

**UNDERSTANDING THE PROJECT MANAGEMENT METHODOLOGY
SELECTION AND IMPLEMENTATION PROCESS IN SRI LANKAN SOFTWARE
INDUSTRY**

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Abstract

The growth and acceptance of management of projects in organizations is on the increase. Change in organizations is inevitable in a dynamic business environment. The fundamental objective of project management is to deliver a project within its time, cost, and resources constraints. Organizations select their project management methodology (PMM) among many PMMs' available. However, there is no rational criteria in which an organization uses to select their PMM. Given this context, this study investigates the factors affecting the selection and implementation process of PMM. Multiple case study method was used, and data were gathered by conducting 6 in-depth interviews with senior managerial personnel in software organizations.

The analysis concludes with how PMM selection, adoption and implementation are carried out in the region with a strategic point of view. The study reveals five dimension that affect the process selection and implementation process. Namely, Internal, External, Process, Content, and Customer. The study takes complex managerial view in organizational transitions and change management, cultural aspects, individual and organizational social values embedded with the organization. The study contributes to the project management knowledge as there has been a dearth of studies conducted on this area. Furthermore, by focusing on the contextual factors of software industry in Sri Lanka, the study fills a gap in the literature. Also, the study derives a proper processual plan for the selection and adoption process of PMM, which should help inform future strategies in this field.

Keywords: Organizational change, Project Management, Process adoption, Software Industry

Introduction

In the last couple of decades, the world has witnessed a steady, irreversible trend towards the globalization of businesses. The growth and acceptance of management of projects in organizations is on the increase. Many offshore software companies are now based on Sri Lanka due innovation combined with lower cost software solutions (Udagedara & Allman, 2019). Organizations are in a strategic pressure to develop and execute innovative business strategies to stay competitive (Fitzgerald, 1998). Management is increasingly realizing that to remain competitive, the organizations must implement good project management practices. As a result, organizations are forced look for a better solution to execute the projects effectively. Hence, the adoption of a project management methodology (PMM). Methodologies may provide a reductionist subdivision of this process into plausible and coherent steps (Olerup, 1991). At the beginning, the practitioners used unsystematic methods. But as the complexity of the systems increased, more disciplined methodological approaches were advocated (Friedman & Cornford, 1993). Many organizations yield benefits by using a standardized project management methodology. Even so, opportunities are constantly being explored to make the process more effective, efficient, and more flexible to the context of the organizational environment. Software development practitioners seek to implement methodologies that best suit the organizational environment (Barki et al., 2001). The fundamental objective of project management is to deliver a project within its time, cost, and human resources constraints. Keil et al. (2000) measures between 40% and 50% of the projects fail to meet their estimates.

Sri Lanka, despite its size, is fast becoming one of the trending destinations for contemporary software development. The country's IT sector is a dynamic force in the business world today, playing a dominant role advancing technology and driving innovation across the world. Munasinghe et al. (2003) states that Sri Lanka has a gradually developing software industry, with a potential to address economic problems and eradicate unemployment problems.

Most of the software development firms, both local and offshore is tending to adopt some project management methodology to manage their projects effectively and efficiently among many other tangible and intangible values (Burgan & Burgan, 2012). There are many project management methodologies and tools available today. Yet, the successful selection and adoption of project management within an enterprise remains elusive despite extensive studies supporting the importance of project management (Burgan & Burgan, 2012).

Even though the project management methodologies, tools, processes, and procedures has attracted more interest among researchers, as they are ubiquitous among organizations, there are a little number of research literature regarding the adoption process of PMM in Sri Lankan software industry context. There is no rational criterion pointed out by literature which helps in the selection and implementation process of the PMM. Most researchers focused on either a single PMM methodology or a different industrial context (Vithana et al., 2015; Butler et al., 2019). The research is hindered by the existence of previous studies on the selected sectors and the lack of continuity in the results of prior research. The study therefore addresses the following research question.

- What are the factors affecting the selection and adoption process of project management methodology in Sri Lankan software industry?

In other sense, the main objective of the study is to investigate the factors that affect the PMM selection and implementation process in software organizations in Sri Lankan context. The remainder of the article is organised as follows. Firstly, a review of existing literature related to the study is presented and is followed by an explanation of the research methodology used herewith. Then the findings of the study are presented. Finally, the conclusion and implications are discussed.

Literature review

This section focuses on reviewing the theoretical and empirical findings on adoption of project management methodologies and organizational change.

Theoretical Review

Pettigrew & Whipp (1991) proposed a ground-breaking theoretical model for strategic change in organizations with three dimensions. Namely, Process, Content and Context. Cicmil et al. (2009) adopted the findings to provide more holistic-processual perspective for considerations of external and internal forces that have affected the process of project management methodology implementation (Cicmil et al., 2009). Context of strategic change encompasses elements of the organizational environment. Economic, political, and social factors at macro level constitute the external context (Cicmil et al., 2009). The internal context is characterized by organizational culture, leadership, human and financial resources, and type of Organizational setting (Cicmil et al., 2009). Content of strategic change is made up not only of overt, immediate, commercial, and financial objectives, but also implies the changes in key contextual elements during the process implementation (Cicmil et al., 2009). Process aspect of strategic change denotes processes of organizational restructuring from strategy formulation through implementation (Cicmil et al., 2009). Many scholars have reviewed the model to suggest that a participatory culture, supportive leadership, incentives, support in policies and resources, desirable activities in the process, role clarification and consensus of purpose are key strategies in process implementation.

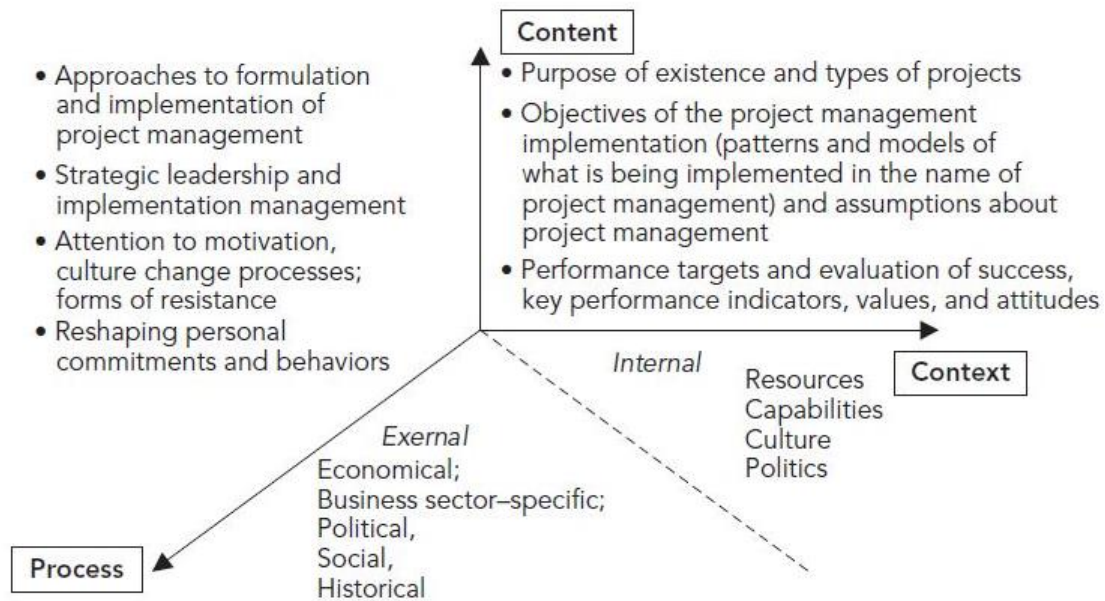


Figure 1: A dynamic multilevel framework for an integrated analysis of project management (Cicmil et al., 2009)

Kirkpatrick (2001) describes the theory of change, which is a theory-based approach to project management about planning, execution and monitoring and evaluating any change that is recorded at individual level, institutional level or at the community. The theory explains how the project adopted is supposed to realize various outcomes through outlined tasks besides looking at the context.

Similarly, the adoption and application of methodology is not an easy, linear, and logical procedure. It is not possible to disregard the emergence, radical uncertainty, micro-dynamics, and self-organizing properties of the human component of implementation in an atmosphere of irrationality, political instability, and powerful cultural traditions (Cicmil et al., 2009).

Project management success factors

Mahanti (2006) carried out a research to find out challenges in enterprise adoption of agile methods. The research describes comprehensively about challenges, strategies in adoption, and differences between adoption changes in large and small organizations. According to the paper effective agile adoption involves multiple aspects; however, we can log all the aspects as ‘how the new procedure is presented to the organization. A review by Asnawi et al. (2011) describes that social and human viewpoint are critical when beginning the utilizing the Agile strategies. Melo et al. (2011) describes agile team perceptions of factors impacting their productivity. The three most perceived factors impacting on productivity were appropriate team composition and allocation, external dependencies, and staff turnover.

Fernandes et al. (2013) indicate that for a project management methodology to be a success, there are certain factors that should be in place. These factors can be categorized into processes, tools and techniques, people and organizational learning, general management system, and project management culture. Fernandes et al. (2014) however believes that there is no unique

way of adopting a project management methodology as this might differ from organizations of different sizes, types, and industries.

Cultural aspects of PMM implementation

Kendra & Taplin, (2004) argues that for an organization to be successful with the PMM adoption, the organization needs to establish a shared set of values and beliefs (a project management culture) that aligns with the social and technical aspects of project management to achieve organizational core business. And to ensure that the project management methodology is adopted in an organization, there should be proper management of project management competences within that organization (Andersen & Vaagaasar, 2009).

Organizations should develop a culture of learning to ensure that its employees will embrace the new methodology's way of doing things and that they can also be willing to learn the new way of doing things.

Effectiveness of the implementation

The efficiency of process implementation can only be accomplished if an innovation is adequately formulated according to stakeholder expectations with an internal innovation context present and unique innovation attribute must outweigh the drawbacks (Johnson, 2001). The key determinants in the conceptualization of success needs to be inferred as being positive or negative and the result is then used to determine the implementation effectiveness (Kazemi et al., 2013). Johnson (2001) also concludes that there is no such thing as "absolute success" and that there is only the "perceived success of a project" that changes over time. Johnson (2001) also proposes an argument that assessing implementation effectiveness, there should be a positive weighting of the three factors innovation framing, innovation environment and innovation attributes.

Hyväri, (2006) evaluated that project management effectiveness of project-oriented organizations depends on organizational structures, technical competency, leadership ability, and the characteristics of an effective project manager.

Research Methodology

Due to the high potential of change and versatility, exploring the factors affecting the PMM selection and adoption process is a contemporary phenomenon which needs to be explored in the real-life context. The case study method was used for the study; hence, it provides with a rich insight in the phenomena and provides a holistic picture of the same (Yin, 2003). Therefore, the case study approach is used to describe the PMM implementation process of Software organizations in Sri Lanka. Six in-depth case studies were conducted over a period of two months. A number that is in accordance with Eisenhardt (1989) and Gibbert et al. (2008)'s claim that four to ten case studies are ideal for providing a good basis for generalization of analytics. The unit of analysis for this study are individuals that represent software developing firms. Purposive and snowball sampling was used to select cases and individuals for the study.

The selection of cases was based on three criteria.

1. The company must have a project culture and should have a clearly defined process flow for Project management with an evident project management methodology.
2. The main product of the company must be software of some sort. It can be a single product-based organization, a project-based organization or an organization catering with both products and projects.
3. The workforce must be a minimum of 100 employees, with a clearly defined reporting structure.

The composition of the respondents is given in the table 1.

Table 1: The composition of the respondents of the study

Respondent number	Years of experience	Current designation	Organizational orientation (Project/ Product)
1	10+	Senior Project Manager	Product
2	12+	Senior Project Manager	Projects and Product
3	11+	Head of Delivery	Product
4	10+	Software Architect	Projects and Product
5	19+	Project Manager	Product
6	11+	Country Manager	Product

Six interviews were conducted via video calling (Skype). The length of interviews deviated from 45 minutes to 60 minutes. Both Sinhala and English languages were used to conduct interviews. All the interviews were video recorded and transcribed. Informed consent was obtained from all the respondents to follow ethical considerations. Cross-case analysis and pattern matching were used to analyse data. The reliability of the study was accomplished by following the case study protocol. Construct, internal and external validity were accomplished by using multiple data sources, pattern matching and using multiple cases.

Findings

The content and thematic analysis the researcher performed on the interview transcripts yielded 5 dimensions (themes) and 23 sub themes as discussed below. Derived sub-themes are discussed under the main themes. Main themes and sub-themes derived are discussed below. Derived main themes are internal factors, external factors, process, content, and customer. All the themes are discussed based under main theme and sub theme. A summary of the Themes and sub themes are shown in the table 2.

Table 2: Themes and sub themes derived from the study.

Main theme (Dimension)	Sub Theme (Factors)
Internal factors	Team dynamics
	Individual dynamics
	Organizational dynamics
	Measurability
	Alignment of supportive processes
External factors	Industry endorsement
	Industry trend
	Reviews and availability
	Availability of tools
Process	Organizational dynamics
	Process Scalability
	Process flexibility
	Process practicality
	Top management buy-in
	Implementation strategy
	Internal stakeholder buy-in
Content	Product dynamics
	Delivery plan
	Scope of the project
	Client requirements
Customer	Level of interaction
	Customer buy-in
	Client dynamics

Source: Survey Data, 2020

Internal factors - Team dynamics

The findings show that the organizations expect the employees to **work cross functionally** within a team. They expect everyone to cover every functionality of the team.

Respondent 1 expressed: *“I would check the extent of cross-functional workability. In Agile, everybody must be able to do everything. For instance, the tester must do coding if necessary. In the engineering team, anyone must be able to do any component. As our system is complex, it takes about two years to master a single component.”*

Creating the right team with the most accurate team structure and appointing a suitable team leader is vital. As current organizations expect every team member to involve and be competent in almost all the work-related activities undertaken by all the team members. The findings showcase above point on team structure and leadership.

Respondent 2 stated that: *“When we make teams, team structure is also important. What would be the team structure is one of the main concerns. Who has leadership skills? Who will lead the team?”*

The findings also reveal that the agility of the methodology will be lost if the **team lacks necessary competencies**.

Respondent 6 expressed: *“Whatever we are planning, if the team is not competent, and if the confidence in team for delivery is low, agile will fail drastically”.*

Internal factors - Individual dynamics

Team is a combination of individuals. Findings show that **leadership skills** of team members, **competencies** of the team members in their designated role are among the key factors that needs to be investigated. In addition, individual team member’s **ability** and **willingness** to adapt to the change of the internal process can also be identified as key factors.

Respondent 1 declared that: *“Who has leadership skills? Who will lead the team? We need to consider that also. We need to analyze the competencies of people...How well people will adapt to the change. I take that as a skill. Individual’s ability to adapt to change.”*

Respondent 2 expressed: *“Whether we are capable of absorbing the concepts. Responsibilities of the people will be changed. One must ensure that there are no erroneous developments. It is a part of attitude of people...The amount of which people is willing to adhere to the change is also considered.”*

Internal factors - Organizational dynamics

The findings showed that **Geographical constraints** such as time zones and locations, **financial aspects** such as **sales agreements, sales generation models** are considered as deciding factors.

Respondent 2 declared: *“Another factor was our time zones. We have 12-hour difference between us and the client. How do we manage that?”*

Respondent 2 expressed: *“We need to revamp our sales agreements, sales generation models. When we deliver within two weeks, we need to think about it also.”*

Apart from the above factors, **pricing models, organizational micro-culture, scalability,** and **practicality** of the PMM are also investigated. Not every property will be defined for every organization. Each will vary within the organizational context.

Respondent 3 stated: *“We have different pricing models for different products. When we bring in a new process, we need to consider the pricing model.”*

Respondent 3 declared: *“To introduce this whole set of new practices, we need to change the internal culture to this. Thinking level, behavior, responses to clients all are changed due to this new decision. We cannot continue in traditional ways”.*

Respondent 4 expressed: *“The PMM has to be scalable as well as the organization which the PMM is adopted”.*

Respondent 6 declared: *“Every implementation has to be practical. Practicality is the main necessity when implementing the PMM. That practicality depends on the organizational context.”*

Internal factors - Measurability

The findings show that there is a tendency from the management to investigate the **measurability** aspect in any process.

Respondent 2 expressed: *“We need to have a proper measurement process in line to measure the success of adoption”.*

Respondent 3 declared: *“Another thing is decision making. I need to have a measurement in place to identify if I have the capability to handle a new project, if so what type of project should it be.”*

Internal factors – Alignment of supportive processes

It is evident that the process of project management is not the only consideration of the decision makers. The **supportive processes and their alignment** with the main process is also investigated.

Respondent 3 states: *“As there are supportive and dependent processes. Such as sales, development, support processes”*

External factors – Industry endorsement

It is found that policy makers will investigate the processes outside the organization and **how they are implemented and used**. All the management personnel responded, agreed to this.

Respondent 2 stated: *“I look at how well the methodology is used in the industry. A methodology has to be simple and readily available.”*

Respondent 3 expressed: *“Apart from that I will check whether it is an industry best practice.”*

External factors – Industry trend

The findings from the cases reveal that **industry trend** affect the decision of PMM adoption.

Respondent 1 stated: *“True story behind the transformation was to be updated in the industry. We understood that Waterfall is becoming obsolete. That was the main reason behind the change. But we market it under different topics”.*

External factors – Reviews and availability

Reviews and availability of the methodology can be identified as one of the factors affecting the PMM adoption in Sri Lanka.

Respondent 2 declared: *“A methodology has to simple and readily available and must have good reviews from the users, forum availability and availability of consultants.”*

Respondent 5 stated: *“We are not the first company to adopt some well-known methodology. There are previous implementations. I will definitely check for the endorsements, reviews, recommendations before even considering it.”*

External factors – Availability of tools

Some methodologies require third-party tools to support the flow of information. It is evident that **availability of tools** will influence the PMM adoption process.

Respondent 2 declared: *“We used an exceptional tool which was in top three in the market Once we faced a problem, they did not provide us support. We had a production issue, and we could not proceed as there were no support. Then we had to change the tool...”*

Process - Organizational dynamics

The findings reveal that organizational dynamics as a part of process implementation plays a major role in PMM adoption. Factors such as **organizational structure, availability of trainings** are expected to play a key role in the PMM implementation.

Respondent 1 declared: *“Main thing I am checking is organizational structure. The flow of information. When moving to agile practices, we need to have horizontal leaders. Where one leader is supervising multiple teams. We need to make the structure scalable.”*

Respondent 1 expressed: *“As we are to find people with leadership skills, we have to make sure that is there sufficient training and development available in the organization. As we are to find people with leadership skills, we have to make sure that is there sufficient training and development available in the organization.”*

Also, **reporting structures, pay review structures, performance structures** play a key role in the process implementation.

Respondent 1 expressed: *“And most importantly the reporting structures and pay review structure has to be aligned with the methodology. If performance reviews are done by an external party, we cannot align the delivery with performance. Performance should be delivery oriented.”*

Moreover, the **organizational behaviour in a culture of change** is addressed by this.

Respondent 2 declares: *“Employees should understand why we are doing this. Let us say we cannot put agile process for a garage. So, we need to understand the educational levels, abilities of the workforce to understand and digest that process change and their positive mindset towards that.”*

Respondent 4 expressed: *“For every process, people and process need to be aligned for the process to be successful. In that process, information flow must be clearly defined. How it flows through the hierarchy”*

Process – Process scalability

The organization will continue to grow after the PMM implementation. Evidently, some decision makers investigate the **scalability of the process** for the future usage.

Respondent 4 declared: *“I will check whether the process is scalable, and the implementation is scalable. If the same implementation process can be utilized for future, that is a plus for me.”*

Process – Process flexibility

Smoothly running and **flexible** process can be valid factor that affect the adoption process.

Respondent 3's states: *“Process must be smooth and flexible. Otherwise, any bulky process could result in more problems than answers.”*

Process – Process practicality

It was revealed from the study that the process must be **practical**.

Respondent 2 declared: *“The implemented process has to be usable for the masses. Otherwise, it will not yield the necessary out puts”.*

Process – Top management buy-in

It is derived from the ideology of respondents that the **top management’s approval and validation** is necessary for the process change that is going to happen.

Respondent 2 expressed: *“For a new process, I think the number one, the top management should agree. They should validate the process, and the process change.”*

Process – Implementation strategy

According to the empirical evidence, process **implementation strategy** plays a vital role for the change management.

Respondent 2 stated: *“Appoint a proper change agent. Someone who can run the change and lead the change. If we consider agile, an agile coach can be used. Someone who knows all about agile methodology. Or else if they cannot sort out or rectify and get them to the right path. Then that process will not go a long way...”*

Further Respondent 2 equalize process adoption in an organization to changing tyres of a running car and highlights the need of a predefined strategy to manage.

Process – Internal stakeholder buy-in

It was revealed from the analysis that **internal stakeholder should have a buy-in** on the process and must have an alignment to the organizational culture.

Respondent 3 stated: *“Process need to be implemented so that the internal team and external stakeholders are aligning with the process. And does it align with the organizational culture? I am not saying that it should align all the time. But it should be digestible to them.”*

Respondent 6 expressed: *“We normally involve the team leads in meeting to find out any problems with the process.”*

Content - Product dynamics

Considering the content aspect, the researcher found that **complexity, product agility, and product maturity** of the content aspect also has influence on the adoption decision.

Respondent 1 expressed: *“Complexity... Only the answer is complexity. Testability and ability to work cross-functionality is an integral part of complexity...”*

Respondent 4 stated: *“Product agility is one of the key factors. I will check if the product can be delivered in agile ways. Product maturity is the other factor. If the product is matured, then we can use Kanban. If the product is not matured, we can do either waterfall or agile.”*

Content – Delivery plan

It has been realized that **content delivery plan** can be influential to the process adoption decision.

Respondent 6 declared: *“So, there first consideration is whether the content is product or project. Even though there are so many methodologies, what we need actually is the product lifecycle.”*

Content – Scope of the project

The findings reveal that the **project scope** has been one of the considerations prior the adoption decision.

Respondent 4 stated: *“Scope of the project is also a considering factor. Waterfall methodology will be used for the long-term projects. Whether the scope is fixed or not fixed can be the deciding case in some scenarios”*

Content – Client requirements

The success of the implementation lies with the client satisfaction. To cater the client needs, the process of PMM can be changed.

Respondent 4 declared: *“Some clients may request extensive documentation. Either of product or agreements. Some might not. Agile uses less documents. Not everything is written in agile. We need to consider the document requirement of the client also.”*

Respondent 6 expressed: *“Think if we take a software product, clients are investors. An investor invests in something in hope for a return. Which type of return are they expecting? Within what time frame?”*

Customer – Level of interaction

It is found out that the **expected level of interaction** with the customer may influence the decision process of PMM adoption.

Respondent 2 declared: *“What type of business are we into and what type of interaction we have with the client that we need to account to.”*

Customer – Customer buy-in

The findings reveal that along with internal customer-buy in, external **customer buy-in** has an effect in the PMM adoption decision.

Respondent 2 declared: *“Stakeholders must have a buy-in along with the customers. As they are the ones who are going to spend ultimately”*

Respondent 3 stated: *“Process need to be implemented so that the internal team and external stakeholders are aligning with the process. And does it align with the organizational culture? I am not saying that it should align all the time. But it should be digestible to them.”*

However, it is evident that level of influence of the customer depends on the business model of the organization.

Customer – Client dynamics

It is evident that **project duration, client’s business type, requirements, client maturity** will have an impact in the decision process of the PMM adoption.

Respondent 4 declared: *“As our customers are long-term, and are service providers, the requirements of the customers are changing, evolving with them.”*

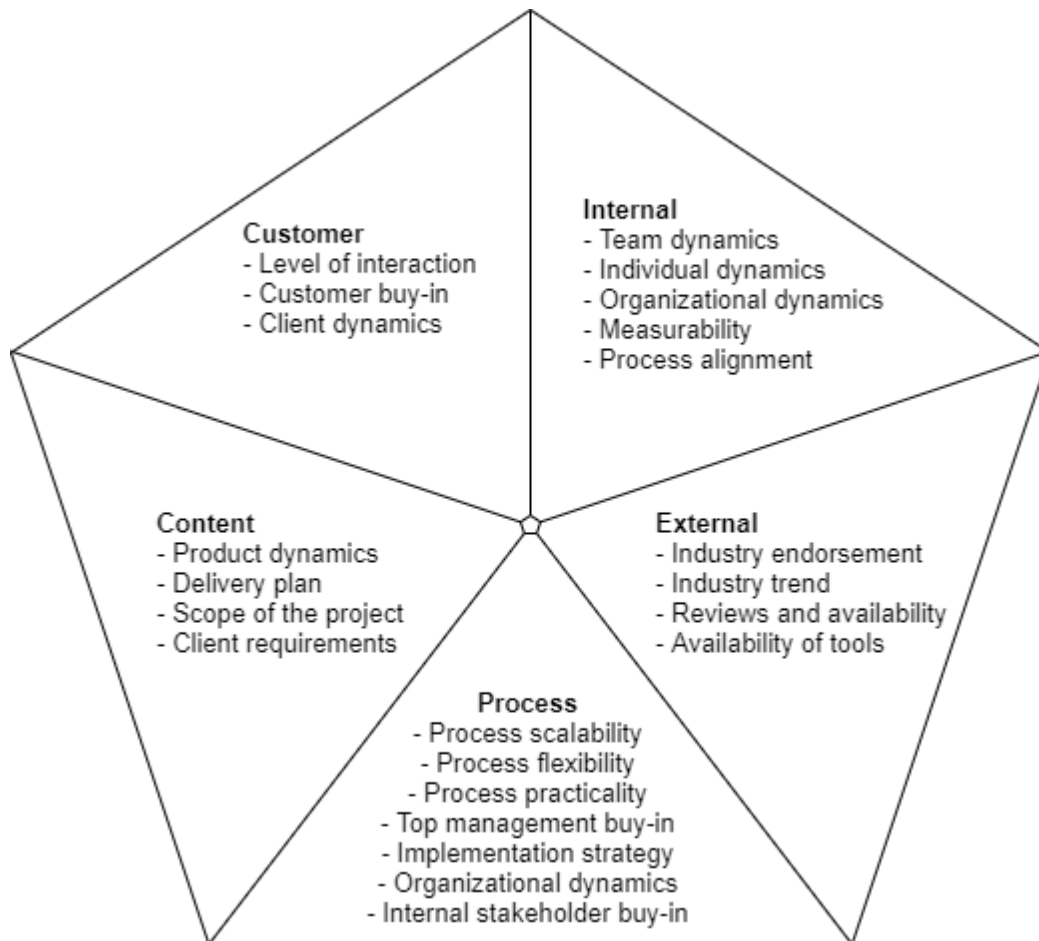
Respondent 4 declared: *“We need to consider about the type of the client. If the client is a startup, they will have short term requirements and new features to be added on.”*

It is also found out that the customer interaction of the product-based companies is relatively low compared to the project-based companies. Main reason for this is that even though the companies accommodate the client requests, they also do have a product roadmap on their mind. Their focus is the product, not the client requests.

Conclusion and Implications to the Practice

Project management methodology implementation in a software-driven organization cannot be discussed in a direct linear manner. It is not possible to ignore the growth, radical unpredictability, micro-dynamics, and self-organizing tendencies of humans in a world of irrationality, political turbulence, and powerful cultural norms in relation to their attempt to make sense of their collective existence (Cicmil et al., 2009).

This study utilizes dynamic multilevel framework for an integrated analysis of project management by Cicmil et al., (2009) which derived from the model for strategic change by Pettigrew and Whip's (1991) to explore the factors affecting the PMM selection and implementation process. The study results show that there are five dimensions in process selection and implementation; namely, internal, external, process, content, and customer. The conceptual model of PMM adoption in software industry is depicted in figure 2.



Source: Own elaboration

Figure 2: The conceptual model for PMM adoption in software industry

Moreover, the findings reveal factors that affect the strategic decision of selecting and implementing a PMM in a software-based organization. They are categorized as Internal, External, Process, Content and Customer. Moreover, the findings show that software organizations look for factors such as customer satisfaction, effective delivery of the product or service to the customer along with the quality of the deliverables, risk mitigation, resource attraction, high productivity within the team, financial expectations of the organization, process efficiency, being up to date with the industry standards, and tools availability for operations as the key factors in selecting a PMM.

Further, the existing literature (Cicmil et al., 2009) points out only four dimensions in PMM adoption process as Internal, External, Process, and Content. These dimensions are consistent

with the literature and rational arguments can be made to some sub themes in this study to be an integral part of factors in the literature. For an example, sub themes Individual dynamics, Team dynamics, and Organizational dynamics identified in the study can be argued as integral parts of the Resources, Capabilities, Culture, and Politics mentioned under internal factors in literature. In contrast, not every sub theme is mentioned in the literature. And some sub themes are mentioned in the literature. In addition to these dimensions, this study has identified a new dimension that affect the PMM as Customer. Level of interaction with the customer, customer buy-in with the PMM, and other customer dynamics such as project duration, client's business type, requirements, and client maturity are the factors that need to be addressed when adopting a PMM. Thus, this study is a comprehensive and novel study made to identify the dimensions of PMM adoption in Software industry in Sri Lanka.

Irrespective of the process being implemented, the success of the process is not dependent on the process 'name' but on how it is being utilized. No process is perfect; no role is perfect; no implementation is perfect; no person is perfect; every outcome of any process is a collective outcome of all the above. Every case is unique; and every case is subjective to one another. And the primary focus of the policy makers' and the process initiatives should be people. As everything is dependent on task execution by people in the organization or the project. If a strong process is used in a weaker environment the issues will be highlighted and vice versa. Every process or PMM implementation must be implemented by taking the multitude of factors into the consideration. Recognizing initial drivers are not sufficient for the successful PMM implementation process. PMM implementation is not an isolated initiative. It is a strategic bond between the organizational design and its strategic direction in an uncertain environment of transition (Cicmil et al., 2009).

The study results could help practitioners and policy makers improve the strategic selection and implementation process of PMM in a software driven organizational context providing a more methodological and framework bound approach. This study also contributes to the knowledge domain of the Project Management with reference to the adoption process and organizational change. Future studies could focus on investigating the adoption and implementation process of PMM based on the business model, revenue model and the currently using PMM.

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