Multilevel analysis of ambidexterity and tagging of specialised projects in project based information technology firms

ABSTRACT

Purpose: The purpose of the study is to understand the expression of ambidexterity at the 'between' projects level as well as the 'within' project level in project-based information technology firms (PBITF). The research also provides a framework for the classification of specialised projects. This classification is essential to clarify the level of attention the project will receive with respect to the appropriation of resources and the requisite management bandwidth.

Methodology: This paper draws on a nine-month long field-based qualitative study and ensures a rigorous triangulation of the findings through an analysis of archival data and actual project artefacts.

Findings: We bring forth three critical implications for practice. Firstly, strategizing ambidexterity at the level of "between" projects and "within" projects is heavily dependent on the interaction among distributed actors and partners. Secondly, routines and actions to deal with manpower constraints are completely different at these two levels. Lastly, the classification framework of specialised projects proposed here should enable firms to appropriately apportion resources to engagements that are strategic in nature.

Originality/value: Our study extends the concept of ambidexterity to the 'within' project level and finds it relevant at the lowest level in the project based structure. Also, the framework for the classification of specialised projects that is provided will assist decision makers in project based information technology firms to decide the organisational response to such projects.

Keywords: Ambidexterity, Specialised projects, Project modules, Project success.

INTRODUCTION

An organisation's long term success is contingent on its abilities to exploit its existing capabilities and also to explore new competencies (Levinthal and March, 1993). Prior studies in management science construed the trade-off between these two activities as critical for the organisation. Research in the past few years, though, has focussed on organisations that can simultaneously explore as well as exploit, and has stressed the criticality of this dichotomous ability for developing competitive advantage (Junni, Sarala, Taras and Tarba, 2013). Studies have highlighted the tensions that are inherent in a firm when it embarks on exploration and exploitation simultaneously. These tensions relate to 'differentiation versus integration' (Benner and Tushman, 2003) as alternative routes to achieving ambidexterity, manifestation of ambidexterity at the 'individual level' or at the 'organisation level' (Raisch and Birkinshaw, 2008) and finally sequential attention on exploration and exploitation resulting in a tension between 'static' and 'dynamic' (Siggelkow and Levinthal, 2003).

There is a growing stream of research in the field of ambidexterity at the level of the organisation and the business unit (e.g. Chang, 2015). However, studies on the 'lower levels' of an organisation are sparse. There is a lack of studies that explore the concept of ambidexterity within a project (Tiwana, 2008). An analysis of the research done on exploration and exploitation indicated that the focus was on manufacturing industries that were not project-based (Eriksson, 2013). This lack of research done in project-based industries may have caused a dearth of studies that are focussed on within a project. In this manuscript, we have two research objectives. The first is to investigate how project-based technology firms can manage the exploration/exploitation paradox at the level of 'within' a project and 'between' projects. The second objective is to investigate how project-based information technology firms (PBITF) decide on projects that are specialised and non-

specialised. The execution of specialised projects provides strategic direction to PBITF and hence it is important to understand how PBITF characterise such specialised projects.

A recent study done by Davies and Brady (2016) points out that such portfolio projects assist in driving the strategic vision of the organisation. Extending this thought, we find that it is important to investigate the criteria for classifying such projects in PBITF. Specialised projects are undertaken to extend strategic objectives such as gaining a footprint in a new domain, accruing social capital or understanding a new revenue and governance model. We find that this 'tagging' is essential to clarify the level of attention the project will receive from the management regarding appropriation of resources, management bandwidth and also when to compromise on financial parameters.

This study is conducted in the context of PBITF. Such firms are significant economic actors with most of the work in the technology domain being executed by them. Researchers such as Turner and Muller (2003) have noted the prevalence and importance of project-based control of work in firms operating in the technology sector and also their increased adoption in established sectors. There are few studies that enable the understanding of within project dynamics in such firms and also how such firms create strategic focus by undertaking transformational projects. Our research attempts to address this gap.

REVIEW OF LITERATURE

To understand the expression of ambidexterity at the level of the work unit in a project and also to understand the classification of specialised projects, we synthesise two pertinent streams of literature. The first pertains to relevant research on ambidexterity in general and with a specific focus on how structurally independent work units foster ambidexterity. The second stream of literature that we explore focuses on the handling of complex projects in project based firms.

Organisational Ambidexterity:

The concept of ambidexterity, first suggested by Duncan (1976), was deliberated upon at length in his seminal article on ambidexterity by March (1991). March (1991) proposed the concept of "Exploration" and "Exploitation" as two separate initiatives in which a firm can devote its resources. "Exploration" alluded to investment in activities connected with "search, variation, experimentation and discovery" and "Exploitation" focused on "refinement, efficiency, selection and implementation". Multiple explanations have been provided to clarify the concept of ambidexterity in the literature and are presented briefly in Table 1 below.

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In a comprehensive review of the concept of ambidexterity, Turner, Swart and Maylor (2013) suggest that ambidexterity can be conceptualised at the organisational level through three approaches. These approaches are structural, temporal and contextual. In this manuscript, we utilise the concept of structural ambidexterity. The structural approach alludes to different units within a firm doing exploration and exploitation. Gilbert (2005) points out that structural ambidexterity assists the organisation in attending to emerging as well as existing opportunities. In fact, organisational researchers have principally conceived structural ambidexterity as a concept that is interdependent and concurrent and which involves the compartmentalisation and harmonisation of exploration and exploitation within different entities of an organisation (Tushman and O'Reilly, 1996). Benner and Tushman (2003) extended this stream of thought by proposing that units dedicated to exploration and exploitation have their distinct structure and systems of control. O'Reilly and Tushman (2008) further stated that even though such entities are independent, they are also co-dependent at the organisation level so as to foster ambidexterity. Such interdependence is found to be important and necessary for the success of the firm. We propose that this view is

consistent at lower levels in project-based technology firms as well. Within projects, structurally independent repetitive and atypical work modules are required to be simultaneously successful to ensure project success.

Attempts to understand the concept of ambidexterity in the context of projects, though scant, have been made recently. Turner, Maylor and Swart (2015), in the context of projects, recognise the simultaneous usage of knowledge assets to explore and exploit. They specifically focus on highlighting the social capital perspective and point out that effective project management and management of paradoxical situations draw upon human, social and organisational capital. On similar lines, Wang and Hsu (2014) bring forth the relevance of relationship learning in managing paradoxes in high-tech firms. Eriksson (2013), in his conceptual paper based on evidence in the construction industry, suggests ways to handle the exploration/exploitation paradox at multiple levels in a firm. The review suggests that there is a need for research in understanding the within project operationalisation of ambidexterity to handle the paradoxical requirements of repetitive and atypical work modules. This is where our study fits in.

Also, though studies on ambidexterity are burgeoning, very few studies follow multiple levels of analysis (Turner, Swart and Maylor, 2013). In this manuscript, we try to explain the concept of ambidexterity at two levels in PBITF, that is, between projects and within a project.

Project based information technology firms: Unit of analysis and complexity

PBITF are project based firms that execute projects in the technology domain and the output is a technical solution to a business problem. Technology firms are characterised by rapid change and lack predictability of demand. Such firms can gain a strategic advantage through their ability to adapt quickly to the changing landscape of opportunities and threats

(see Brown and Eisenhardt, 1998). Competition within such firms is a factor of innovation and sensitivity to market responsiveness (Brown and Eisenhardt, 1998).

As a unit of analysis, the lowest structural level at which a large number of studies have been done is that of individual projects. The existence of different types of projects in a firm's project portfolio has been brought out clearly by Wheelwright and Clark (1992). In their paper, they bring forth the existence of five types of projects. They formulate this classification on the basis of the end utilisation, that is, commercial or research and development.

Between projects dynamics can be studied under programme management or project portfolio management. The former focusses on a set of projects that share a common objective, common resources and dependencies or are executed for a particular client. The latter deals with an entire portfolio of projects in a business unit or a firm (Lycett, Rassau and Danson, 2004). Programme management ensures accrual of benefits from joint management of projects that may not have arisen if the engagements would have been managed independently. Similarly, project portfolio management ensures that a centralised view of all bundled projects is available. The bundling of projects ensures that there is reduced competition for similar resources (Thorp, 1999). Apart from the criteria for bringing together projects in a portfolio, the literature has also dealt with stakeholder management in the context of project portfolio management. Effective external stakeholder management for successful programme and portfolio management is well recorded (Pellegrinelli *et al*., 2007).

Project management research has predominantly focussed on understanding the factors that influence project success (Mir and Pinnington, 2014; Munns and Bjeirmi, 1996). Other descriptive studies have focussed on the project as a subject for studying organisation phenomena (Lundin and Soderholm, 1995), and the design of the relationship between projects and the organisations that execute them (Wheelwright and Clark, 1992). With a few

exceptions (Hobday, 2000; Davies and Brady, 2016), the research usually focusses on individual projects and indicates the success of projects contingent on the project manager's abilities or the following of best practices. Though impressive strides are being made in evolving theoretical concepts in the context of projects, Engwall (2003) specifically points out that limited attention has been paid to internal project dynamics. A study of recent literature points out that this observation still holds true.

Another interesting issue in project management research has been the management of complex projects. Multiple research has alluded to diverse approaches to the handling of complex projects (Geraldi *et al*., 2011). Mostly, complex projects have been referred to as an initiative that is attempted for the first time by the firm to reach a new market or to develop a new capability. Such projects have been named differently as 'vanguard' by Brady and Davies (2004) or 'base moving' (Davies and Hobday, 2005). To use a single term to identify such projects, we call them specialised projects. It is important to understand how such projects are identified by PBITF. It is also important to understand whether a project is worthy of being classified as specialised before apportioning higher resources and management bandwidth to it.

The above review suggests that there is a need to attempt descriptive research in the context of how ambidexterity is operationalised at different levels and how project-based technology firms identify any project to be considered as specialised.

RESEARCH OBJECTIVES

This study contributes to the emerging dialogue on the operationalisation of ambidexterity in at least two important ways. First, we attempt to investigate the routines and processes that assist in the operationalisation of ambidexterity through mobilisation, combination and recombination of resources and assets 'within' and 'between' projects. Second, we investigate the impact of operationalisation of ambidexterity on project success.

Research has also highlighted the importance of specialised projects that are strategic in nature and assist in forming the future direction for the firm. In line with this stream, the third objective was to investigate how project-based information technology firms decide and classify projects that are strategic in nature.

METHODOLOGY

This paper draws on a nine-month long field-based study that investigates how project managers and senior executives in PBITF perceive the difference between repetitive and atypical project modules. We utilise a qualitative research design in our study. Qualitative research offers the opportunity to provide a richer and more nuanced perspective on the phenomenon of interest. This is also in line with the importance this design has been given by research scholars to understand ambidexterity (Turner, Swart and Maylor, 2013). We have selected project managers who have executed both repetitive and atypical project modules and also worked on specialised as well as non-specialised projects as our respondents. The approach allows us to bring out the undercurrents that run in a project-based technology firm when it is attempting both exploration and exploitation while executing a project. We followed the "purposeful sampling" procedure as suggested by Lincoln and Guba (1985). This was essential as we wanted the sample to comprise project managers who have been involved in both exploratory and exploitative project activities, so as to address our main research question. In order to verify our qualitative findings we also accessed factual data related to 26 projects and their work modules.

We carefully selected the firms from which we collected our data. The selected firms had a similar percentage of revenue coming from fixed priced projects, were similar in organisational structure and revenue generated. To sum the firm selection criteria, we ensured that the selected firms were isomorphic in structure, financial parameters and execution

methodologies. All the selected firms were from the highest level of the capability maturity model (CMM) and people capability maturity model (PCMM) and followed almost similar execution processes.

The sample comprised 31 project managers and senior executives (experience range five to 25 years) drawn from six firms. The average age of the respondents was 36 years. The designations varied from Project Executive to Head (Critical accounts). For the sake of uniformity, we focussed on the role they played in the project organisation structure. Table 2 provides a snapshot of the firm and sample characteristics.

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The entire procedure consisted of a cyclic process of simultaneously collecting data, analysis and seeking new participants from the information that was provided by the previous participants. This snowball sampling method ensured that our sample for the study consisted of the most knowledgeable respondents. This process resulted in an evolving sample till theoretical saturation was reached (Glaser and Strauss, 1967).

Data Collection

Data was collected by conducting multiple in-depth semi-structured interviews. The interviews lasted about 60 to 90 minutes. The conversations were taped with the participant's consent and were then transcribed verbatim. These questions were initiated to get an understanding of the context of the project-based logic of organisation, project task breakdown structures and restrictions under which project managers execute projects. As the interview progressed, we began centering on our research questions. The informants were asked to elaborate on the issues that arise while managing task units of differing risk profiles and complexity. Table 3 presents a sample of the broad guiding questions that were presented to the informants. To ensure the face validity of the question, we showed the broad questions to five experienced project managers.

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Data Analysis

We inductively analysed the data as we collected it so as to adhere to the guidelines for naturalistic inquiry methods as suggested by Lincoln and Guba (1985) and techniques of constant comparison as suggested by Glaser and Strauss (1967). Both these approaches ensure rigorous data collection and content focus for later data collection. These methods provide a clear basis for identifying themes and aggregate dimensions (Gioia, Thomas, Clark and Chittipeddi, 1994) by comparing ideas discussed by the participants. This technique of coding results in the creation of knowledge by both the viewer and the viewed. Our data analysis was carried out in three main stages. These three stages, the methodology of conducting trustworthiness of data and representative quotes are provided in Table 4.

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FINDINGS

Studying Ambidexterity 'Between' Projects

Figure 1 clearly shows that multiple projects that are bundled together in a program or are a part of the portfolio have different orientations towards exploration and exploitation. An analysis of the transcripts and factual data collected on projects makes it easier to understand the system that exist in organisations to measure the exploration/exploitation orientation of projects. This assessment is done by the senior managers at the project initiation phase on the basis of complexity, innovativeness and associated risk. In the words of one of the respondents:

"The PIP (project initiation plan) is a critical document and needs to be prepared by an experienced professional. With experience one knows how difficult the project will be and what is the associated risk." [Respondent 2, Programme Manager, Firm 1]

Insert Figure 1 about here

The exploration/exploitation orientation of projects signals the adaptability of organisation processes as well as the permissible deviation in routines. In case of projects high on exploitative orientation, codified execution processes are followed and for projects high on exploratory orientation, organisation processes and routines are allowed to deviate (with suitable approvals) so as to enable evolving requirements that are not met by the existing processes. In the words of one of the respondents:

"While managing an engagement that is different from usual projects, we have the leeway to reroute workflows and reduce the steps in various approval processes. This enables smooth execution of non-conventional requirements that may crop up while managing such projects." [Respondent 14, Project Manager, Firm 3]

Proper utilisation of the available resource slack is critical to operationalise ambidexterity across projects. Program managers are found to have freedom to manage the projects in their program/portfolio through cross-utilisation of hiring approvals. In addition to the transcripts of individual respondents, evidence of this cross-utilisation is also present in the documents such as project resources and financial details for a program (Refer to Table 3). Projects that were a part of the program had varying degrees of slippage. The respondents commented that such slippages were managed by loading the cost of manpower resources on projects where there was a bandwidth to accommodate such slippages. This can be clearly seen in the analysis of the factual data of the slippage of successful projects. Organisations commented on internal mechanisms to gauge the success of the project: projects that had customer

feedback of at least 85% and slippage in profit of not more than 5% were deemed to be successful. Any project that did not fit into the above criteria was deemed to be not so successful. Based on the inputs of the participants we have added one more category to define the success of a project in Table 2. A project that had a customer feedback of greater than 90% and a slippage in profit of less than 2% could be considered very successful. The slippage duration of projects that were successful was on an average 10 days compared to that of the not so successful projects which was as high as 50 days. The average slippage duration for very successful projects was as low as 7.5 days. This management slack available due to multiple projects facilitates the balancing of the exploratory and exploitative projects bundled together in a program. One of the respondents commented,

> "Determining cost budget for projects that are complex and risky many times are not correct. We end up with a situation when we overshoot the time allotted for their execution and also there is no cost budget available for any further allocation of employees. We then move employees from projects that are high on margin and well within their deadline to projects that need further inputs." [Respondent 1, Senior Program Manager, Firm 1]

To manage this cross movement of resources and to accommodate deviations from set organisation routines, managers have to constantly interact with *distributed actors* such as recruitment managers and finance managers who are based across multiple organisation units. It is evident from the factual data that projects that have been deemed to be successful or very successful and were of an average length of 20 months had an average of at least 12 such interactions compared to just three that were held for not so successful projects of a similar duration.

Organisation routines are evolving for exploratory projects due to the inherent ambiguity and uniqueness in the outcome of such projects. The project leadership has to take approvals to accommodate deviations from repetitive patterns of dependent activities. One of the project leaders commented,

"Many times we cannot achieve what we want to if we follow set pattern of actions. We have to make changes as per the new context. We take approvals to make such adjustment." [Respondent 6, Project manager, Firm 1]

Our analysis of the minutes of such approval project meetings verified the narratives presented by the respondents. Figure 1 presents the data structure for the operationalisation of ambidexterity between projects.

Examining Ambidexterity 'Within' a Project

In order to understand ambidexterity within projects, it is first necessary to look into the structure that exists within projects. Information technology projects are found to have work units clearly demarcated as exploratory work units and exploitative work units. The key point that emerged from our findings is that no project is completely exploitative or exploratory. Projects are composed of modules that may be repetitive (and hence exploitative in nature) or atypical (exploratory in nature). Project managers emphasised the fact that many predominantly exploitative project engagements have some components that are exploratory in nature and *vice versa*. The execution of these modules can be simultaneous or sequential. Therefore, ambidexterity within projects in PBITF is not a desired capability but an essential feature for executing any project successfully.

In the words of one of the participants:

"A project is a big exercise. There would be many tasks that are common to what we have done before but there will also be actions that are new and require innovation and application of new technology. The right way is to structure these diverse types of tasks in two different work units. One that follows known execution processes and achieves pre-expected results and the others that may require niche resources or are complex in nature." [Respondent 23, Project Manager, Firm 5]

The explorative or exploitative nature of a module can be established based on four factors (see Figure 2): (1) stability or dynamism of the operating environment, (2) standardised or

evolving nature of processes, (3) consistency or flexibility in execution, and (4) assured or uncertainty in delivery surety.

Insert Figure 2 about here

The repetitive and atypical modules are decided at the time of the initiation of the project. The requirements of the work module and associated processes, the flexibility required in execution and the delivery surety are assessed at the time of project initiation. In the words of one of the respondents:

> "The interface module in my project was atypical in nature. We had to follow a network protocol that we did not understand. We had not attempted this before and did not know how many iterations will it take to get it right." [Respondent 15, Senior Program Manager, Firm 3]

Team leaders of projects had to stick to the budget defined during the initiation phase and maintain the profitability which the senior leadership had approved. In order to handle paradoxical modules in the project, it is necessary to develop appropriate module level practices. Such practices may need additional knowledge acquisition. Narratives of respondents and factual data given in the budget for training and development point to the criticality of interactions with the *distributed partners*. Such partners could be customer representatives, in-company quality leaders or academic partners.

In order to manage resource constraints, managers also utilised experiential learning mechanisms where an employee is asked to shadow her/his team member to acquire a new skill. Experiential learning practices are effective in ensuring that module outcomes are achieved within the budget and provide a buffer against the risk associated with hiring new employees. One of the respondents commented,

> "After an employee has worked in a module, I ensure that they simultaneously train for any additional requirement in other modules that will come up. Sometimes it involves domain orientation from the customer or sometimes shadowing an existing employee. It is not that

difficult as they already know the context as they are working in the project for quite some time." [Respondent 25, Project Manager, Firm 5]

Another practice to develop the team is by moulding project execution routines in such a way that in order to execute the set pattern of activities, team members are assigned more responsibilities and given tasks normally executed by senior level roles. One of the respondents stated,

> "Every deliverable has to undergo a final verification and validation check. We ensure that this is done by team members so that they gain the maturity of taking ownership of delivered code." [Respondent 1, Senior Program Manager, Firm 1]

Figure 1 presents the data structure for the operationalisation of ambidexterity within projects.

Exploring Project Success

Our findings clearly show the importance of the operationalisation of ambidexterity within projects in the success of the projects. Project success is evaluated by external and internal measures. An external measure is the customer's satisfaction with the project where every module is rated by the customer manager interacting with the module team and the overall project feedback is provided by the senior customer manager. Internal measures that serve as indicators for project success are low slippages in terms of execution days and profitability. In the words of one of the respondents,

> "We have to ensure that that project is executed well within its financial parameters. If we do not make money on the project due to overshooting the budget then it will not be considered successful even if the customer gives a 100% on the feedback form." [Respondent, Project Manager, Firm 2]

In order to validate the assertion of the respondents, we triangulated the statements through an analysis of the customer feedback and the financial parameters of the projects covered in our study. We found that successful projects had a high number of interactions

with distributed actors and well managed slack compared to projects that were deemed to be not so successful. Also, narratives pointed to the preliminary identification of the exploration orientation of projects and the atypicality of project modules as a foundation for successful project execution. A review of project initiation plans where such identification is documented along with the analysis of internal measures for each project affirmed the said narratives. The narratives of respondents also stressed the criticality of evolving routines for atypical work modules at the 'within' project level as important for successful project execution, as it directly affected the customer feedback.

Figure 3 presents the data structure for exploring project success.

Insert Figure 3 about here

Identification and Classification of Specialised Projects

Apart from underlining the importance of within and between project ambidexterity, respondents also stressed that it was important to recognise projects that were inherently different or specialised. Execution of specialised projects by firms is important as it assists them in acquiring new resources and capabilities (brand reputation, new business domain and product development capability). This enables them to strengthen their market position and provides them a competitive advantage over others. It becomes clear that a firm has to execute specialised as well as non-specialised projects to remain relevant in the market space. Specialised projects have different risk profiles and the mitigation of such risks requires ingenuity and adaptability. Execution of projects with high and diverse risks is important to get strategic rewards that will assist the firm in navigating an environment that is technologically and business-wise dynamic. Such projects are characterised by high top management team attention and consumption of higher levels of a firm's resources. The criticality of identifying and classifying specialised projects gets enhanced when we take note

of the narratives that point to specialised projects failing due to lack of proper handling. It is important that the firm recognises a specialised project right from the beginning and treats it differently.

In the words of one of the respondents,

> "The project for development of control systems for underwater defence object was highly specialised. We were treating it like any other project that we do in the organisation. I told the management that this was not conducive to the success of the project." [Respondent 1, Senior Program Manager, Firm 1]

The need for the identification and classification of specialised projects gets attenuated because they have the first right to scarce resources and hence need proper handling for successful execution and to get the desired rewards.

Required elements for classification as a specialised project

Innovation required: The primary consideration for any project to be tagged as specialised is that the project should have high innovation content. Working on innovative projects allows firms to breach technological frontiers and position themselves as pioneers.

High return on investment: Along with innovation content, high return on investment (ROI) is found to be one of the conditional criteria for tagging any project as specialised. The respondents pointed out that the preferential claim on scarce resources as well as the extended management bandwidth commits the organisation to exploring whether the project has the desired scale.

Views from top/senior management and senior project managers have brought forward the fact that spending time and resources on highly innovative projects that do not have an attractive return, results in negative strategic and operational outcomes for the firm.

In the words of one senior management respondent,

> "Even if the project is very innovative, I will not commit to it till it gives me the necessary return for the risk I am taking." [Respondent 15, Senior Program Manager, Firm 3]

This leads to an important point of tagging the projects as specialised and non-specialised so as to identify the commitment of greater resources and management attention.

Basis of classification

Unique financial or governance model: Specialised projects are classified based on the uniqueness they bring with them, apart from innovation and scale. The narratives of the respondent point to a growing trend among customers to move away from capital expenditure to operating expenditure. With the business environment becoming uncertain, clients show a tendency not to lock up capital in information technology systems and hardware. This demand has led to the formulation of unique financial models. As one of the respondents pointed out,

> "My customer asked me if there was an ERP application available that they could licence for the duration they wanted to. They were not keen on customisation but wanted the freedom to pay as per the number of active users." [Respondent 15, Senior programme manager, Firm 3]

Projects that have a unique governance model with the customer such as ones including unlimited liability for the vendor or a unique revenue model such as outcome-based revenue skew the risk profile of the project. Such projects not only have a higher risk profile but also have higher associated rewards. It is important for firms to execute such projects as it enables them to explore new management and revenue models well in time before the market adapts them as a norm.

Unique skill and competency: Technological changes and shifting customer needs also compel PBITF to explore new products and projects that require emerging skills and competencies. Projects like these require investment in acquiring new technologies. They also need human capital that is adept in the necessary niche skills. Such human capital can be hired at a premium and needs continuous motivation for retention. As one of the respondents pointed out,

> "The manpower that we recruited for our defence object project was rare and difficult to find. We had to give them a skill based incentive and high appraisal ratings to keep them on-board." [Respondent 1, Senior programme manager, Firm 1]

The project also requires the establishment of new execution processes and hence greater intervention from senior managers and experienced employees. Projects like these, if they have the necessary scale, can be classified as competency-based specialised projects.

Unique social or political context: Some projects that are a landmark in their social and political impact have much visibility due to the expectations of the desired outcome. Such projects need ingenuity for execution and also assure return on investment either in the form of an assured revenue stream (for example, lifelong warranty of critical products) or in the tremendous social capital it accrues for the firm. Large scale transformation programmes sponsored by the government are an example of such projects. One of the respondents pointed out,

> "The project for the armed forces was critical as its success had a direct impact on risk of personnel who were going to use it. It was, therefore, high risk-high reward project. The successful delivery of the system enabled us to enter high-value defence segment of the business." [Respondent 5, Senior Program Manager, Firm 1]

A high amount of senior management bandwidth gets consumed in the execution of these projects as it is critical for the firm to succeed so as to build a positive brand image. This also positions the firm for more such engagements. We classify such projects as context-based specialised projects.

Figure 4 presents the data structure up to the second order level for indicating the dimensions for the tagging and classification of specialised projects.

Insert Figure 4 about here

DISCUSSION

Through this study, we sought to build a framework to examine the exploitation-exploration orientation 'within' and 'between' projects. Our findings highlight the difference in the way ambidexterity is operationalised at these different levels. Our research lends support to the existing studies (e.g. Pellegrinelli, Murray-Webster and Turner, 2015) that allude to the consideration of exploration and exploitative activities as a duality wherein both the activities complement each other. We also clarify the concept of specialised projects and provide a framework for classifying such projects. Based on our findings and existing literature, we provide insights on how ambidexterity can be operationalised 'within' and 'between' levels and the consequences of this operationalisation on project outcomes.

Operationalising ambidexterity at different levels: Interaction with actors and partners

Our findings point to the importance of interaction among actors across different functional units in the firms and also with partners who are outside the firm, for successful operationalisation of ambidexterity at the 'within' and 'between' levels. At the level of programmes and portfolios where multiple similar projects are bundled together, the program manager operationalises ambidexterity with the help of distributed actors across functional units in a firm. Such strategizing allows direct interaction in each other's presence and therefore draws immediate focus from the interacting distributed actors (Simons, 1991; 1994). It allows for the creation of meaning and normative controls so as to lend interpretative validity to activity that involves interaction for managing exploration and exploitation at the level of projects. *Ad hoc* meetings that are examples of such episodic interactions result in operational measures for managing hiring, retention and rewards management at the level of projects which deviate from the set norms of the firm.

At the level of 'within' projects, module leaders have regular interactions with partners within and outside the project which enables them to cross train, improve the efficiency of

existing processes and manage deliverable risks. Our findings are validated by factual data that show more frequent interactions in the case of successful projects. In-firm quality champions interacted with employees to create mentored initiatives that led to the improved efficiency of existing processes. Such interactions led to the creation of mentored initiatives leading to improvements. Interactions of module level employees with customers were critical for knowledge generation. This was found to be critical in exploratory work modules where customers brought in in-depth insights with respect to the context and domain expertise. Interactions such as these allowed the project leader to develop capabilities within the project so as to rotate employees within atypical and repetitive modules.

Managing slack at different levels for operationalising ambidexterity

Managers handled the issue of lack of manpower slack at different levels in diverse ways. Program and portfolio managers negotiated approvals for additional hiring at an aggregate level. It is also prudent to calculate profitability for the whole programme as it provides flexibility to the manager to recognise conflict, create synergy and allocate resources as per the requirement. In order to handle a resource requirement in an exploratory project, the program manager usually had the bandwidth to move resources from another project in the bundle.

On the other hand, project leaders had to work under tight financial parameters and had limited space for hiring new manpower or time to on-board a new team member. Atypical modules often threw up challenges that required additional manpower or extended time for resolution. In order to successfully execute such work modules, employees were allowed to shadow an existing employee and then contribute to the new work module. Such experiential mechanisms enabling the rotation of employees are effective tools to operationalise ambidexterity within projects.

Impact of ambidexterity on project success

Our findings indicate the constraints that are posed for between and within project dynamics. Through our findings, we are able to explicate how PBITF cope with paradoxical situations when there are numerous ongoing projects as also each project being composed of tasks that are both typical and atypical. Multiple research studies have tried to understand successful outcomes and their antecedents through measurable parameters. Understanding the actual action of execution through project leadership as critical informants allows us to unearth pertinent factors affecting project success as measured by the executing firm. The approach of analysis of narratives is different from traditional project management research that seeks to establish quantitative linkages between constructs. This adoption of a qualitative methodology is also in line with the importance this design has been given by research scholars to understand ambidexterity (Turner, Swart and Maylor, 2013).

Project success had two main components when it was seen from the point of view of the PBITF. These components were customer feedback which was a direct representation of a client's acceptance and appreciation. Internally, PBITF also monitored each project so that they adhered to the minimum acceptable financial parameters. They also monitored time slippage but at an aggregate level - the impact of this slippage on financials and customer feedback.

Our findings allude to the critical role ambidexterity plays in keeping the above mentioned components of project success within acceptable limits. Our analysis of narratives allows us to conclude that the continuous engagement of the customer in imparting the necessary training to the module level employees provided them the necessary sense of ownership which elevated the customer feedback in the end. Also, such training allowed for employee rotation within modules to manage exploration and exploitation adeptly. Also, well managed paradoxical modules allowed for engagements to finish in time thus avoiding any

consequent time slippage. Flexibility in routines at the level of projects enabled critical requirements to be expedited, enabling engagements to finish in time and within the budget.

Identifying and classifying strategic projects

Management of strategic projects is also an important aspect that we address in our paper through classification of specialised projects. This classification furthers the objective of the management to apportion the right resources for such projects. Specialised projects are customer chartered projects that allow PBITF to test new business domains or untapped markets. They are innovative in nature and involve disruptive thinking and allow PBITF to build up competency and understand evolving financial and governance models. Many firms that do not follow a project-based structure have been studied in the past for their utilisation of projects as a vehicle for exploring new products for their customers (Burgelman, 1983; Davies and Brady, 2016) with an ultimate aim to spawn off a new business unit catering to evolving market segments (Burgelman, 1983).

Similarly, specialised projects from customers, when attempted, augment the organisation's learning for more such engagements. Such projects are more in line with Kanter's (1990) description of new stream projects. The studies show that the existence of such projects is duly recognised in literature. Our study extends this line of research by understanding how PBITF classify such projects. The major point of divergence between specialised projects executed by PBITF and non-project based firms is the necessary conditions that need to exist before any project could be classified as specialised. PBITF, though interested in attempting work on evolving technologies and those that have innovative content, do not do so at the cost of return on investment. The attempt to execute such projects should be financially viable and should assure a steady revenue stream in the future. It is not an experimental exercise but a committed investment with a reasonable certainty of returns.

The classification of specialised projects is important as it allows the management to understand what attention needs to be provided. When the results of the project generate positive traction with its stakeholders and the project has a unique social or political context, the management needs to effectively manage the perceptions on the visibility of outcomes. When specialised projects are on evolving technologies and add to the firm's technical repertoire, the top management has to ensure deviations in their policies to absorb and retain the human capital that works on such skills and technologies. With the changing business landscape, risk sharing with the customer is undergoing a radical shift and revenue generation is shifting from traditional forms. To understand such evolving practices, PBITF have to reorient their functional departments.

Implications for practice

Our study extends the concept of ambidexterity to the within project level and finds it relevant at the lowest level in the project based structure. This extends the boundary of operation of the concept of ambidexterity, as previous studies have focussed on the structural level of firm or business units.

We bring forth three critical implications for project management practice. Firstly, strategizing ambidexterity at the level of projects and within projects is heavily dependent on the interaction among distributed actors and partners. At the level of between and within projects, these actors and partners need to have multiple interactions to resolve incongruences. Such interactions assist in operationalising ambidexterity by finding alternatives through negotiations. Secondly, routines and actions to deal with manpower constraints are completely different at these two levels. Lastly, the classification framework of specialised projects proposed here should enable firms to appropriately apportion resources to engagements that are strategic in nature.

CONCLUSION

In our study, we have theorised the concept of ambidexterity in PBITF at the within and between project level and also suggested a classification framework for strategic projects. Ambidexterity is a dynamic concept and hence we suggest future research should focus on understanding managerial actions that operationalise ambidexterity over an extended period of time. Also, it will be interesting to know how individual level factors will interact with organisational ambidexterity in the case of project-based firms. The multi-level interaction between individual, group or project team and organisation will shed new light on the concept of ambidexterity in such firms.

REFERENCES

Benner, M.J., and Tushman, M.L. (2003). "Exploitation, exploration, and process management". *Academy of Management Review*, Vol. 28 No.2, pp. 238-256.

Brown, S.L., & Eisenhardt, K. (1998). "Competing on the edge: Strategy as structured chaos". *Harvard Business Press*.

Burgelman, R.A. (1983). "A process model of internal corporate venturing in the diversified major firm". *Administrative Science Quarterly*, pp. 223-244.

Chang, Y.Y. (2015). "A multilevel examination of high-performance work systems and unit-level organisational ambidexterity". *Human Resource Management Journal*, Vol. 25 No.1, pp. 79-101.

Cohen, J. (1960). "A coefficient of agreement for nominal scales". *Educational and Psychological Measurement*, Vol. 20 No. 1, pp. 37-46.

Danneels, E. (2006). "Dialogue on the effects of disruptive technology on firms and industries". *Journal of Product Innovation Management,* Vol. 23 No. 1, pp. 2-4.

Davies, A. (2004). "Moving base into high-value integrated solutions". *Industrial and Corporate Change*, Vol. 13 No. 5, pp. 727-756.

Davies, A., and Brady, T. (2000). "Organisational capabilities and learning in complex product systems". *Research Policy*, Vol. 29, pp. 931–953.

Davies, A., and Brady, T. (2016). "Explicating the dynamics of project capabilities". *International Journal of Project Management*, Vol 34 No. 2, pp. 314-327.

Davies, A., and Hobday, M. (2005). "The business of projects: managing innovation in complex products and systems". Cambridge University Press.

Duncan, R.B. (1976). "The ambidextrous organization: Designing dual structures for innovation". *The Management of Organization*, Vol.1, pp. 167-188.

Engwall, M. (2003). "No project is an island: linking projects to history and context". *Research Policy*, Vol. 32, pp. 798-808.

Eriksson, P.E. (2013). "Exploration and exploitation in project-based organizations: development and diffusion of knowledge at different organizational levels in construction companies". *International Journal of Project Management*, Vol. 31 No. 3, pp. 333-341.

Geraldi, J., Maylor, H., and Williams, T. (2011). "Now, let's make it really complex (complicated) A systematic review of the complexities of projects". *International Journal of Operations & Production Management*, Vol. 31 No. 9, pp. 966-990.

Gilbert, C.G. (2005). "Unbundling the structure of inertia: Resource vs. routine rigidity". *Academy of Management Journal*, Vol. 48 No. 5, pp. 741–763.

Gibson, C. B., and Birkinshaw, J. (2004). "The antecedents, consequences, and mediating role of organizational ambidexterity". *Academy of Management Journal*, Vol. 47, pp. 209–226.

Gioia, D.A, and Chittipeddi, K. (1991). "Sensemaking and sensegiving in strategic change initiation". *Strategic Management Journal*, Vol. 12 No. 6, pp. 433-448.

Gioia, D. A., Thomas, J. B., Clark, S. M., and Chittipeddi, K. (1994). "Symbolism and strategic change in academia: The dynamics of sense making and influence". *Organization Science*, Vol. 5 No. 3, pp. 363-383.

Glaser, B.S., & Strauss, A.A. (1967). The discovery of grounded theory. New york.

He, Z., and Wong, P. (2004). "Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis". *Organization Science*, Vol. 15 No. 4, pp. 481-494.

Hobday, M. (2000). "The project-based organisation: an ideal form for managing complex products and systems?". *Research policy*, Vol. 29 No. 7, pp. 871-893.

Junni, P., Sarala, R.M., Taras, V., and Tarba, S.Y. (2013). "Organizational ambidexterity and performance". *Academy of Management Perspective*, Vol. 27 No. 4, pp. 299–312.

Kanter, R.M. (1990). When giants learn to dance. Simon and Schuster.

Levinthal, D.A., and March, J.G. (1993). "The myopia of learning". *Strategic Management Journal*, Vol. 14, pp. 95–112.

Lincoln, Y.S., & Guba, E.G. (1985). Naturalist inquiry. Beverly Hills, CA: Sage.

Lundin, R.A., and Soderholm, A. (1995). "A theory of the temporary organization". *Scandinavian Journal of Management*, Vol. 11 No. 4, pp. 437-455.

March, J.G. (1991). "Exploration and exploitation in organizational learning". *Organization Science*, Vol. 2 No. 1, pp. 71-87.

Maalouf, M., & Gammelgaard, B. (2016). "Managing paradoxical tensions during the implementation of lean capabilities for improvement". *International Journal of Operations & Production Management*, Vol. 36 No.6, pp. 687-709.

McDermott, C.M., & Prajogo, D.I. (2012). "Service innovation and performance in SMEs". *International Journal of Operations & Production Management*, Vol 32 No. 2, pp. 216-237.

Mir, F.A., and Pinnington, A.H. (2014). "Exploring the value of project management: linking project management performance and project success". *International Journal of Project Management*, Vol. 32 No. 2, pp. 202-217.

Munns, A.K., and Bjeirmi, B.F. (1996). "The role of project management in achieving project success". *International Journal of Project Management*, Vol. 14 No. 2, pp. 81-87.

O'Reilly, C.A., and Tushman, M.L. (2008). "Ambidexterity as a dynamic capability". *Research in Organizational Behavior*, Vol. 28, pp. 185-206.

Pellegrinelli, S., Partington, D., Hemingway, C., Mohdzain, Z., and Shah, M. (2007). "The importance of context in programme management". *International Journal of Project Management*, Vol 25 No. 1, pp. 41-55.

Pellegrinelli, S., Murray-Webster, R., and Turner, N. (2015). "Facilitating organizational ambidexterity through the complementary use of projects and programs". *International Journal of Project Management*, Vol. 33 No. 1, pp. 153-164.

Raisch, S., and Birkinshaw, J. (2008). "Organizational ambidexterity: Antecedents, outcomes, and moderators". *Journal of Management*, Vol 34 No. 3, pp. 375-409.

Sarkees, M., and Hulland, J. (2009). "Innovation and efficiency: It is possible to have it all". *Business horizons*, Vol. 52 No. 1, pp. 45-55.

Siggelkow, N., and Levinthal, D.A. (2003). "Temporarily divide to conquer: Centralized, decentralized, and reintegrated organizational approaches to exploration and adaptation". *Organization Science*, Vol. 14 No. 6, pp. 650-669.

Sohani, S. S., and Singh, M. (2016). "Experiential learning frameworks for development of dynamic capabilities in project-based technology firms". *International Journal of Applied Management Science*, Vol 8 No. 1, pp. 52-67.

Strauss, A., and Corbin, J. (1998). Basics of qualitative research: Procedures and techniques for developing grounded theory. ed: Thousand Oaks, CA: Sage.

Tamayo-Torres, J., Barrales-Molina, V., & Nieves Perez-Arostegui, M. (2014). "The influence of manufacturing flexibility on strategic behaviours". *International Journal of Operations & Production Management*, Vol 34 No. 8, pp. 1028-1054.

Tiwana, A. (2008). "Do bridging ties complement strong ties? An empirical examination of alliance ambidexterity". *Strategic Management Journal*, Vol. 29 No. 3, pp. 251.

Turner, J.R., and Müller, R. (2003). "On the nature of the project as a temporary organization". *International Journal of Project Management*, Vol. 21 No. 1, pp. 1-8.

Turner, N., Swart, J., and Maylor, H. (2013). "Mechanisms for managing ambidexterity: a review and research agenda". *International Journal of Management Reviews*, Vol. 15 No. 3, pp. 317-332.

Turner, N., Maylor, H., and Swart, J. (2015). "Ambidexterity in projects: An intellectual capital perspective". *International Journal of Project Management*, Vol. 33 No. 1, pp. 177-188.

Tushman, M.L., and O'Reilly III, C.A. (1996). "Managing evolutionary and revolutionary change". *California Management Review*, Vol. 38 No. 4, pp. 8-28.

Vinekar, V., Slinkman, C.W., and Nerur, S. (2006). "Can agile and traditional systems development approaches coexist?". *Information Systems Management*, Vol. 23 No. 3, pp. 31-42.

Wang, C.H., and Hsu, L.C. (2014). "Building exploration and exploitation in the high-tech industry". *Technological Forecasting and Social Change*, Vol. 81, pp. 331-340.

Wheelwright, S.C., and Clark, K.B. (1992). Creating project plans to focus product development. Harvard Business School Pub.

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Table 1 Diverse Conceptualisation of Ambidexterity

Authors	Contribution
March (1991)	Exploration and exploitation as two separate learning initiative
Tushman and O'Reilly (1996)	Ability to manage incremental and disruptive change
Benner and Tushman (2003)	Exploitative and exploratory innovation
Gibson and Birkinshaw (2004)	Contextual ambidexterity that is creation of context to enable employees to decide when to focus on exploration and when to stress on exploitation
O'Reilly and Tushman (2004)	Structural separation of exploration and exploitation
He and Wong (2004)	Entering new products, improving existing products
Danneels (2006)	Development of incremental and disruptive products
Vinekar et al. (2006)	Agile and traditional IT development
Sarkees and Hulland (2009)	Co-existence of efficiency and innovation
McDermott, & Prajogo, (2012)	Understanding ambidextrous innovation and business performance
Eriksson (2013)	Cooperative procurement procedures for fostering exploration and exploitation
Tamayo-Torres, Barrales-Molina,& Nieves Perez-Arostegui (2014)	Impact of manufacturing flexibility on exploration and exploitation
Pellegrinelli, Murray-Webster, and Turner (2015)	Utilization of management approaches to handle programmes and projects for achieving ambidexterity
Davies and Brady (2016)	Strategic dynamic capabilities and operational project level capabilities to handle exploration of innovative opportunities and exploitation to maintain existing activities
Maalouf, & Gammelgaard (2016)	Understanding managerial responses to dealing with paradoxes facilitating lean transformation

Table 2 Sample Characteristics

Respondent Characteristics (N=31)				
Experience (in years)	>15	11 - 15	5 - 10	
	6	18	7	
Role in Organization Structure of Projects	Senior Programme Manager	Programme Manager	Project Manager	
	3	9	19	
Level in Management-Decision Making	Top Management	Senior Management	Middle Management	
	3	9	19	
Firm Characteristics (N=6)				
Characteristic	*Mean*	*SD*	*Minimum*	*Maximum*
Revenue (in million dollars)	8000	4000	3000	15000
Revenue per Head (in '000 Dollars)	46.25	9.20	30	60
Employee Strength	1,79,167	90,023	1,00,000	3,50,000
% Revenue From Fixed Priced Projects	45	5	40	52
Project Characteristics (N= 26)				
Industry	Utility	Defence	Financial Services	
	16	6	4	
Deemed Successful	Very Successful	Successful	Not So Successful	
	9	7	10	
Characteristic	*Mean*	*SD*	*Minimum*	*Maximum*
Duration (in months)	20	9	9	48
Time Slippage (in days)	25	24	0	90
Profit Slippage	5	5	0	15
Customer Feedback (%)	84	10	55	97
Project Module Characteristics (N= 79)				
Characteristic	Mean	SD	Minimum	Maximum
Duration (In months)	12	5	6	23
Time Slippage (in days)	7	10	0	45
Customer Feedback (%)	80	14	40	100

Table 3: Data Sources and Sample Guiding Questions for Respondents

Research Focus	Sample Guiding Questions for Respondents	Genesis of the Question	Source of Factual Data for Triangulation
Project Execution Processes	In what ways do projects differ and how do you classify different projects?	Engwall, 2003	• Request for Proposal(RFP) Response: Approval Meetings (Minutes) • Sample Approval Mails for Process Deviation
	Are organisational processes for execution set or can they be modified?	Tiwana, 2008	
Project Success	How is the project success measured?	Experts' Inputs	• Customer Feedback Forms • Project Financial Parameters
	What are the reasons for success/ failure?	Experts' Inputs	
'Between' Project Ambidexterity	When and how do you decide on complexity of projects?	Experts' Inputs	• Project Initiation Plan(PIP) • Resource Register; • Minutes of the Project Meetings • Project Organisation Structure in PIP
	Can you move resources between projects? If yes, then who all are the stakeholders with whom you have to interact?	Sohani & Singh, 2016.	
	How do project structure and processes differ for regular projects from those that are not considered regular projects?	Experts' Inputs	
'Within' Project Ambidexterity	How do you decide which project module is a 'typical' work module and which one is not?	Experts' Inputs	• Project Initiation Plan(PIP); • Project Cost Budget for Training/ Development; • Project Level Financial and Manpower Details; • Project Quality Plan; • Project Manpower Register
	How do you ensure that your team members are adequately trained so as to move between modules?	Experts' Inputs	
	How do you ensure project success even with constraints set at the time of project initiation such as minimum profitability to be maintained, etc.?	Shrnhur, Levy & Dvir, 1996	
Tagging of Specialised Projects	What kind of projects will make the top management team accept lower profitability?	Shrnhur, Levy & Dvir, 1997	• Request for Proposal(RFP) Response: Approval Meetings (Minutes)
	Is profitability the only measure for indicating a project to be specialised? What else is critical apart from profitability for such a classification?	Belout & Gauvreau, 2004	
	Why are such specialised projects attempted? What value do they bring to the firm?	Experts' Inputs	

Table 4: Data Analysis, Trustworthiness and Sample Quotes

Data Analysis		
S.No	**Data Analysis Stage**	**Methodology Followed**
1	First Stage	• The creation of a set of "narratives" that were composed of organised, raw data (interview quotes). • Each of these sets was organised based on the similarity of meaning being communicated. • This larger subset was reduced to a smaller set of 'typical' factors. This reduction was effected through a grouping of similar factors in one set. • The criteria for the finalisation of these sets included repetition of a factor across the sample (Strauss & Corbin, 1998).
2	Second Stage	• Identification of theoretical rooting through axial coding that broadly summed up the open codes that were derived in the first stage (Gioia & Chittipeddi, 1991) was done. • This allowed us to build a set of second order themes that were rooted in existing theories and helped us to identity aggregate themes.
3	Third Stage	• Focus was on drawing the aggregate dimensions from second order themes. • In this stage, a continuous scrutiny of the aggregate dimensions that was being proposed , along with the data from which they were derived and verified for comprehensiveness in the trail of evidence was done • This process resulted in aggregate dimensions such as 'Between' project ambidexterity and 'Within' project ambidexterity. For specialised projects, we ended up with dimensions that were necessary for tagging specialised projects and dimensions that assisted in the classification of such projects.
Trustworthiness of Data		
Trustworthiness of the data was ensured as per the steps laid down by Lincoln and Guba (1985).		
1	Credibility	In our study, credibility was attained by • Engaging respondents for an extended period. • Another method of establishing credibility was by sending the transcripts to the participants to ensure that it has not been contaminated during transcription. All the respondents confirmed our narrative.
2	External Validity	External validity alludes to the transference of our findings to other groups. • We have attained this by resorting to "thick description" rather than just abstractions.
3	Dependability	To attain dependability, we utilised the services of two research scholars (who were not

		acquainted with our study). • Our coding dictionary was provided to them. The dictionary had the categories extracted from our findings, together with the section of the transcripts that contained these categories. • The research scholars were requested to write down the category that best represented the passage. The percentage of agreement amidst the two scholars was found to be 0.81. This is greater than the suggested threshold of 0.70 (Cohen, 1960).
Sample Representative Quotes		
1	Repetitive Project Modules	"Mostly our company takes work such as customisation of our existing product. We exactly know what to do. The customisation of our core banking software for different banks is a good example." [Respondent 16, Account head, Firm3]
2	Atypical Project Modules	"We were given free hand when it came to how we should execute this project module. The cloud based SCADA application was being developed as next generation application for utility companies. This was expected to handsomely contribute to our profits in future" [Respondent 28, Senior project manager, Firm 6]
3	Need for Tagging of Projects	"Top to bottom everyone is busy achieving numbers and is singly focussed on how to execute with more and more cost optimisation. When a different complex project comes they do not know how to handle it. They look at it as just like any other project. This is a recipe for failure of such projects". [Respondent 3, Location Head, Firm 1]
4	Innovation Required and High ROI	"I am not here to do exciting projects, I am here to do exciting as well as money making projects. Projects that are innovative and also assist us in generating steady revenue streams." [Respondent 11, Group leader, Firm 2]
5	Classification Criteria	"The development of pay per use software was a unique activity for us. We managed the customer's data at our server and money was on every transaction made. We had never done anything like that before though the industry is now moving in that direction. " [Respondent 26, Project leader, Firm 5] "Niche skills based projects that are a first for us and have potential to assist in development of a strong revenue pipeline, deserve special status" [Respondent 1, Program director, Firm 1] "The calamity warning system that we developed was critical for warning the shore living population in advance of an impending tsunami. We did it in record time and there was no expense spared in its development. We did not make much profit but our social capital with the general public went up".[Respondent 12, Account head, Firm 3]

Figure 1: Ambidexterity 'Between' and 'Within' Projects

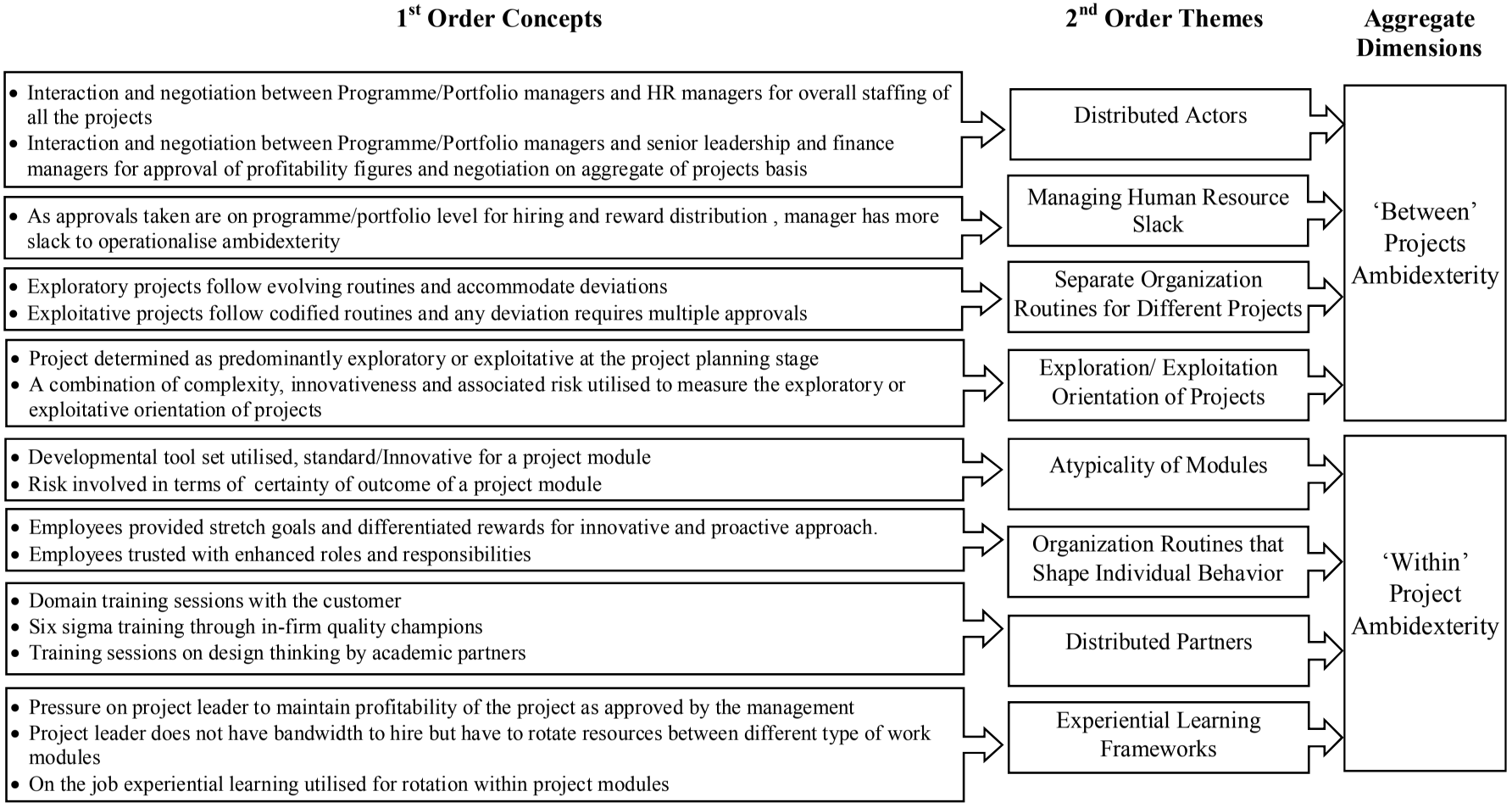

Figure 2: Repetitive and Atypical Project Modules

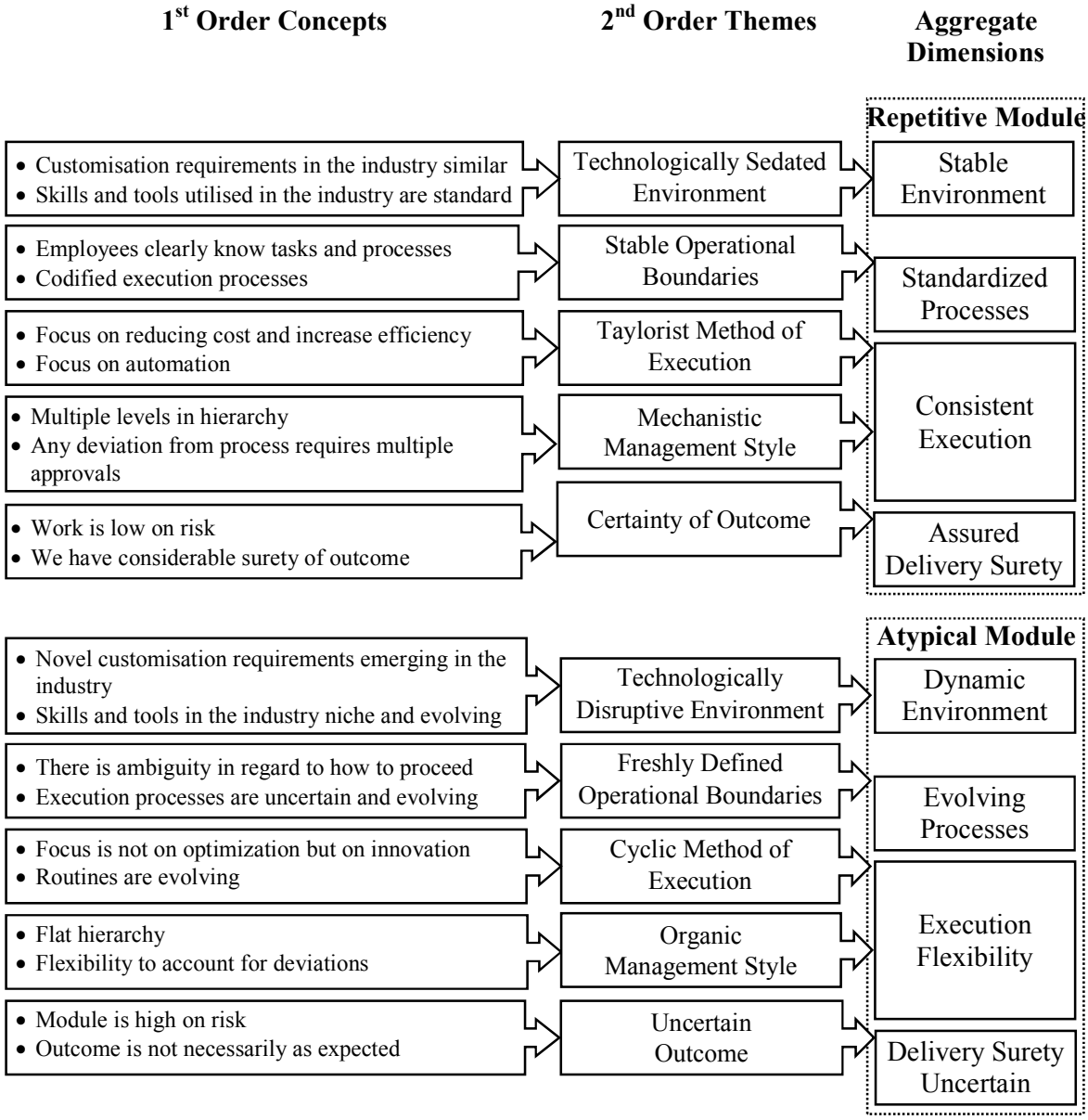

Figure3: Exploring Project Success in Project Based Information Technology Firms

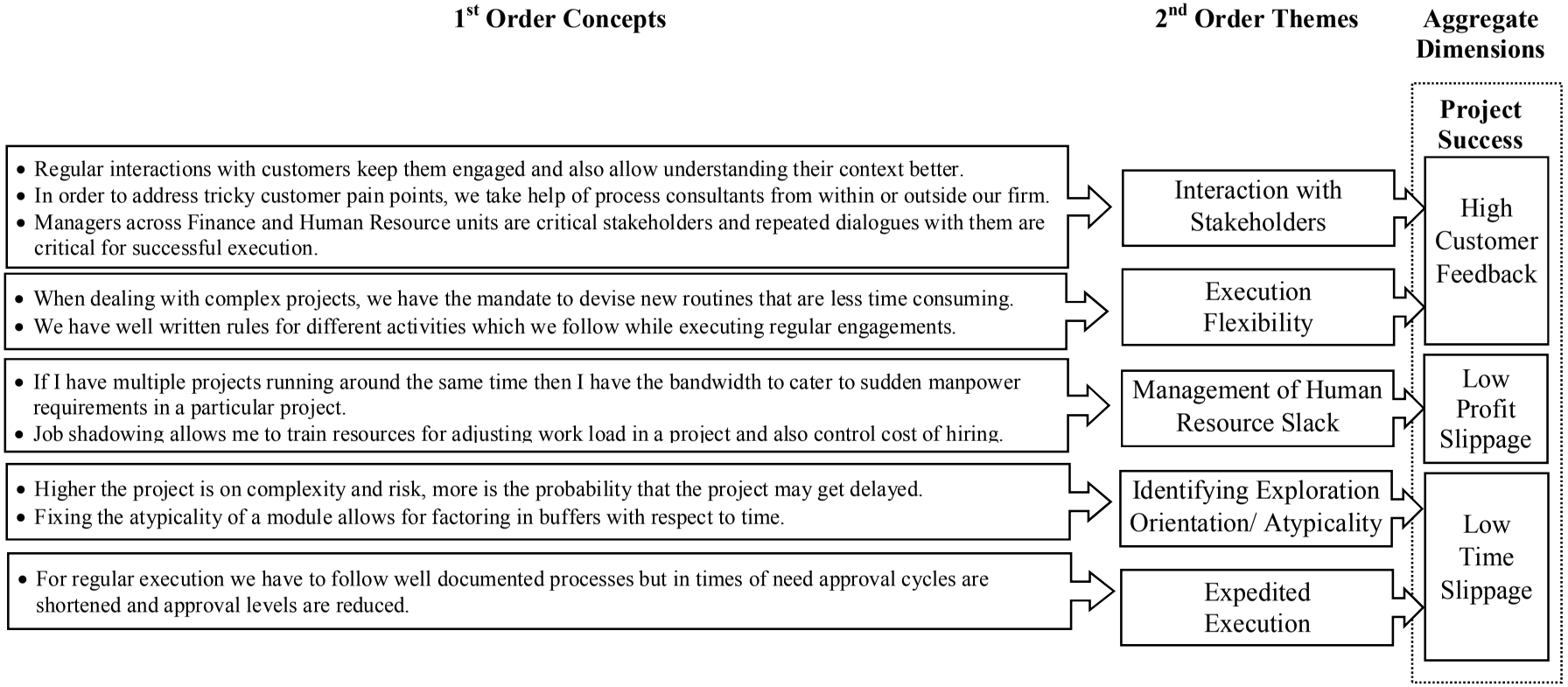

Figure 4: Data Structure: Dimensions for Tagging Specialised Projects.