of the study presented in this paper are only an attempt to add some initial light to it.

2 Literature review and research question

Unlike in other related fields such as quality or environmental management in which the motivation to invest in adopting those managerial best practices has been studied [16÷19], little previous research has been found on the topic of motivation to invest in adopting PM best practices.

Studies about quality and environmental management show that although external motivations such as customers or regulation are in many cases the main drivers, in the end the implementation resulted mostly in increased internal benefits, such as for example, in better definitions of roles and responsibilities or better communication [20÷22]. On the other hand, from an integrated management systems perspective, an Italian study concluded that "driving forces are markets (customers, image, and competitiveness), human resources (to reduce lack of know-how and management difficulties) and the continual improvement based on Deming cycle" [23].

With regard to adoption barriers, Simon et al. [24] found in their study on integrated management systems in chemical firms that: "some difficulties, such as the lack of human resources and the lack of employees' motivation, also arose during the integration process".

Let's now consider the types of decisions, in its classic "Diffusion of Innovations", Rogers [25] described three types: (i) optional decisions, made by an individual independent of the decisions of the other members of the system; (ii) collective decisions, made by consensus among the members of a system; and (iii) authority decisions, made by a relatively few individuals in a system.

Following the diffusion of innovation theory proposed by Rogers, Mustonen-Ollilaand Lyytinen [26], studied why organizations adopt information system process innovations, they divided the decisions in eight categories which depend on who adopts the decision, and they found no evidence that personal factors such as the age have significant influence. Daniel et al. [27] have proved that multiple and diverse rationales, including rational, emotional and socially conditioned responses can influence the adoption of management practices.

Focusing on project management and the study of drivers or motivation to invest in adopting best practices, a systematic review of organizational motivations for adopting CMM-based Software Process Improvement found that the motivation was related to product quality and project performance, less commonly to process, that customer reasons were infrequently mentioned, and that employee reasons were very rarely mentioned [28]. More recently Tripp and Armstrong [29] studied the relationship between motivation to adopt Agile PM methods and the manner in which agile methods were tailored in the organisations that adopted those methods. Perhaps the most explicit request to further investigate on the rationale to invest in adopting PM has been made by McHugh and Hogan [30] in their exploratory study focused on understanding why organizations implement (or transition from their own in-house one to) an internationally-recognised PM methodology. The study was based on five exploratory cases in Irish organizations and focused on PM of information system projects. They proposed either quantitative or qualitative studies to further examine driving factors for implementing internationally recognized PM methodologies. In their study they found that, in four cases out of the five, the drive for the implementation came from senior management aiming to increase consistency in the management of projects.

Good understanding of the decision top managers make about investing or not in PM requires understanding who takes part, how the process is, which parameters are considered, what influences the decision, etc. Gaining knowledge on all these aspects could allow PM practitioners and academics design and implement strategies to better meet top management's interests, and therefore to foster adoption of PM best practices. However, as we have already commented, this topic is under researched. For this reason, our first research question is as follows:

RQ1 – Which are the main characteristics of the decision making process that top management follows when deciding about investing or not in improving their organisation's PM capabilities?

Based on the professional experience of the researchers, the initial assumption for RQ1 was that in most cases the decision making process was: (i) more based on qualitative than quantitative methods, (ii) made by a relatively few individuals of the organisation (authority decisions), and (iii) not very structured.

But even if the decision making process was known, it would still be missing an important piece of information, which is the criteria that top management takes into consideration when making the decision. Therefore, the second research question we investigate is the following:

RQ2 - What are the criteria top management takes into consideration when deciding about investing or not in improving their organisation's PM capabilities?

The initial assumptions the researchers had related to RQ2 were that the criteria considered were mainly: (i) efficiency, including reduction of time-to-market delivery of new products and services, and (ii) increased control of the top management over the use of the organisation's resources.

The table below lists some previous research on motivations to adopt different types of management systems. The list is not intended to be exhaustive but rather an illustration of this type of research.

Table 1 Previous research studies on motivations to adopt different types of management systems

Manage system	Authors	Motivations	Observations
ISO 9000	Dong-Young, Kumar, & Kumar, [31]	Five motivation factors: quality related, operations-related, competitiveness-related, external pressure-related, organizational image-related.	Based on a systematic literature review. Critical success factors are also identified as well as implementation impacts.
ISO 9001 & ISO 14001	Heras-Saizarbitoria & Boiral, [16]	There is no clear consensus to identify the main drivers to adopt management system standards. Most of the previous surveys are based on the opinion of managers (and not on the opinion of employees or customers). There are regional differences in the motivation for adopting specific standards.	Based on a bibliographic review. Diverse research areas are identified around topics such as benefits, impacts, implementation levels, integration, etc.
ISO 14001	Fryxell & Lo, 2004 [32]	The main motivations were to ensure regulatory compliance, to enhance the firm's reputation, and to improve environmental performance, in that order.	Study carried out in China. It aims to identify the influence of motivations in the management system implementation effectiveness perception.
ISO 14001	Zutshi & Sohal, 2004 [33]	The most important reasons for adoption, ordered: Improved corporate image, to identify potential areas for improvement, to ensure continual identification and implementation of cleaner production opportunities, to monitor set targets, and comply with existing regulatory requirements.	Study carried out in Australia and New Zealand. Impediments and benefits are also identified.
Knowledge management system	Lin, 2013 [34]	Organizational readiness, expected benefits, and organizational learning capability influence knowledge management system adoption or continue-to-use intention.	Study on Taiwanese companies that have recently planned or implemented knowledge management projects.
Supply chain management system	Cao, Gan, & Thompson, 2013 [35]	Firms tend to adopt supply chain management systems if they fit their major business processes and there is a network externality to adopting such systems. The aforementioned two forces interact with system number of users.	A multi-theoretic investigation. Survey on USA companies. Network externality or network effect refers to the situation that the value of an innovation depends on the number of previous adopters of that innovation.
Electronic supply chain management system	Lin, 2014 [36]	Firms with certain perceived benefits, perceived costs, top management support, absorptive capacity, and competitive pressure are more likely to adopt an electronic supply chain management system. While technological context is a major determinant of the decision to adopt, it has no direct effect on the extent of electronic supply chain management system adoption.	Taiwanese companies study, of those that have adopted a chain management system as well as of those that have not adopted such a management system.
ISO 22000 – Food safety management system	Fernando, Ng, &Yusoff, 2014 [37]	The main motive for adopting a food safety system was to improve product quality, while external factors were consumer awareness of food safety and the intension of industry to increase consumer confidence.	Study on companies from North Malaysian peninsula.
ISO 22000 – Food safety management system	Escanciano & Santos-Vijande, 2014 [38]	While there are external pressures that lead companies to adopt a FSMS based on ISO 22000, the most determinant reasons in this decision are internal in nature, specifically the desire to improve efficiency, productivity and quality.	Study on Spanish companies. Adoption barriers of the standard are identified as well as the ignorance of the standard potential and of the associated adoption costs.
Internet-based inter-organizational information systems	Soliman & Janz, 2004 [39]	The factors critical in adoption decision are pressures felt from trading partners, pressure felt from competitors, establishing costs, network reliability, data security, scalability, complexity, support from top management, and trust between trading partners.	Study of consumer-provider related organizations. Interviews with members of the Council of Logistics Management in USA.

3 Research design and data analysis

Taking into account the objectives of this research and due to the fact that the subject under investigation is new and that there is little existing previous research, the need for qualitative exploratory research was clear. There is good literature that shows how to decide the best-suited design for a qualitative study [40÷42]. In our case, we aimed to understand a decision-making process and the criteria taken into account during its implementation. All of this from the subject's point of view in order to uncover the meaning behind their experience. A multiple case study was considered the most appropriate research strategy in order to find the underlying principles of the

decision-making process being studied. A survey to check the conclusions of the multiple case study was also considered interesting.

Considering Yin's recommendations [43], in order to obtain the broader view and higher accuracy, instead of just one use case the research was designed for five use cases. It was considered that five cases could be sufficient to be able to offer a preliminary photo of some fundamental aspects of the adoption of project management systems in organizations from an economically dynamic area of a developed country.

In all cases, the data collection included a set of preliminary survey questionnaires followed by in-depth interviews with the top managers of the five different organizations. To validate responses from informants, follow up meetings or telephone calls were done. The open-ended interviews are an appropriate method to obtain this type of information in a limited time as they are structured conversations, controlled by the interviewer with the aim of identifying meaningful relations.

The interviews were prepared and conducted using as a guideline a set of 25 open-ended questions which, when needed, were complemented by follow-up questions to make sure the response was addressing the question appropriately. The interview guide was structured in three main sections, the first of which focused on understanding the decision-making process to tackle research question RQ1. The second section was oriented towards understanding the knowledge and experience the interviewees had prior to making the decision under study. And, finally, the third section was focused on the criteria taken into account when making the decision to invest or not in PM best practices, tackling research question RQ2. An extract of the interview guide with the questions included on it is detailed in the appendix.

Discussions were held with a number of people and organizations before six interviewees from five different organizations were selected through purposeful sampling. Organizations were not randomly selected and may not be representative of any company in general, or in other parts of the world. They were mainly chosen finding variety: different economic sectors and different sizes. The common element to all of them is that they normally do not tackle large projects.

Table 2 High-level profile of interviewees per organization

	Org. 1	Org. 2	Org. 3-1	Org. 3-2	Org. 4	Org. 5
Position	Managing Director	Knowledge & Training Director	New Product & Business Dev. Director	Project Portfolio Director	Quality & RH Director	Managing Director
Gender	Male	Male	Female	Male	Male	Male
Age range (years)	51-55	41-45	35-40	35-40	35-40	51- 55
Academic title(s)	Dr. Ing.	BBA	Ing.	MBA Ing.	BBA	MBA
PM training received (hours)	9 ÷ 40	Less than 8	9 ÷ 40	41 ÷ 200	9 ÷ 40	0

Table 3 High-level profile of organizations

	Org. 1	Org. 2	Org. 3	Org. 4	Org. 5
Industry of organization	Consultancy	Professional association	Logistics	Information technology services	New ventures creation
Total number of employees	0 ÷ 50	0 ÷ 50	1000 ÷ 5000	51 ÷ 250	51 ÷ 250
Annual turnover (million €)	1 ÷ 5	0 ÷ 1	100 ÷ 300	1 ÷ 5	0 ÷ 1
Organization years	6 ÷ 10	21 ÷ 50	21 ÷ 50	21 ÷ 50	0 ÷ 4
Management system certs.	Other(s)	ISO	ISO, EFQM, Six Sigma, Lean	ISO, EFQM, CMMI	Other(s)
Certified project managers	0	1 ÷ 3	0	1 ÷ 3	0
Full time project managers	11 ÷ 20	3 ÷ 10	11 ÷ 20	3 ÷ 10	0 ÷ 2
Projects / Year	16 ÷ 20	11 ÷ 15	31 ÷ 50	11 ÷ 15	0 ÷ 4
PM Office	Yes	No	Yes	Yes	No

The interviewees were selected on the basis that they had to be heterogeneous whilst still representing top managers in organizations in the province of Gipuzkoa, which is part of the Basque Country region in northern Spain. It was intended to have interviewees with different positions and perspectives within the organizations' top managements. The interviewees from organizations 1 and 5 both hold the managing director role, whilst the other interviewees hold different top management positions in their respective organizations.

Amongst all interviewees, only one was a woman. This represents the current gender distribution of top management positions in the region quite well.

Three of the interviewees are in their late thirties, one in the early forties, and the other two in their early fifties. Although it was initially intended to have also at least one more senior interviewee, no candidates were found at the time of selecting the participants for this study.

The five organizations studied cover five different industry sectors. Four of the organizations are small or medium enterprises which vary from a consultancy specialized in management system implementation services to a new ventures creation company, including also a professional association and an information technology provider. The fifth organization is a large business unit of a global logistics corporation. None of the

organizations is more than 50 years old, two of them having less than 10 years of history. They all have one or more management system certificates. With regard to PM, all the organizations have full-time project managers, two of them have between one and three certified (certified in internationally recognised PM methodologies such as PMBoK® or Prince2®) project managers, and three of them have a PM office. A high-level profile of each of the organizations of the interviewees is detailed in Tab. 3.

Once data was collected, the interviewer's notes and transcripts of the interview audio records were manually coded. There are multiple methods or techniques to code qualitative data, some of them specifically designed for interview data [44, 45, 41] and others on any type of qualitative data [46, 47]. Saldaña [48] profiled a list of 28 coding methods of which four were selected and chosen because they were considered the most appropriate for the study's specific characteristics. The first three coding methods belong to what Saldaña calls first cycle coding methods, meaning by this that they happen during the initial coding of data and their main purpose is to identify ideas, concepts, lines of thought embedded in the data.

Before the interviews took place, a hypothesis coding method was applied, and a set of predicted codes for each of the interview's open-ended questions was prepared. This list of predicted codes was used to analyse the interview notes and transcripts, and confirmed the expected responses on many occasions, but it proved to be short on others as responses had unexpected orientations.

Based mainly on the data gathered with the preliminary survey questionnaires, attribute coding method was applied. Attribute codes are the outcome of the notation of basic descriptive information such as the participant characteristics, time frame, data format, and other variables of interest for qualitative and some application of quantitative analysis.

Finally a structural coding method was applied. This method applies a content-based or conceptual phrase representing a topic or inquiry to a segment of data that relates to a specific research question used to frame the interview. Similarly coded segments are then collected together for more detailed coding and analysis.

Among the second cycle, coding methods profiled by Saldaña pattern coding was selected (helping the analyst to classify, prioritize, integrate, and synthesize data in order to facilitate theme and theory building). Pattern codes are described as "exploratory or inferential codes, ones that identify an emergent theme, configuration or explanation. They put together a lot of material into a more meaningful and parsimonious unit of analysis".

During the whole data acquisition and analysis process an analytic memo was used to reflect not only on the coding choices but also on the coding process itself. This tool proved to be very valuable as it helped making some difficult and sometimes diffuse decisions about how to proceed during the data analysis phase.

In the data analysis process two researchers were involved in order to reduce the impact of reviewer bias.

The results of the multiple use cases were used to prepare and launch a survey among project management practitioners and top managers. 70 invitations to respond a short questionnaire via email were launched and 32 responses were obtained out of which 3 were discarded because they were incomplete or because they had incorrectly responded the questionnaire.

4 Results

With regard to the multiple case study, the interviewee from the consulting company responded to the study from an external point of view, not as a decision maker from an organization but as an external consultant helping other organizations implement PM best practices. The interviewee from the new ventures creation company had not gone through the decision-making process under study, so he responded as if he had to make the decision. Interviewees from the professional association and the information technology service companies responded based on their direct experience as decision makers. And the two interviewees from the logistic company responded based on their experience as direct witnesses of the decision-making process. They were both middle managers at the time of the decision was made and they now hold top management positions in the organization.

The professional association implemented a PM methodology based on PMBoK®, the logistics company Prince2® and the information technology services company first implemented CMMI® and at a later stage adapted their PM methodology to adopt several PMBoK® best practices.

Another interesting point is that, except for the interviewee from the consultancy company, the interviewees had little or none knowledge or experience of PM best practices prior to making the decision. Only one of the other interviewees had basic training in a well-known PM software tool and none of them on any of the internationally recognised PM models or methodology. However, all interviewees had some level of training and experience of other management systems, mainly quality management (ISO and EFQM).

With regard to PM maturity models, the interviewee from the IT services company mentioned a previous ITmark diagnostic and the interviewee from the consultancy company commented that they included a home-made PM maturity diagnosis service as a first step when implementing a PM best practices plan, but that this was normally after the decision to invest in PM best practices had been already made as the decision had usually been made before they were hired. None of the other interviewees knew about such PM maturity models.

When asked if they had had any knowledge about PM best practices implementations in other organizations before making the decision, they all responded that they had known about implementations in other organizations and that they had had a positive impression of those implementations.

And when asked about what their personal impression of implementing PM best practices in their organization was before the decision, they all said that it was positive.

In all three cases, the organizations that have gone through the decision process show that the proposal to invest in implementing PM best practices came from inside the organization, and one of the top managers had championed it. In the case of the professional association, the idea was a conclusion of a strategy review exercise. In

the case of the logistics company, the corporation mandated to implement PM best practices to a certain type of projects and the top management of the national business unit decided to expand it to all types of projects. In the case of the information technology services company, the proposal was made by the projects director. The interviewee from the new ventures creation company also thinks that the idea would come from the inside. The consultancy company launched marketing campaigns and the interviewee believes that they might have influenced their clients on some occasions, but he also comments that in other cases they were requested to prepare a proposal without any previous contact or relation.

The decision process in all cases was (or would be) short and qualitative. None of the processes took more than one or two meetings in which a member of the top management would present the proposal to invest in implementing PM best practices to the rest of the board. No external people participated on any of the decision processes and no decision support techniques, tools and/or systems were used.

If we take the classification made by Certo et al. [49] as a reference, there are two cognitive systems that influence decision making. The first one (System 1) refers to a process that is fast, effortless, and intuitive. And the other one (System 2) is a slow, controlled, rule-governed decision-making process. In all cases in this study the decision making processes were of the former type and the interviewees think that the decision-making process they followed was appropriate.

PM being a discipline that affects most if not all the organization, it is not surprising that in all cases the decision was or would be discussed and made by the board of directors of each organization.

When asked about the main motivation to invest in implementing PM best practices, the logistics and the professional association interviewees mentioned improving communication, performance, and, in general, efficiency between projects that affect multiple departments/companies. When asked the same question, the interviewee from the information technology services company referred to improving scope management as the main reason, but a way to differentiate from its competitors was also mentioned. And the interviewee from the new ventures creation company thought that improving their portfolio management would be their main goal. As an external witness to the decision processes, the interviewee from the consultancy company mentioned that in most cases their clients wanted to improve the efficiency in the execution of their strategic projects. Before the decision was made, the participating organizations had little or no knowledge about PM best practices.

In the final section of the interviews the focus was on the criteria used, on the factors that were considered and on their importance. Improving efficiency in strategic projects implementation was said to be the most important criterion by the professional association interviewee as well as by the consultancy company interviewee.

Not surprisingly, as the implementation of the PM best practices took place in the logistic company soon after the Spanish business unit was acquired by the global corporation (and therefore included in multiple integration projects, improving cross-business unit and departmental collaboration), efficiency and transparency were the most important criteria mentioned by the two interviewees in the logistic company. The interviewee from the professional association also mentioned improving inter-departmental collaboration and efficiency as important criteria in their decision.

In the information technology services company they mentioned two main criteria: resource optimization and project execution efficiency, and external image and their desire to differentiate from their competitors by gaining certifications on PM best practices.

The new ventures creation company interviewee mentioned that if he had to make the decision right now he would take two criteria into account. On one hand, the cost of implementing the PM best practices, including not only external but also internal costs such as labour and disruption in the normal working of the organization in the initial phases of the implementation. And, on the other hand, he would also consider the increased efficiency in the management of projects and the project portfolio.

In all the three organizations that have gone through this process they all decided to go ahead with the PM best practices implementation plan, and the interviewee from the consultancy company also mentioned that in most cases organizations decided to go ahead.

Fig. 1 is a graphical representation that summarises the results commented so far.

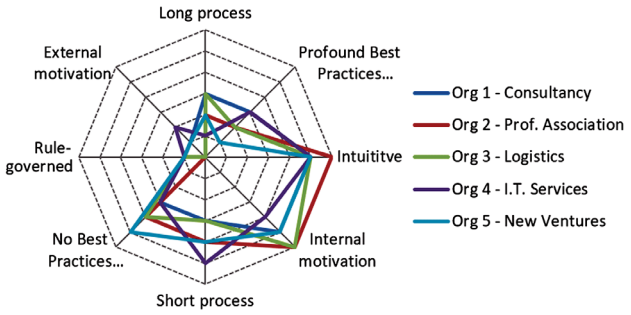

Figure 1 Radar chart showing that there are more commonalities than outliers among the different decision making processes

The table below summarises the results of the survey that followed up the multiple case study and which goal was to check whether a broader audience of practitioners top managers and project managers agreed or not with the results of the multiple test case. As it can be seen the survey results contrast with the previous study in what refers to the duration of the decision making process, the majority of the responses disagree with the statement that the duration would be short. On the contrary, with regard to the motivation to invest in improving project management in the organisation the results of the survey confirm that they would mainly be internal. The survey does not confirm or deny the conclusion of the multiple case study in what relates to the decision making process being more intuitive than ruled-governed. And with regard to decision makers not being experts in project management, the results of the survey, although not conclusive, contrast with those of the multiple case study as the majority of the respondents said that decision makers were indeed experts.

Table 4 Summary of the results from the follow up survey

	Short duration of the decision making process (Likert 1 Disagree 5 Agree)	Internal motivation (Likert 1 Disagree 5 Agree)	Intuitive decision making process (Likert 1 Disagree 5 Agree)	Decision makers are experts in PM (Likert 1 Disagree 5 Agree)
Responses-Valid	29	29	29	29
Responses Non-valid	3	3	3	3
Mean	2,55	3,86	3,03	3,48
Median	2,00	4,00	3,00	3,00
Mode	2	5	2	5
Standard deviation	1,404	1,329	1,149	1,299
Variance	1,970	1,766	1,320	1,687
Percentil 25	1,50	3,00	2,00	2,50
Percentil 50	2,00	4,00	3,00	3,00
Percentil 75	3,50	5,00	4,00	5,00

There are statistically significant associations (significance value less than 0,05) between the motivation to invest in improving project management in the organisation and three characteristics of organisations: size (Pearson's Chi-square = 0,492), turnover (Pearson's Chi-square = 0,542) and age (Pearson's Chi-square = 0,392). For this analysis, Gamma, Somers'd, Kendall's tau-b and Kendall's tau-c statistics have also been used. Smallest companies, lowest turnover companies and youngest companies mainly think that the reasons would be internal.

5 Discussion and future research

In this paper we have identified an important research gap, the decision making process followed by top management when deciding to invest or not in improving their PM capabilities. We have also presented the results of an exploratory study that tries to identify how that process is and what are the criteria considered when making that decision.

Some of the initial assumptions the researchers had at the beginning of the study have been confirmed whilst for some others the results of the study suggest the contrary. As expected, the decision making process in the cases studied was more based on qualitative methods than on quantitative methods, it was a top-down decision made by the upper management of the organisation, and it was not very structured. Improving efficiency was also the main driver to decide investing in improving PM capabilities. Reduction of time-to-market though was not explicitly mentioned by any of the participants in the study; instead, other efficiency related aspects were mentioned, such as improving strategic projects implementation performance, improving horizontal and vertical communications, improving project scope management to avoid scope creep, increasing productivity, or improving portfolio management.

The findings of our study are in line with those of McHugh & Hogan [30] and Staples & Niazi [28], who found that the main driver for adoption of PM best practices was a desire to improve efficiency. Our study also concurs with that of McHugh & Hogan when focusing on the motivation for large organisations to adopt PM best practices, as the large organisation in our study, the logistics company, was mandated by the corporation to adopt an internationally recognized PM methodology in order to have a uniform approach to PM across the organisation. Also in line with previous research, in this case with Staples & Niazi, the findings of our study customer (external) reasons were infrequently mentioned (only by the information technology services company).

It is interesting to note that whilst in quality and environmental management existing regulation or enforcement by market leading customers were two of the main drivers to adopt or improve existing management best practices, it is probably the absence of equivalent circumstances in the PM area that causes those same two motivations not to have prompted on this study.

It is also interesting that although the reasons for adopting or improving PM vary, all the organizations participating in the study paid more attention to expected benefits than to the cost of implementing the PM improvement plan.

In all cases studied, the decision making process has the following characteristics: (i) the decision making process was intuitive, qualitative and relatively fast, no more than a few weeks; (ii) most decision makers do not have profound knowledge on PM best practices; and (iii) the decision making process was driven more by internal (for example, communication, efficiency) than by external (for example, customers, regulation) motivations. The follow up survey results confirm the latter (internal motivation) whilst they seem to deny the first two conclusions of the multiple case study (short duration of the decision making process and decision makers not being experts on PM best practices).

Based on the result of the aforementioned study the authors have formulated the following tentative hypothesis which they aim to test in future studies:

H1: The decision making process under study is relatively fast (less than one month), effortless and intuitive rather than rule-governed; therefore well formulated, convincing qualitative arguments are better than comprehensive quantitative ones to make the proposal of investing in improving the organisations PM capabilities appealing to top management.

As with most exploratory research, there are several limitations of this study. The used design involves cross-sectional interviews with managers from five organizations. It has been useful for identifying some decision making process variables, but if we want to know how decision making process is, a longitudinal research design will be necessary.

This study covers only five cases in the Spanish northern region of the Basque Country. However analytical generalization could be applied by taking this particular set of results to build a theory which ought to be tested by replicating the findings in further research [43]. Therefore, the results of this study can serve as a reference for further studies in other organizations, and in organizations with different characteristics. These further studies would be of interest to complement, confirm, qualify or refute the results of the study presented in this paper. Moreover, it would also be interesting to see if there are cultural and/or geographical differences that influence the transferability of this study's conclusions.

There is still much to learn about top management's decisions about investing in PM. We intend to test in future studies the hypothesis presented earlier by preparing a set of qualitative arguments (for example, sensitive interpretation, evocation) as well as a different set of quantitative arguments (for example, cost and benefit estimates or figures from other organisations), and then testing both sets with top managers to evaluate which of the two is more appealing to them.

In addition there are many other related questions that remain unclear. For example, does the size of the company affect the decision making process? Which factors have the strongest influence? Are the external factors such as regulation or pressure from market leading customers or internal factors which trigger the decision? How does geographical location or culture of the organization affect? How does the industry sector the organization belong to affect? How does the experience the organization has had with the adoption of other management systems affect? Does the profile and background of the decision makers affect? How does the general economic situation affect? Do the different types of decision making process influence the outcome of the final decision? Are there differences between organisations that have to decide about adopting PM system from scratch and those that have to decide about improving their existing one? How does the pre-existence of other management systems affect the decision about adopting PM best practices? Is there any relationship between the decision-making process and the failure or success in PM system adoption?

It would also be an interesting area of future research to run longitudinal studies on the decision making processes of organisations that initially implemented a PM system and that periodically review them and decide whether to improve them or not. The decision making process as well as the criteria used (for example, external VS internal factors) might change across time. We hope that future research will tackle these and other unanswered questions.

6 Conclusion

Understanding how top management decides whether investing in improving their organisation's PM capabilities is an under researched topic which, once tackled, will allow academia and practitioners preparing appealing arguments to convince top management. However this topic remains rather neglected. Given the importance both of the topic and the practical implementation of the knowledge that could be gained, we argue that more attention should be paid to this area.

As there is a lack of theory on this topic we present our findings as a tentative hypothesis that serves as a basis for further empirical research. The results of the study address a highly important topic and contribute towards a theoretical framework.

Contrary to what happens in the fields of quality or environmental management, in the field of PM there are currently no strong external factors that force adoption of better PM capabilities such as regulation or leading market customers. This, however, could change in the future.

Not surprisingly, in the absence of the aforementioned external factors, the findings of our study suggest that top management bases its decision on investing or not in improving their organisation's PM capabilities mainly on internal, efficiency related aspects. More interesting is that the results of the study also suggest that top management bases its decision on qualitative methods, in fast and more intuitive than rule-governed processes.

Assuming this conclusion is true qualitative arguments ought to be more convincing than quantitative arguments. If this hypothesis is confirmed, academia and practitioners could undertake future research in order to provide the most appropriate means that allow preparing the arguments to convince top management of the convenience to invest in improving their organisation's PM capabilities.

Appendix

Sample questions of the interview guide are detailed below.

1) Have you taken part in a decision to implement a project management improvement plan in your organization?
2) As we said earlier, the questions of the first part of the interview are oriented to understanding the characteristics of the decision-making process. Where did the idea come from? Who brought the initiative to top management?
3) Which were the circumstances that made the organization consider implementing a project management improvement plan?
4) Please describe the knowledge or information that the organization had at the beginning.
5) Which were the steps taken from the initiative being brought to the Top Management to the decision that was finally being made?
6) Who took part in the decision-making process? Did anybody not belonging to the organization participate?
7) Which tools and/or techniques were used in the decision-making process?
8) Describe the different steps (duration, participants and their roles, ...) of the decision-making process. Please specify if they differ from other decision processes on analogous topics.
9) Was the final decision taken by one person or by a group of people? Who took the decision?
10) What was the final decision?

11) What do you think about the decision making process that took place? Please point what you believe could have been done better.
12) Before moving to the next part of the interview about previous knowledge and experiences in project management, do you want to add anything else about the decision-making process?
13) Did you have previous project management training? Please specify the project, program and portfolio management training and if possible course name, institution, duration, date and any other relevant details.
14) Which previous project management experiences have you had? Please specify project, program and portfolio management
15) Before the decision was made, did you know any project management maturity model? Did you have any experience applying any of them?
16) Did your organization run any project management maturity diagnosis before the decision-making process?
17) What training did you have in other management systems? Specify when possible which courses, duration, date, etc.
18) Which previous experience with other management systems did you have before this decision making process?
19) Describe what knowledge you had about experiences in other organizations about implementing project management improvement plans. Please specify what your impression about those third party experiences was (positive, neutral, negative)
20) With regard to other management systems, please describe what knowledge you had previous to the decision-making process on implementing project management improvement processes in other organizations. Specify what your perception about those third party implementations was (positive, neutral, negative)
21) Finally, how would you describe your perception prior to the decision-making process about implementing a project management improvement plan in your organization?
22) Describe which criteria were taken into account during the decision-making process.
23) Please rank the different criteria you have just mentioned from highest to lowest in importance.
24) Coming back to the present, nowadays and with the experience you have gained, what criteria you would most take into account if you had to consider again the implementation of a project management improvement plan? If there is any difference between what you think now and what was done in the past, please explain the reasons for that change.
25) We have completed the interview questionnaire. Are there any additional comments you would like to make?

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Authors' addresses

Juan Arraiza Irujo, PhD researcher
Public University of Navarre,
Tejos building, Campus Arrosadia
31006 Pamplona, Spain
E-mail: juan@arraiza.com

M. Amaya Pérez-Ezcurdia, permanent teacher
Public University of Navarre,
Tejos building, Campus Arrosadia
31006 Pamplona, Spain
E-mail: amaya@unavarra.es