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WHY ERP IMPLEMENTATIONS FAIL – A GROUNDED RESEARCH STUDY

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ABSTRACT

Aim/Purpose	A grounded research study to understand ERP implementation failure. This study was done in a United Nations agency.
Background	An organization mid-size ERP system (AGRESSO) was implemented over a period of 6 years in a United Nations agency, under conditions of political pressures and limited budget.
Methodology	Observations and quasi-structured interview method was used to collect the data.
Contribution	ERP implementation success is still difficult to frame. This study looks at this problem in terms of the causes of failure. Moreover, ERP research studies are relatively few and dispersed, especially for the UN context – which to our knowledge has not been published.
Findings	The major finding is that the political nature of the UN fosters a hierarchical culture that is detrimental for Information Systems implementation in general, excluding the end-user from the functional requirements engineering process. There seems to be a lack of vision and strategic direction for ERP implementation in the UN. The context of the UN makes the strategic direction the more difficult of formulate and implement.
Recommendations for Practitioners	For the UN, a cultural paradigm shift is necessary whereby the end-user must be included in any information systems development and implementation initiative. End-user development (although not a new approach) needs to be adopted for the UN.

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Recommendation for Researchers	Information systems development and deployment studies for the UN should take front stage as it represents an underlying stream of high complexity on all research in the field. Understanding ERP implementation in the UN has the potential to enhance its success in all other industries.
Impact on Society	Any progress of the UN impacts positively the whole world since 193 countries are members of the UN. As such, ERP implementation is primarily about increasing operational efficiencies, it and promises transparency with regards to the member states financial contributions.
Future Research	More ERP implementation studies on the different types of UN organizations. Also studies that address appropriate ERP systems for the various types of UN organization do not exist. The UN provides many research opportunities as it is hardly being studied.
Keywords	ERP, United Nations, implementation, success factors

INTRODUCTION

Enterprise Resource Planning (ERP) refers to organization-wide integrated information systems that are used to improve process efficiency and effectiveness by capturing real time transactional data and thus, providing accurate, timely, and consolidated data to inform managers for better decisions. The need of an open and efficient horizontal and vertical flow of information between the company, its suppliers, distributors, customers, and staff has been a primary driver to implement ERP systems in general (Shang & Seddon, 2000). Moreover, the need for business process re-engineering has resulted from an ever increasing competitive and shifting environment that is plagued with a highly customization requirements leading to delays in supply such that production challenges have resulted in loss of financial resources, organizational intelligence, and consequently competitive advantage. Umble, Haft, and Umble (2003) elaborate on the benefits of ERP to "provide information about all the functions of an enterprise by a single system which provides an enterprise wide view of the company". ERP helps in informing for better decision making and projecting a strategy for the future. Some of the more critical departments and functions influenced by the implementation of an ERP system are finance, human resources, operations, logistics, sales, and marketing.

ERP implementation has the promise to solve the challenges pertaining to efficiency of business processes and can result in streamlining the organizations processes leading to savings in terms of money and time (Shang & Seddon, 2000). However, it is not an easy task to implement an ERP system successfully, and it is noticed that a lot of companies reported earlier have failed at their ERP implementation (Al-Mashari & Al-Mudimigh, 2003; Xue, Liang, Boulton & Snyder, 2005). This trend continues even today with no better information on reducing risks of failure. Companies today continue to have costly or delayed implementations and their ERP strategy keeps revolving around correcting the issues related to the implementation which leads to no progress towards the ERP strategy (Chang., 2004). Chang (2004) calculated that, in 2004, 90% of ERP implementations are delivered late or are over budget, and enterprise initiatives show a 67% fail rate in achieving corporate goals and are considered negative or unsuccessful.

This has improved organically over the years as organizations are increasingly becoming aware of the factors that tend to lead to the failure of ERP implementation. The Panorama Report (Panorama Consulting Solutions, 2013) reports that on an average between 2008 and 2012 53% of the ERP implementations have been delivered late and 58% of the implementations have gone over budget. Also, around 58% of the implementations realized less than 50% of their corporate goals. There have been various issues identified as the reasons for the failure of these projects. In spite of having a low success rate in these organizations, there is a lot of research (Motwani, Subramanian, & Gopalakrishna, 2005; Shanks et.al, 2000; Soh, Kien Sia, Fong Boh, & Tang, 2003) being done to find the critical

success factors for a successful implementation. There have been studies identifying the factors required for successful ERP implementation at private firms, public firms and multi-national firms.

Table 1 below presents a summary of the dimensions to success/failure of ERP implementation.

Table 1. History of Critical Success Factors

Authors	Year	Contribution
Daniel	1961	Research initiated
Rockart	1979	Defined what is critical success factors
Thierauf	1982	Results should be adequate to ensure success
Rockart	1979	CSFs are used for strategy implementation
Leidecker & Bruno *Pinto & Slevin*	1984 1987	Definition of CSF
Rockart & Bullen	1986	5 sources of CSFs 1. Industry 2. Competitive strategy and positioning of the organization 3. Environmental factors 4. Temporal factors facing the organization 5. Specific to each manager
Peffers & Gengler	1998	Limitations of CSFs 1. Lack theoretical basis 2. No accepted procedure for its application 3. Ad-hoc applications may result in biased results
Peffers, Gengler & Tuunanen	2003	CSF's can be used to justify investment in IS systems as their benefits are hard to quantify

SUCCESS (OR FAILURE?) FACTORS OF ERP IMPLEMENTATION

Most of the research done in ERP implementation uses theoretical frameworks with the aim to provide a model that can capture variations in ERP implementation. Some researchers (Wagner & Monk, 2008; Zhang, Lee, Zhang, & Banerjee, 2003) attempted to either measure or develop evaluation criteria for success and failure of an ERP implementation. There is no model to our knowledge which can define the success or failure. What does exist is a diverse set of loose measures adopted to assess the notion of success or failure.

Martin and Huq (2007) performed a study focused on the importance of cultural and environmental context factors. They mentioned that top management could improve employee's attitude towards ERP implementation by modifying the environmental context. They mentioned that there are measures that can be taken internally within an organization by top management to understand and accept the change to a new ERP. These measures include delegating some involvement to other personnel, sharing facts and information about the importance of adopting ERP system for the organization's success, and the organizational goals that need to be changed to complement the new organizational culture. Top management should stay pro-active in making strategic changes and take these actions during the pre-implementation stage, resulting in lower resistance due to the change among the employees (Martin & Huq, 2007).

When it comes to the United Nations, the environment and culture is characterized by high bureaucracy and politics where decisions are driven by more than one motive to improving efficiency. In such a context, lack of or weak senior management involvement and support with a unified vision becomes important and relevant challenges to manage as an ERP implementation factor for failure.

Table 2 presents the division of critical success factors into the stages that we define here after consolidation from the literature. It is important to note that we do not imply through the table that these are only a part of the stages by categorizing them. It means that the maximum prominence of the factors is during these stages of the ERP implementation. 52 critical success factors were identified through the extensive literature review of the articles.

Table 2. Factors and ERP Implementation Stages

Organizational state	Requirements gathering	Technical solutions	Project implementation	Post implementation usage
Culture	Knowledge capacity	Data integration	Cross functional employees & team management	Documentation
Support	Network relationship	Data accuracy	Communication strategy	User feedback
Structural changes	Outsourcing IT	Quality management	Comprehensiveness of strategy	Effective use of ERP
Readiness	Customization	Risk management	Morale of team	Harmonized modelling
Empowered decision makers	Legacy systems	Data migration plan	Process discipline	Results measurement
Social	ERP selection & vendor	BPR&M	Clear and measurable goals	Focussed performance measures
IT infrastructure	Cost & Planning		Co-ordinated analysis	Performance evaluation
Stakeholder commitment	Alignment		Benchmarking	Post implementation audit
Flexibility	Client informing		Contingency plans	
	Partnership		Timing of GO-LIVE	

METHODOLOGY

CONTEXT OF STUDY

Various UN agencies have adopted an ERP system during the last decade (SAP and Oracle) which required a big investment. This did result in improved efficiency by introducing processes as per best practices in industry (Callejas & Terzi, 2008). The organizational culture of the UN agency studied can be characterized as a political and bureaucratic culture as there are a lot of factors which impact all decisions. According to Wallach (1983), bureaucratic cultures have clear lines of responsibility and authority and work is highly organized, compartmentalized, and systematic. Senior management informing practices and authority flows are hierarchical and based on control and power. Overall, bureaucratic companies tend to be mature, stable, and relatively cautious. Information sharing in such organizations is dependent on the mentality of the employees and the type of data involved.

The UN agency that was the subject of the present study had a culture where, most of the time, delays in decision making and expected results are explained in terms of "due to the process" which refers to high procedural orientation. In this context, it was expected from top management that the ERP implementation would change the way things worked. The ERP implementation was expected to break the silo-based culture and provide transparency across the various functional units. Howev-

er, there is the general perception considering the organizational culture of the UN agency under study that it would hinder the maximum achievement of the benefits from the ERP system, mainly due to the lack of power of some of the involved units and the anti-data sharing mentality of a lot of employees. There is a lot of emphasis on ownership of the data in the organization and employees are not willing to share it as they believe it would result in the loss of their power. So, it becomes an interesting case study to see how the various critical success factors identified in the previous section impacted the ERP implementation at this organization. The next section briefly discusses the information technology context of the UN agency under study.

GROUNDED RESEARCH APPROACH

Grounded research emphasises on the concepts of observing phenomena to make conclusions. Strauss and Corbin (1990) stated that phenomena are "the central ideas in data represented as concepts". According to their account, the purpose behind naming phenomena is to enable researchers to group similar events, happenings, and objects under a common heading or classification. The phenomenon addressed in this study is the implementation of an ERP system in a specialized agency of United Nations. It is important to pursue grounded theory research as it is one of the prominent methods to measure critical success factors. Most of the analysis in the grounded research is through the business documents and observations.

The grounded research was done over a period of six months. The focus of the grounded research was primarily observing and studying available documents created and maintained over a period of seven years from the start of the ERP implementation at the organization to the current date. The important data was analysed, and it served as the basis of understanding of the entire phenomenon over the seven years of ERP implementation. Furthermore, the observations were made by regular meetings with top management and project team on a daily basis. This also confirmed the authenticity of the documents and the validated the data read from the documents. Due to agreement of confidentiality, we cannot write the names of the original documents but a total of 15 types of business documents were read, which involved the criteria of ERP selection, project management, communication strategy, change management plan, risk assessment, strategic objectives, business plan, and other ERP implementation related documents.

OBSERVATIONS AND DISCUSSION

The one primary factor that distinguishes any initiative at the United Nations from that at any other industry is the environment which is characterized by political and international forces at United Nations. Every decision taken at the agency level has to go through the consent of a lot of political forces and, hence, it becomes equally important to package the product in a way that receives the least amount of resistance from the stakeholders. Our first analysis was done around the environment context of this agency and how it impacted the ERP implementation.

According to the observed participants, the continuous support of the top management was exercised specifically by the director of the agency. It was she who participated more actively in the ERP implementation process, mainly after the initial deviation from the first project plan. All the senior members of the agency from different impacted bureaus were involved in the ERP implementation as well. However, most of the decision making and knowledge management was in the control of the project managers that were leading the ERP implementation.

According to some interviewees, at that time, top management in general played a more political action than a management one, which complicated decision-making processes. Some interviewed actors think that top management should have had more authority during the ERP project in order to realize and cater to the organizational changes that were coming with such a highly impactful project.

The size and structure of the UN agency was well defined, and the high levels of management autonomy from the organizational units clashed with the transversal and integrative nature of a solution like an ERP system. At the beginning of the project, some organizational unit managers were resistant to the required commitment for change. This was especially true with a lot of employees who had been working in the agency for a long time. It was required that a carefully organized change management campaign would result in communicating the true benefits of the ERP system and make them realize the value obtained by it. This would have brought all the employees on the same page and removed all their uncertainties surrounding the ERP implementation.

The scope of the ERP implementation at this UN agency was continuously changing and growing from the initial plan. This resulted in a lot of concerns among departments that were not expecting the arrival of an ERP that would change the way they had been working for a lot of years. There could have been a better change management plan, communication methodology, and a strategy. Instead, the project team was in a reactive mode to changing requirements and scope even though they improved over time in the way they were handling this. The grounded research resulted in a list of critical factors. Table 3 (Factor studied and their rating. The rating system consist in a scale from 1 to 5, being a rating of 1 = "Highly inappropriate", and a rating of 5 = "Highly appropriate") presents the ratings of each factor from observations, meetings, and documentation available in the organization.

Table 3. Rating of each factor through grounded research

Failure Factors studied	**Rating**
Weak top management support	4
No or minimal ERP customization	4
Testing Plan not comprehensive	3
Inadequate training	3
Not taking opportunity of business Process re-engineering	3
Lack of change management strategy	2
Not addressing readiness of employees	2
Changing scope & reactive management	2
Contextually weak project manager	2
Project Plan/Schedule	2
Weak implementation strategy	2
Leaving user involvement till the end	1
No communication strategy	1

Based on the project documents and having meetings with employees with different positions in the organization, we identified the main reasons to adopt the ERP system initially for financial services:

1. Obsolete Legacy systems. The back office financial systems were technologically obsolete and their maintenance was difficult. The system posed an unacceptable business risk as identified in the business case.
2. Integration issues: The legacy systems were not linked to other systems which resulted in low efficiency. It resulted in multiple data entry, inaccurate information, and inefficient processing.
3. Compliance with International Public Sector Accounting Standards: It was important to significantly modify the financial systems in order to provide the functionality to fully comply

with standards. It was believed that investing in modern systems would facilitate the application of accounting standards adopted by UN.

4. Lack of financial information to management and stakeholders: The United Nations was moving to a performance based and decision making management and the current system was not able to provide adequate, timely, and accurate financial information. It was difficult to compile the management information and to ensure that manual validations are not required which consume a lot of time, it was important to switch to modern systems.

A separate comprehensive interview with the ERP development project manager was conducted. This interview took the form of a historical account over 6 years starting with the reasons for the development of an ERP system and ending with an assessment by the project manager of the ERP present situation, according to his perception. Going over the historical account is outside the scope of this article; however, we can conclude that the majority of end-users, including council members, are unhappy with the outcome and the state of the ERP today. Therefore, we will consider that the ERP implementation was a failure. Table 4 reproduces Table 3 but highlights in bold the 7 most significant failure factors that were observed.

Table 4. Factors and ERP Implementation Stages

Organizational state	Requirements gathering	Technical solutions	Project implementation	Post implementation usage
Culture	Knowledge capacity	Data integration	Cross functional employees & team management	Documentation
Support	Network relationship	Data accuracy	**Communication strategy**	User feedback
Structural changes	Outsourcing IT	Quality management	Comprehensiveness of strategy	Effective use of ERP
Readiness	Customization	Risk management	Morale of team	**Harmonized modelling**
Empowered decision makers	Legacy systems	Data migration plan	Process discipline	Results measurement
Social	ERP selection & vendor	**BPR**	Clear and measurable goals	Focussed performance measures
IT infrastructure	Cost & Planning		Co-ordinated analysis	Performance evaluation
Stakeholder commitment	**Alignment**		Benchmarking	Post implementation audit
Flexibility	**Client informing**		Contingency plans	
	Partnership		Timing of GO-LIVE	

CONCLUSIONS

The present study entails the factors that contribute to the failure of ERP system implementation. The primary purpose of this article is to report on those factors obtained through observations, review of documents, and interviews. The study was based on the grounded research approach applied to a United Nations type of organization context. Via this grounded research approach, we investi-

gated the factors and relevant relationships. Semi-structured interviews were used to collect information, conducted over a period of 6 months with the aim to understand the implementation that took over 6 years. The major contribution of this article are the following: (1) Investigation ERP implementation in United Nations context, and (2) Identification of 7 factors that contribute to failure of an ERP implementation; failure being defined as majority of stakeholders unhappy with the system in terms of doing what a typical ERP system is expected to do. This definition may be viewed differently if the challenging political context of the UN is considered.

We acknowledge that the analysis of the data presented herein is preliminary to substantiate any conclusions for what causes failure to ERP implementation in the UN, however the purpose of this study is to pave the way and reveal directions for future research. This study advocates the important need to do more research on the UN and its agencies with the purpose to support and facilitate their evolution into the digital and complex new world.

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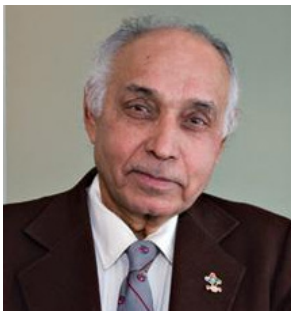

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