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Influence of Corporate Culture on the Performance of Technology Transfer in ERP Implementation Projects – A Case Study

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Abstract: Any ERP (Enterprise Resource Planning) Implementation is a high-stake project which could also be viewed as a technology transfer (TT) project. TT happens from the ERP vendor to its client, within which the product and the knowledge getting transferred. The factors affecting success/failure of these projects differ from one project to another. This paper analyses a project undertaken by a leading multinational ERP company in Sri Lanka (referred to as XYZ company) who developed a customized ERP solution for one of its clients (referred to as PQR company), a leading multinational networking and telecommunication service provider. The results show that the project implemented has been unsuccessful and resulted in higher user dissatisfaction and lower level of TT. The major challenging factors identified were: contract governance; transferee's adaptability; team composition; team collaboration; and transferee and transferor motivation. It was evident that the differences in two organizational cultures had affected all these challenges, except for the 'transferee's adaptability'. As a recommendation, this study proposes some safeguards to ensure a successful technology transfer, by combining with the stage-gate model and embedding safeguards into the XYZ implementation methodology.

Keywords: Technology Transfer, Enterprise Resource Planning (ERP), Successes and Failures, Polytrophic Components, Organizational Culture

1. Introduction

Ijaz et al. [1] have stated that companies are less likely to show the failure of their Enterprise Resource Planning (ERP) system implementation, even though ERP failure is major, and that different issues impact positively or negatively on their success rate. According to Alhayek [2], nearly 75% of all ERP projects fail, regardless of the industries being focused. Thus, there can be many factors which affect the success/failure of these projects.

This research was carried out to seek how organizational culture affects ERP Implementation project performance, focusing on the implementation phase of such projects. The pre-implementation and post-implementation stages were disregarded, though the observations of the post implementation stage were considered to narrate the effect of activities carried out in the implementation stage and to discuss the after go live success/failure perceived. The study was focused on XYZ ERP organization and carried out as a case study. One highly challenged project, PQR, was taken for analysis. The performance was measured through the success of the technology transfer from vendor ("ERP system culture") to the customer ("ERP host culture") and the performance of the solution and perceived user feedback after the project went live.

1.1 XYZ Company Profile

XYZ is a Sweden based leading multinational company founded in 1983, which currently operates in several countries. The company is located in around 50 countries with 5,000+ employees and working along with 500+ partners and thousands of customers worldwide. The company caters for customers who are in the industries of service management, aerospace and defence,

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construction and engineering, manufacturing, energy utilities and resources, and had achieved the reputation as one of leading ERP vendors globally who has a customer base with big profiles. XYZ states that they have an open culture, having diverse people working closely with customers in delivering great moments of service. They work by their core values, which are being agile, collaborative, and trustworthy.

1.2 PQR Company Profile

PQR is a global leading multinational networking and telecommunications company providing Information and Communication Technology (ICT) to service providers and founded 145 years ago. They are based in Stockholm, like XYZ company. PQR has a 100,000+ employee base around the world. PQR had been a customer of XYZ since year 2014 and has known for one of the biggest customers providing big licensing and maintenance revenue for XYZ. The case study researched was a new implementation project PQR has had with XYZ, which in total spans around 40+ country go lives and having 7K+ users. The initial project was planned for one country go live (UK). PQR culture is built and has progressed throughout a century since the company started. They encourage co-creation and collaboration and live by core values: professionalism, respect, perseverance and integrity, in everything they do.

1.3 Research Questions

1. To what extent the organizational cultures of vendor and customer affect the successful transfer of technology components during an ERP implementation project?

2. To what extent technology assimilation or adaptation to be done to ensure successful implementation of ERP projects?

1.4 Research Objectives

The objectives of the research were:

1. To investigate the effect of system and host culture differences on the success of ERP implementation.

2. To identify and develop safeguards to ensure success of ERP implementation using XYZ ERP as a case study.

2. Methodology

2.1 Case Study Methodology

The ERP projects' nature differs from the ERP application/technology being used, to the companies with many variables being focused on implementation related challenges. Hence, it is required to have support from an experiential study as it is difficult to generalize from the concepts and theories. This research also consists of studying the organizational culture of both transferee and transferor, where in-depth knowledge seeking is required.

As the research unfolds upon a case study, the analysis was conducted as a qualitative study. According to Hancock et al. [3], it is easy to determine if research suits case study approach, if its data collection strategies consist of participant observations, interviews, field notes, etc. Kronbichler et al. [4] also have successfully done research using a case study in reviewing critical success factors of an ERP implementation project. Furthermore, several other studies have used case study and field survey methods to identify critical factors affecting ERP implementation (Ijaz [1]).

2.2 Case Selection

Tellis [5] states that selecting a case cannot be an easy task with a straightforward reason. It can be multifactorial. He says that a case should be selected by analysing the author's accessibility to its resources and participants, case owners' willingness to participate, suitability to the subjected questions and that there is no right or wrong way, rather entirely the choice of researcher.

The reasons for selection of PQR project were,

1. A larger project consisting of extensive use of technology, cost, time, resources that suits the research with wider inputs and details to analyse.
2. There has been an old project with PQR which had led to same level of challenges. Hence, the author realized that it is interesting to select the project that involved PQR customer.
3. The XYZ company is a well-known ERP implementer.
4. Easy accessibility to data and information.

2.3 Research Philosophy

The research was carried out as interpretivism approach. The study took interviews, observations, and conducted in an interactive and participative manner. The data collected was of unique focus to the case study being referenced, where the goal of research was achieved by understanding and formulating strong predictions. The desired information was obtained from employees who were involved in the implementation of the project and how they perceived the experience. Interpretivism is a common approach used mainly for social science research, which can also be used to identify peoples' actions and behaviours, says Balarabe [6]. Hussey & Hussey (1997) cited in Nimalathasan & Brabete [7], mention that it is mostly used when in need to understand people's perceptions concerning their own behaviours through a qualitative manner.

2.4 Research Strategy

The current study focused more on studying the existing theories related to organizational culture and technology transfer models, and their linkages to analyse their influence on the performance of ERP implementation projects. Hence the approach was more on starting from a generic approach and moving into the specific scenario of ERP implementation projects. Through this research, the following objectives were achieved: (OB1) - *To investigate the effect of system and host culture differences on the success of ERP implementation* and (OB2) - *To identify and develop safeguards to ensure success of ERP implementation using XYZ ERP as a case study*. In addition, the case study was used with the objective of seeking for a generalised scenario. Therefore, it displayed characteristics of an inductive approach as well that unfolds from more specific scenario to generic. Hence the current research took place on an abductive approach as explained in Figure 1 – Research strategy.

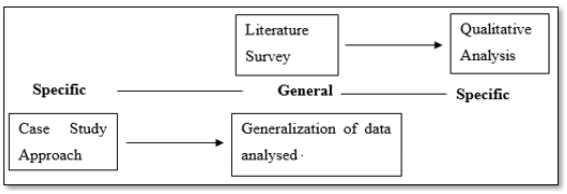

Figure 1 - Research Strategy

Saunders et al. [8] state that the abduction approach is a combination of both induction and deduction approaches. Figure 1 displays the characteristics of research philosophies and the characteristics of each strategy, which are derived from their study.

2.5 Data Collection Methods

2.5.1 Project Materials

Necessary data was collected referring the following project documentation and conducting interviews to understand the status of technology transfer components. Documents referred were,

- Project proposal and contract agreement
- Project plan sheet
- User stories and sprint map document
- Solution overview document
- Project lessons learnt document
- Pre-sales agreement document
- Project guideline document

which included key properties of the project details like customer name, project owner, document repository, summary of project plan, key documents, project cost, time boxed activities and instructions.

2.5.2 Semi-structured Interviews

May [9] states that, in qualitative research, direct interviews are the most familiar method of data collection through which the interest area is best understood by close interaction with the informant. The current research needed to understand the perceptions of success in the project, how members had performed, how project was undertaken, fine details of the components which were transferred and how users perceived them, etc. Hence, close interaction and connection with key users of the project were very important. Therefore, authors used direct interviews to gather most of the data. There was an interview guide used, which mainly consisted of questions covering the following areas.

1. Understand the project scope
2. Understand the components being touched based on the polytrophic components mentioned by Ramanathan [10]
3. Understand how successfully these components were transferred
4. Understand the project environment from the viewpoint of the participants' context (referring to the customer PQR or XYZ environment)

The questions addressed the transfer of technology components and were inspired based on variables introduced by Technology Atlas Team (1987) cited in Udo & Edoho [11],

Sharif [12]. The rest consisted of the cultural dimensions. The questions were designed based on variables used in earlier studies (Passos et al. 2012; Zelkowitz, 1998) cited in Jayasena et al. [13].

2.6 Theoretical Framework

Figure 2 explains a framework developed for the current research summarising the approach to address the research objectives. Accordingly, a comprehensive literature survey was carried out to identify how the corporate culture can be understood through Organization Culture Assessment Instrument (OCAI) model. This model has been cited by many recent research (visibly more than 11000 citations in google scholar). It is also adapted by over 10,000 companies to identify their current culture and to identify areas of improvement, as stated by OCAI [14] and Cameron & Quinn [15]. The OCAI developed by Cameron and Quinn is a method to assess organizational culture which is considered as a validated research method to assess organizational culture. The OCAI survey was distributed among two project managers from XYZ and PQR and 5 PQR business users, 5 PQR consultants and 4 XYZ consultants who had been key players in the project. The survey measured culture within six dimensions, 1) Dominant characteristics, 2) Organizational leadership, 3) Management of employees, 4) Organization glue, 5) Strategic emphasis, and 6) Criteria of success.

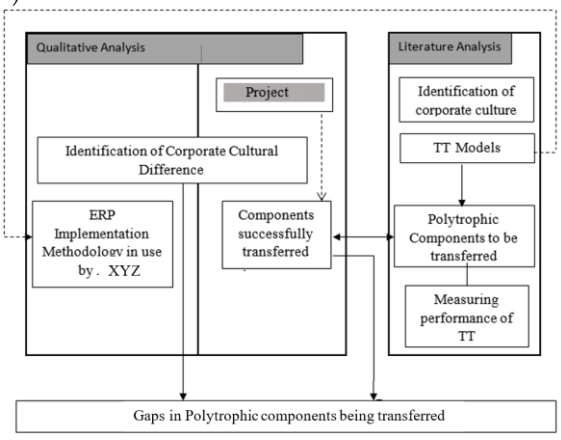

Figure 2 - Conceptual Indicator Model

In addition, the performance of technology transfer (TT) was identified by using the polytrophic components model introduced by Ramanathan [10] (refer Figure 3).

The authors used a survey, outlined in Table 1 to identify the status of these components transferred similar to the survey developed by Hemachandra & Jayawardane [16] to analyse the polytropic components transferred.

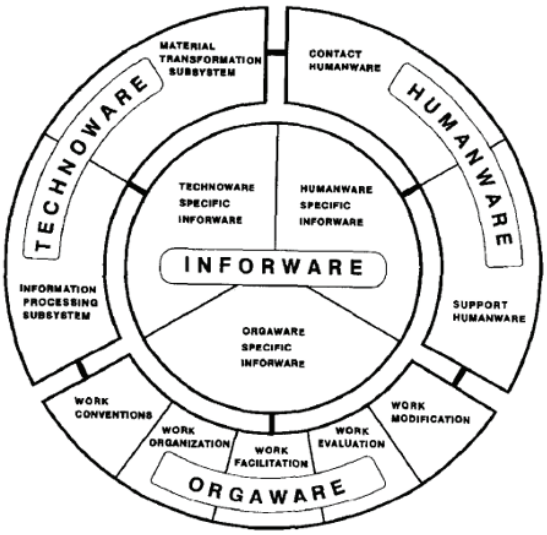

Figure 3 - Components of Technology Transfer (Ramanathan [10])

As per Anjum [17] and Bradley & Lee [18], user satisfaction is considered a significant measure in assessing the success of an ERP implementation. Hence, the analysis of the user satisfaction was considered as part of measuring the success of the project. Wu and Wang [19] developed a survey to understand the key-user satisfaction which contains measuring of ERP product performance. Their research identifies that the key-user satisfaction evaluation for ERP system is multifactorial as ERP product, contractor service, and knowledge and involvement. Proving the same, Kulathunga & Fernando [20] mention that the researchers can employ user satisfaction as a measure of system success in an ERP environment. Hence, a survey was developed (Refer Table 3) and distributed among 10 key-users of the PQR company who were closely involved in the project.

Subsequently, a qualitative analysis was carried out within the XYZ organization using the selected case study. This way, the Authors identified the cultural difference in XYZ organization and the PQR company (customer) involved within this project. The polytrophic technology components that had been successfully transferred within these projects were assessed, through which the gaps in the transferred components were identified to figure out the reasons for the gap, and to identify what influence the corporate culture had made on such performance.

Table 1 - Assessment of the Transferred Level of Technology Components

Component	Achievement level (high - 5 to low - 0)					
Techno-ware	**5**	**4**	**3**	**2**	**1**	**0**
Customized system as a whole: • Developing configurations • Customized ERP system						
Supporting tools for: • Maintenance • System upgrading • Training • Data Migration • Receival of system upgrades, corrections, and support						
Infrastructure support: • Production facilities • Communication network hardware • Non-production environment						
Remarks: I. The customer has a very complex infrastructure and not setup correctly II. Product recommendation for infrastructure setups (E.g., like load balancers) were not received III. Very slow responses from PQR maintenance support team. IV. The Maintenance support team not being very collaborative V. The customer's production is not maintained properly and there is no proper pre-prod environment						
Average total for techno-ware						
Human-ware						
• Training in system operation • Training for maintenance • Training in system modification and development • Skilled staff and competence build commitment by transferee • Learning from PQR super users						
Average total for human-ware						
Infor-ware						
Specifications: • Core product solution • Customisations and configurations built for PQR • Infrastructure and sizing guide • Functional and technical specifications						
Instructions • Operation instructions to perform upgrades and installations • Operating instructions to support developments • User manual for the PQR custom solution • Operating instructions for maintenance (system indexing, sizing guide, configuration best practices) • Instructions for troubleshooting guides						
Theoretical knowledge in core application functions and business function applications						
Average total for infor-ware						

2.7 Use of Stage Gate Model

Hemchandra & Jayawardane [16] have successfully used the Stage Gate model, originally used by Ramanathan [10], and subsequently modified by Jagoda and Ramanathan [21] to determine the success of technology transfer by analysing the following process.

	Activity
Stage 1	Identifying core value determinant enhancing technologies
Gate 1	Confirming identified technologies
Stage 2	Focused technology search
Gate 2	Project confirmation
Stage 3	Negotiation
Gate 3	Finalizing and approving agreement
Stage 4	Preparing a project implementation plan
Gate 4	Approving implementation plan
Stage 5	Implementing technology transfer
Gate 5	Implementation audit
Stage 6	Technology transfer impact assessment
Gate 6	Developing guidelines for new project

Figure 4 - Stage Gate activities (Ramanathan, [10])

The authors considered several stages and linked them with the challenges identified that had affected the ERP implementation project. The safeguards identified were incorporated into a stage gate model similar to that of Hemachandra and Jayawardane [16].

2.8 Data Analysis

The method adopted by the authors for data analysis was 'thematic analysis' which is a popular method of qualitative data analysis and known as a foundation to understand and venture into other qualitative data analysis techniques according to Barun and Clarke [22]. These authors had taken Attride [23] model of thematic network diagram to develop the themes, thereby speaking about first, second and third order themes. Through a method of clustering, authors mainly used manual coding and thematic analysis considering the closed group of interviews that were carried out during the study. The interview transcripts were written and analysed in finding data chunks that give meaningful and repetitive data and information, which then were formulated into shorter sentences formulating an organization of themes which had given more precise meanings. This had been made with interpretation of the authors as to what gives more meaning to the data chunks identified.

3. Data Analysis & Research Findings

Seventeen participants from both XYZ and PQR companies were taken for the interviews and surveys in understanding their perspective of how the project was handled and how they perceive the success of the project. They included XYZ Project Manager, PQR Project Manager, 5 XYZ Consultants, 5 PQR Consultants and 5 PQR Business users.

3.1 User Satisfaction

The analysis of user satisfaction was considered as part of measuring the success of the project. For which, the survey presented in Table 2 was distributed among 10 key-users of the PQR company who were closely involved with the project. The conclusion of above survey analysis was that the users are quite dissatisfied with the project and implemented solution within XYZ-PQR project. Table 2 shows a summary of the results where the authors summarised what was most indicated for each measurement.

Table 2 - Summary of user satisfaction survey

Measuring Component	Measuring instrument	Score (Satisfaction)			
		Highly satisfied	Good	Average	Not satisfied
ERP Product	Accuracy		✓		
	Reliability				✓
	Response time				✓
	System stability				✓
	System integrity			✓	
Contractor service	Domain knowledge of consultant/supplier	✓			
	Related experience of consultant/supplier	✓			
	Project management of consultant/supplier			✓	
	Technical competence of consultant/supplier	✓			
	Training				✓
	Maintenance and support from the support/supplier				✓
Knowledge and involvement	Feeling of user involvement			✓	
	System understanding			✓	

3.2 Analysis of Polytrophic Components Transferred

The survey referred in Table 1 and results shown in Table 3, were created for this study with inspiration by the survey developed by Hemachandra & Jayawardena [16], which was used to analyse the polytropic components which were transferred. A further modified survey (to fit components of ERP implementation) was used within XYZ and PQR users. Around 15 responses were received within a fair mix of senior developers, consultants, all key super users and project managers involved. There were no outliers observed in the responses, hence the average of the responses was taken.

Shown in Table 3 is the average summary taken in assessment of the transferred technology. According to the responses, the techno-ware components received seemed average. There seems no positive receival on human-ware and info-ware components as per the results. Hence, as per above analysis the transferring of the polytrophic components has not been very successful for different reasons discussed in the results.

Table 3 - Assessment of the Transferred Level of Technology Components

Component of technology	Average summary point
1. Techno-ware	3 – Medium level of transfer achievement is received of ERP system solution.
2. Human-ware	2- Low level of transfer
3. Infor-ware	2- Low level of transfer

3.3 Identification of Influenced Factors of the XYZ-PQR Project

Following themes displayed in Table 4 were identified through 'themes clustering' approach by analysing the first order themes/data extracted from the interviews. The authors used 'inductive approach' in formulating the themes that was also described by Alhojailan [24] where meanings were retrieved from data to create themes without any notions and set idea of what themes the authors want to see.

Table 4 - Themes clustering

Organizing Themes	Major Themes
Project Scope & presales team promises	Contract governance
XYZ ownership of customer	
Gaps in Contract	
Customer responsibilities & poor internal governance within PQR	Transferee's adaptability
Managing expectations	Transferor and transferee motivation
PQR aggressive attitude and less collaborative nature	
Unclear project goals and governance and XYZ intentions	Transferor and transferee motivation/ Contract governance
Changing requirements and PQR demanding nature	
Teams' composition	Teams' composition and collaboration

The data analysis concluded that the project was not a successful one due to the high dissatisfaction the users projected, less scalability of system, performance issues users faced and failure in transferee's adaptability. This is also evident when the remarks were analysed on the status of technology transfer components human-ware (people factor), Orgaware (system developed), infor-ware (documentations) which were not up to the satisfactory level in retrospection. The most influential factors affected the performance of the project were,

- Contract governance
- Transferee's adaptability
- Teams' composition and collaboration
- Transferee and transferor motivation

3.4 Identification of Organizational Culture

The Organizational Culture Assessment Instrument (OCAI) model was used to figure out the organizational culture of both XYZ (Transferor) and PQR (Transferee) organizations.

The organizational culture of XYZ was identified as a mix of Clan and Adhocracy culture where it reflects more collaborative, supportive nature whereas PQR was identified as a core hierarchical and market culture that reflects assertive and demanding culture. These cultural dimensions are mapped to the cultural components which affect most of software development projects as realized in the past literature that are shown in Table 5.

Table 5 - Summary of Culture Dimension map

Culture Components of PQR and XYZ	Culture Components that affect software development projects	Influential factors observed
Coordination & performance monitoring, Collaborativeness	Team orientation	Transferee's adaptability, Teams' composition, and collaboration
Policy and rule enforcement, flexibility, creative and entrepreneurial nature, leadership, employee empowerment, Teamwork	Innovativeness and risk	Transferee and transferor motivation
Core values, decision making, leadership	Good attitude of aggressiveness	Contract Governance. Teams' composition, and collaboration

Upon above analysis, there seems a bigger mismatch of cultural differences in PQR and XYZ companies. Logically, the characteristics showcased through PQR culture emphasized negative aspects to the dimensions that could aid successful software development projects, whereas overall the XYZ company (ERP vendor) projects more positive vibe into these dimensions through its culture.

4. Research Results and Discussion

According to the data analysis carried out, it was identified that the solution built had led to dissatisfaction of the users which implied an

unsuccessful ERP implementation project. Research findings revealed that technology transfer has not been very successful in terms of techno-ware, Info-ware and human-ware that was transferred.

A deeper review of the issues indicated that the following are the key organisation culture aspects which led to unsuccessful technology transfer which are detailed in Section 4.1,

- Teams' composition, collaboration and attitude
- Innovativeness and risk taking
- Contract governance
- Transferee's adaptability and capability
- Transferee and transferor motivation

4.1 Effect of Organizational Culture

There were major mismatches seen within XYZ organizational culture and the PQR culture as shown in Table 5.

4.1.1 Teams' Composition, Collaboration, and Attitude

As discussed, there has been a challenge in retrieving the experts from XYZ organization to retain in the project continuously due to the dragged timeline of the project. However, the team composition of PQR also had not been very desirable as they lacked skills and the technical knowledge needed to adopt the new solution developed. Furthermore, the PQR team had not actively engaged in learning the solution since they had demanded the project team to be in support even for few months after the system went live.

There have been staff terminations made within PQR due to less skilled employees, which indicate more of an issue of hierarchical culture of PQR. Despite this, the team composition was found to be not effectively aligned to organizational culture. This affects the human-ware components of the transfer, as the collaboration factor plays a vital role in how the organizations put their culture into play. Although XYZ demonstrates a more collaborative, ready to support, ready to compromise nature with their Clan and Adhocracy culture, PQR demonstrates more aggressive, fast phased, do it somehow and assertive and demanding culture that has been groomed in achieving their business goals by being more hierarchical and market oriented.

4.1.2 Innovativeness and Risk Taking

The innovativeness dimension is similar in both the companies' cultural aspects. However, the risk-taking factor is more in XYZ due to more flexibility and empowerment given to the employees by the management, whereas PQR lacks the risk-taking willingness that comes due to the rigidness in their rules, policies, and management style of being authoritative and micromanaging nature.

These observations were evidently linked with the cultural characteristics that were analysed within XYZ and PQR, where XYZ projected characteristics with more collaborative, good attitude of aggressiveness and more innovative and risk taking whereas PQR projects a lower scale in these characteristics which conclude the observations made for the lack of collaborative nature within the two teams due to the culture gap.

4.1.3 Contract Governance

The compromises made by XYZ company on contract negotiation, had later led to challenges in the implementation of the project how the organizational culture affects the practices, policies, and beliefs by the transferor. For example, there were many loopholes in defining the scope to the decisions taken on user training and modifications to documentation. The XYZ project had taken it lightly the demanding nature of PQR, hence the contract statements were not precisely focused. This had led to the PQR company taking advantages and pushing XYZ project team in delivering service and modifications that are not cleared in the contract. This again is an observation of PQR's market oriented and XYZ clan culture practices and beliefs.

4.1.4 Transferee's Adaptability and Capability

The adaptability and capability of the transferee solely depend on the knowledge and competence reside within the users, technical teams within PQR company which has no influence by the organizational culture either of the XYZ and the PQR. This reflects poor management of training transferring from XYZ project to PQR team and the resilient and less effort reflected from PQR in learning the new solution. This is a less commitment factor influenced to the project errands.

4.1.5 Transferee and Transferor Motivation

The transferee and transferor motivation do reflect what authors observed by the organizational culture identified from the OCAI model. The disconnect of the motivation happens where XYZ project focus was only in

winning the project from other vendors and keeping PQR customer as a referenceable customer somehow. This had eliminated the focus which should have been on the stability of the system and delivery of more scalable solution. XYZ management had agreed to every possible demand of PQR just to focus on project closure and keeping the customer in the project until end whereas PQR was more focused on delivering the promise they have made to the business users of promoting further regional go lives and a better system than their legacy, also keeping some manual work intact to safeguard the chaos from majority of the technical team. The link to the organizational culture comes in how the two companies handled the situations. Cleary, PQR company held upper hand who could project its demanding, market oriented and assertive nature in full force to push XYZ company for making compromises – which they went ahead and did, that projects the more collaborative and supportive nature.

4.2 User Satisfaction

As had conversed earlier, user satisfaction was considered a substantial measure in identifying the success of current implementation project. In XYZ-PQR project, the user satisfaction was very low as per the responses received by both PQR and XYZ respondents as per the observations made after the go live happened.

The influences or what led to this dissatisfaction are what were observed in four main themes discussed earlier (see Table 4) where the authors recommend that such projects should be addressed with following safeguards stated to ensure success of ERP implementation – discussed in the lessons learnt.

4.3 Safeguards to Ensure Success of ERP Implementation Using XYZ ERP Case Study

By analysing the influences observed in the XYZ ERP project, the following is a discussion in identifying potential safeguards to mitigate the negative effect.

Table 6 (inspired by Stage Gate model of Jagoda and Ramanathan, [21]) presents the safeguards the XYZ project can review and apply to their implementation methodology. All the steps are in sequential order, except for Step 4. Step 4 of 'evaluating new requirements' should be a recurring process happening throughout the project implementation.

5. Conclusions

The analysis of the research concluded that the ERP implementation project of XYZ and PQR can be stated as an unsuccessful project due to the main factor being user's dissatisfaction, less scalability of the system contributing to more performance issues and less capability of the transferee to adopt to the new solution which is mainly driven by the mismatch of organisation culture factors.

The most influential culture factors of the success of ERP implementation (based on XYZ-PQR case study) were,

- Teams' composition, collaboration and attitude
- Innovativeness and risk taking
- Contract governance
- Transferee's adaptability and capability
- Transferee and transferor motivation

Considering the two different organizational cultures and their culture characteristics observed from OCAI model with mapping to the derived influential factors of implementation success, the analysis positively reflects that the organizational culture plays a vital role in meeting success within factors on team collaboration, Contract governance and transferee and transferee motivation. Hence, the safeguarding measures were introduced as referred to in Table 6.

5.1 Key Learning Points for PQR Organization

It is common that the companies which typically implement ERP applications are companies that have the interest to grow and take their businesses a few steps further ahead with the intention of gaining competitive advantage in the industry. Hence, typically this showcases organizations that blend with 'market' culture similar to the PQR organization. However, as per the current study, the PQR organization's mix of hierarchy and market culture brings out more of assertive and demanding nature and the higher degree of negative aggressiveness. Therefore, to minimize the effect of these attributes, the following learning points could be provided on PQR.

Table 6 - Stage Gate Proposed for XYZ

	Activity	**Responsible**	**Remarks**
Stage 1	Project initiation and identifying core value determining	Steering Committee, presales, supplier project manager, supplier project solution architect, customer management, customer solution architect	This could overcome the main fault happened in projecting false promises and expectations by presales and overcome the discrepancies within what is technically possible and balancing the discussion upon the project selling and setting reliable expectations.
Gate 1	Confirming identified technologies		
Stage 2	Contract governance and negotiation	Supplier's customer responsible and service owner from customer	This will eliminate all gaps within the contract and provide opportunity for both parties to suggest amendments and mutual agree before the project starts. Further, it is an important step to follow Stage 1, as it provides realization of aligning the contract within the requirements and focused areas discussed in Stage 1 and to back them with a contract.
Gate 2	Pre reading of the project and support contracts and amendments, Finalizing, and approving plan		
Stage 3	Approving implementation plan	Customer and supplier project managers, customer and supplier solution architects and technical leads.	The XYZ company has a leading role in this stage, where it needs to voice and guide the customer in aligning the customer's team with appropriate skilled resources.
Gate 3	Preparing project implementation plan and team composition – project initiation		
Stage 4	Evaluating new requirements	Supplier solution architect (SA), supplier project manager (PM), customer SA, customer PM, supplier customer responsible, customer service owner	This is not a sequential process, rather the evaluation of new requirements gathering should be a recurring process as the project unfolds. It is of highest importance for XYZ to check for feasibility in new requirements and to document them for future reference in terms of solution scalability and to provide workable timeline planning.
Gate 4	Implementing technical audit team together with management participation as third view		
Stage 5	Implementing technology transfer	Supplier and customer project managers, steering committee	The current project had used the 'on the job' training method, but XYZ had failed to monitor the receival of knowledge by PQR. Hence, it is important in setting up an audit to monitor the status of knowledge transfer and to focus the responsibility for customer's end as well. Hence, the attendance of steering committee from both teams are important. The duration for such conduct may differ upon the timelines of the project.
Gate 5	Implementation audit and evaluation knowledge transfers		

- Having an open mind in the initial goals and requirements observed during the start of the project. This could lead to having a space in gaining optimum support from the expertise of vendor companies.
- Promoting a more supportive partnership towards the vendor companies which contributes with an equal responsibility of providing vital details for building the solution and fixing solution issues.
- Being cautious in freezing the expectations for the business user, as when ERP project unfolds, so does the requirements and proposed solutions may change. Hence, keeping space to communicate changes is important in aligning the business users to the change journey.
- Aligning to the sole purpose of implementing an ERP, which is shifting from legacy systems, processes, and manual work. Hence it is necessary to have a focused objective to do changes in business processes if needs to, without focusing on changing solution 100% to fit the current processes.

5.2 Further Research Opportunities

This research did not include a safeguarding measure to eliminate the gap in transferor and transferee motivation, hence could be an opportunity to further research.

It was realized, in XYZ-PQR project, that most of the challenges XYZ team faced were due to the fact that they had to compromise a lot to meet demands of the PQR company. As PQR had a greater power in this play and held the upper hand, authors see further opportunities in researching how the power play within transferee and transferor can be balanced for a successful project and decision making.

It was noted that the XYZ had incurred 'on the job' training method for knowledge transfer, but this has not been very successful. Hence, further research can be done to study if this is a common factor for such projects. The study can also be further extended to figure if the cultural components that were observed give a general view for most of ERP implementation projects.

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