Managing Successful IT Project; Marketing Perspective

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Abstract: - With increasing pressure on user and market perspectives importance to play a crucial role in the Information Technology (IT) projects success, this study investigates based on theoretical reviews, how the concept of user acceptance, expectation, and finally marketing perspective are made manifest within the context of demand-oriented markets. Comprehensive and in-depth literature review concomitantly performed. This study identifies the emergence of schizophrenic divide between spheres within the IT projects management processes that the significance of end-users is underestimated. This conceptual split has the potential to cause widespread disharmony among IT project managers and impede progress toward achievement of successful IT projects. However, the majority of IT projects tend to fail, reportedly.

Key-Words: - IT Project, Success/Failure Factors, Risk Mitigation, User Acceptance, User Expectation, and Marketing

1 Introduction

As it is perceived, nowadays in this competitive project-oriented glob, majority of organizations are committed for capturing market and doing projects profitably. A great deal of resources is spent on software projects that fail to deliver useful functionality. Therefore, unsuccessful project concepts statistically identified the proportion of started and then cancelled projects, sometimes termed "aborted "or "abandoned" projects, is reported to be 9% [1] 11% [2] and 11.5% [3]. The frequently cited [4], for example, claims that as many as 31% of all software projects get cancelled. The low reliability of that report is discussed in [5, 6]. While the cancellation rates described in the Standish Group Chaos Reports and similar on-peer reviewed surveys are likely to be exaggerated, there is no doubt that the proportion of cancelled projects is substantial.

Central to information technology projects failure is the question of why do software developments projects fail. This question has preoccupied the minds of both researchers and practitioners. Although software has been successfully applied in different spheres, failure is an inherent part of software development projects [7]. Moreover, [8] posed a question that whether we have learned enough to ensure that our software development projects are successful. Unquestionably, software projects are fraught with risks, with many risks common to nearly all projects, therefore, risks that appear most often on software projects is identified [9].

As it has been accepted, project managers have little to almost no control over approximately most of the projects. Therefore, three risk factors identified by each of the Delphi panels are within the software project manager's control: failure to manage end user expectations, misunderstanding requirements, and insufficient/inappropriate staffing [9]. Additionally, marketing of IT projects from user points of view is of central importance in the information system, software projects[10].

[11] defined user expectations as ''a set of beliefs held by the targeted users of an information system associated with the eventual performance of the IS and with their performance using the system". Furthermore, the importance of managing user expectations is defined as ''the actions a project manager performs to ensure that the assumptions held by the user for a software project are realistic and consistent with the software deliverable promised by the project team" [12]. It seems certain that lots of researches have been conducted regarding IT projects failure reasons. But, these expectations ''must be correctly identified and constantly reinforced in order to avoid failure". According to tremendous rate of failure the definition of a failed project in software surveys typically includes both cancelled projects and projects completed with a very poor product or process quality. Moreover, this definition led to a failure rate of more than twice the cancellation rate for the same set of projects, i.e., a failure rate of

26% for the data set reporting a cancellation rate of 11.5%. Defining every project that does not deliver the specified product, is over budget, or is not on time as a failure, as is the case in several reports, typically amounts to 50–80% of all software projects being failures. For an overview of software failure surveys see [13].

Needless to say that, before any software development project can be determined to have succeeded or failed, some standards should be agreed upon. Therefore, In order to support software development the ISO (International Organization for Standardization) and the IEC (International Electro technical Commission) have jointly developed various standards, and defined project as "an endeavour with defined start and finish dates Undertaken to create a product or service in accordance with specified resources and requirements" [14]. The most common combination of criteria used to measure the success of a project concerns meeting time, cost, functionality and quality goals [7, 15-20]. However, [21] question these criteria. They argue that based on their literature review, using traditional project success criteria such as time, budget and requirements easily leads to the conclusion that a software development project has failed and also they stated that schedule and costs are not permanent during the course of a software development project. Therefore, suggest a definition with additional aspects that define project success [22] as well as take into account the individual stakeholder's opinion of project success [23, 24].

There is empirical evidence that the same problem in software projects was discussed by [25] almost one decade earlier. Moreover, according to [25], most software are not made by the people who will develop the software or by their managers but by either upper management or marketing.

Several studies suggest that not only a skilled provider, but also a skilled client is essential in avoiding project failures [26]. As failure rate of projects may consider based on either countries or regions, a list of provider regions and failure rate of the projects within each regions is depicted in Table 1 [27].

Table 1. Geographical Regions with Dominant Countries

Region	There largest provider countries	Percentage of projects	Failure rate as provider	There largest client countries	Percentage of projects	Failure rate as client	Neighbor region
Africa	South Africa, Tunisia, Nigeria	0.55%	22%	South Africa, Botswana	0.48%	18%	Middle East
East Asia	Philippines, China, Indonesia	5.12%	15%	Singapore, Malaysia, Hong Kong	2.28%	21%	South Asia
Eastern Europe	Romania, Russia, Ukraine	28.80%	11%	Romania, Poland, Russia,	1.84%	17%	Western Europe
Latin America	Argentina , Brazil, Mexico	3.95%	12%	Brazil, Mexico, Puerto Rico	1.15%	17%	North America
Middle East	Egypt, Turkey, Israel	3.95%	15%	Turkey, Israel, Saudi Arabia	2.10%	20%	Africa
North America	United States, Canada	19.68%	15%	United States, Canada	62.2%	13%	Latin America
Oceania	Australia, Fiji, New Zealand	1.75%	12%	Australia, Fiji, New Zealand	5.99%	15%	None
South Asia	India, Pakistan, Bangladesh	27.04%	18%	India, Pakistan, Sri Lanka	2.05%	23%	East Asia
Western Europe	United Kingdom, Germany, Spain	9.13%	14%	United Kingdom, Germany, Netherland	21.88%	15%	Eastern Europe

There is no doubt that, client and supplier are two sides of the same coin. Therefore, we might assume that project management success maybe has the same value for both parties .but, the presented study research seeks to identify and provide insight into that that project success means different things to the customer and the supplier. Although de Wit noted over 20 years ago that the aim of the customer is to minimize the costs of the project whereas the aim of the supplier is to maximize the profit [28], a clear distinction between these different perspectives is not commonly made when

discussing software development project success or failure [29-31]. Additionally, the most important research that indicated the customer and the supplier may have different perceptions of risk, risk management, and project success is done by [32, 33]. Therefore, while the outsourcing literature has extensively discussed subjects related to software development acquisition from the customer's perspective Dibbern et al. (2004) and supplier's perspective [33-36]. Thus, we are going to solely focus on customer perspectives in terms of user acceptance and importance of marketing in IT projects. The aim of this study is investigating how user expectation in IT project success/failure is crucial from suppliers, customers, and IT project managers' point of view. The finding of our research will assist enthusiasts to gain access to extensive and organized information in order to recognize and understand that marketing of final product is of central importance in all information technology projects. Ultimately, we seek to engage readers interested in reflecting upon how the relationship between IT project failure and marketing considering user acceptance as well as expectation might be understood across different theoretical approaches. The results are pertinent to IT project managers, information system practitioners, and researchers in the field of management information system for the purpose of improving and strengthening their practices and policies in this area.

2 Theoretical Concepts

As it seems certain that in today's business environment, information technology is considered as a crucial source of competitive advantage [7]. Furthermore, regarding information technology's importance in all business spheres, organizational spending on IT applications is increasingly soaring and consequently become a dominant part of the capital budget in a wide range of organizations. Unquestionably, managing IT investment is considered as a challenging task for most IT managers, because the costs and benefits have been hard to quantify properly. Moreover, benefits as a function of technology are totally subject to change during short-lived IT projects [37].

The challenge of conceptualizing project failures significantly is illustrated in [38] where Barry Boehm asserts that not all projects cancelation should be considered as to be failures. Additionally, for example, there may be good reasons for well-managed project's cancelation if the project could not achieve what set out to do. In other case, a similar may a project is perceived as failure because it delivers something other than what originally specified or expected. Also, [39] argued that project failure is different from product failure. Ultimately, there may be differences in the failure of different project stakeholder's perception [23].

Theoretically, IT spheres have been verifying by majority of researchers in all aspects. Considerably, [40] identified project success is a more complicated concept than meeting time, cost, functionality, and quality goals. On the other hand, as [41] evaluated that the definition of software project success and failure from supplier's perspective is complex and there is confusion and inaccuracy in the term used.

The fact of the matter is that, the research on risk affecting IT development was first addressed in discussion about management information system importance and consequently, [42] identified eight risk factors against the proposed MIS implementation process. Therefore, this mapping suggests that all risk factors are related to the early phases of a computer-based system implementation process. Generally speaking, there was little progress on information technology development risk until [43] structured a detailed software risk management model and top ten source of risks. Furthermore, this model is completed by [44] introduced the mechanics of software engineering risk analysis (identification, estimation and evaluation) and management (planning, controlling and monitoring) in detail, to guide its application in software development projects as well as three primary causes of risk are: undercapitalization of resources, underperformance of resources, and lack of understanding of risk as it affects software acquisitions, development or application.

Significantly, [45, 46] showed that software risk exists within the process of developing the software, which includes the development process model, methods, techniques and/or the automation used to develop the product, and the product itself.

In spite of the problems with providing a prevalently accepted definition of project failures, there is little doubt that the number of projects which lead to failure are projects do not deliver anything, deliver a product later than expected, or deliver a product that is not useful at all for client that finally lead to not only indirect waste of project resources likely to be substantial, but also the indirect waste such as lost business opportunities [27].

Unnecessarily, the skill of provider and the quality of previous collaboration between client and the provider are inherently interrelated together and are essential for elaborating project failure [26, 39, 47-49]. Moreover, [50, 51] identified that the role of the

client is essential to explain project performance [52].
Accordingly, in this paper we are verifying the importance of customer satisfaction effects on cancelled or completed IT projects based on [27] that identified :

- The client may substantially reduce the risk of project failure by emphasizing good provider skills rather than low price.
- The best way of ensuring the selection of a skilled provider is to base the skills assessment on previous collaboration, or historical data about the failure rate of the provider from previous projects.
- A skilled client seems to be almost as important for avoiding project failure as a skilled provider.

Central to the importance of marketing IT products, client satisfaction as well as user acceptance in this service –oriented market is the question of how the software development projects is affected by continuous services. Reportedly, the ISO/IEC 12207 Systems and software engineering — Software life cycle processes standard, a project is "an endeavour with defined start and finish dates undertaken to create a product or service in accordance with specified resources and requirements" [14]. Additionally, [53] indicated that project work with such attributes as being unique, complex, non-routine, and on-time, within budget, resources, and performance specifications designed to meet customer needs. Particularly, the in-house projects has been verified in Chaos Reports or IT projects acquired by customers [54].
It has been conducted a research in Finland by [55] that identified, trust, power, and the dynamics of an information system outsourcing relationship between a university, the customer, and a supplier. One of the important issues taken into account by [55] is that the customer is buying and the supplier is selling. Moreover ,[56] established three classes of software development project success:

- Customer satisfaction [57]
- Short-term business success for the supplier[33, 55, 57, 58].
- Long-term business success for the supplier [33, 55, 57-59]

Accordingly, the criteria for project success are classified by [60] as is depicted in Table 2.
There is no doubt that user expectation has crucial impact on acceptance of IT project's final products. Thus, [12] identified that ''unrealistic expectations" as the third highest ranked project risk in a list of 27 risk factors derived from the literature. Additionally, the Project Management Institute has also stated that meeting user expectations is one of the primary criteria for project success [61, 62].

Table 2. Success Criteria [60]

Criteria for Project Success	Success Spheres
Meeting planning goals	Project management level
End-user benefits	User acceptance
Contractor benefits	Contractors level including: • Marketing perspective • Commercial success of the project • Potential future revenues

Success may be classified as both project success and product success. Specifically [63, 64] are stated that :project success is associated with the project management process including time, cost and functionality objectives and product success is directly related to the outcomes of the final product or software , measured by system, information quality, user satisfaction and finally net benefits. Frequently cited in literature reviews that failure to appropriately manage user expectations will affect both aspects of success.
Ultimately, [65] claimed that if user has improper assumptions about the features that will be delivered, then user may perceive that the functionality objectives related to project success have not been achieved and will lead to lower levels of product success as gauged by perceived system quality, perceived information quality and last but not least user satisfaction in all.
Continually, [66, 67] conducted superb research regarding Key risk areas associated with IT investments considering competition risk including strong competitor reactions that may prevent the firm from obtaining the expected outcome and management risk environment comprising acceptance by customers, vendors, and business partners arises from unanticipated changes in the industry or market as well as the application becomes obsolete due to introduction of new technology.
Marketing and information technology are two of the most important aspects of any business organization. Accordingly, most realistic problems are most complicated because many assets are not freely traded and a twin security may be not available in incomplete markets [68].

Unquestionably, any undertaking that involves creating a new product or process is fraught with peril, but IT projects regularly fail. In a study published by The Standish Group of over 50,000 IT projects between 1992 and 2004, only 29 percent could be classified as successes [69] Most project failures can be classified into one or more of the following categories:

- Failure to meet the approved schedule,
- Failure to achieve cost objectives, and
- Failure to provide the expected project scope.

These aspects of failure are often characteristics within the following four categories of failure, defined by [70] Correspondence failure: Systems design objectives or specifications not met.

- Process failure: System cannot be developed within the allocated budget or schedule.
- Interaction failure: User attitude, satisfaction, and frequency of use do not correspond to the level of system usage, i.e. the system is implemented out of necessity and without increased task performance.
- Expectation failure: System does not meet stakeholder requirements, expectations, or values.

Accordingly, [65] verified a meta-analysis on various preceding to user satisfaction of information systems and the relationship between user expectation and satisfaction significantly.
There is empirical evidence that the minority of researches have been conducting in this crucial part. Therefore, it is perceived that User satisfaction is a widely-used measure of product success and has a downstream affect on other important measures of information systems success, such as user, individual net benefits, and organizational benefits of an information system [64, 71, 72]. Based on this research, it seems certain that the role of information technology project managers in order to manage user expectation during the project is crucial. Furthermore, [10] categorized two stream of literature from marketing of final products in IT projects that have direct relevance to the phenomenon of managing user expectations such as expectation-confirmation theory considering the roles of expectations, perceived performance, disconfirmation, and finally satisfaction [10] and service quality comprising consumer's expectations and perceptions of a service.
It has been conducted an in-depth literature review of customer satisfaction that solely supports expectation-confirmation theory [73]. Additionally, the importance of setting appropriate expectations and meeting those expectations has been widely supported within the consumer marketing literature.
Based on literatures concept of service quality within the marketing literature constructs the consumer's expectations and perceptions of the service [74]. Examined the literature studying this concept within the marketing literature and identified that ''service quality perceptions result from a comparison of consumer expectations with actual service performance". A framework for managing user expectations identified [10] in terms of user perspectives:

- Successful tactics: listening to users and asking questions
- Less successful tactics : not communicating with users on the state of the project planning to ''outlast" a difficult user rather than working with them

Continually, regarding the outcome of software development projects [64] identified the common cause of software project failure as related factors comprehensively in Figure 1 particularly in terms of sales and costumer importance.
Their findings resulted in a theory indicating that the development and deployment of software systems is a multidimensional process where people and technology are interconnected [75]. Project management, user participation, user training, and change management. Furthermore, this list could be extended with the processes of sales [76], customers [76-79], end users involvement [80], contracting [81, 82], risk management [83-86], configuration management [84, 86-88], quality control [86-88] , software development [79, 89], software testing [88] and subcontractor management [76, 90] .
The process area categories expressing where the cause occurs are identified by [91] indicated that in terms of sales and requirement , the General characterization of the detected causes are requirements and input from customers. Moreover , the cause types expressing what the cause of the failure in terms of the environment is Existing product (Complex or badly implemented existing product), Resources & schedules (Wrong resources and schedules), tools (Missing or insufficient tools) and Customers & users (Customers' and users' expectations and need). Furthermore, unrealistic expectations of customers [77, 81, 83, 85] , lack of customer support when gathering the requirements [76, 77, 83, 85] , changing scope [17, 29, 77, 83, 85], scope creep [76], failure to specify appropriate

measures [81], and inadequate requirements [17, 76, 77, 81, 86], indicate that there are many improvement opportunities at the sales & requirements too [91].

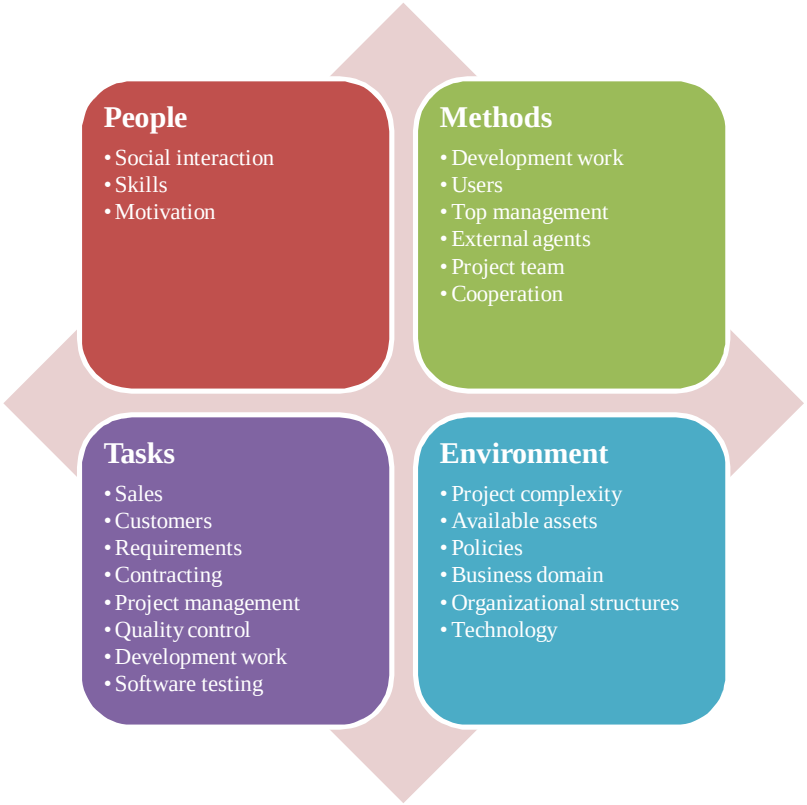

Fig 1. Summary of the Common Causes of Software Project Failures

3 Discussions

To examine the research idea, a comprehensive and in-depth theoretical review performed to put spotlight on the importance of user acceptance, user expectations and marketing of final IT project's product in order to help software, IT projects mangers to mange end-users expectations as well as acceptance. Information technology project managers worst fears were realized when they deal with user acceptance and expectation. We posed a question of "Do IT project managers consider users in the system requirements definition process, the system design process, and throughout the project's implementation and testing phases?" Accordingly, we argued based on literature that which factors should take into account in managing end-users expectations and acceptance. Moreover, examined the marketing literature identified that service quality perception and consumer expectations are interrelated to final products of IT project marketing.

Unquestionably, listening to users and asking questions are main successful tactics to manage end-users expectation. On the other hand, once system does not meet stake holder requirements, expectations, or values, therefore, the project will fail.

As it seems certain that, any ignorance of customer engagement, will lead to that the project deliverables likely will not meet the client's expectation. However, in complex IT projects, project managers do not live up to the client's expectation.

Consequently, we figure out theoretically that user involvement as well as considering their desired expectation is a key driver for success, especially in service-oriented projects. Additionally, it is unconditionally imperative that the customer, including end-user, should be proactively and reactively involved in all lifecycle phases of IT projects.

Regarding the marketing perspective in IT projects, project managers should actively consider that the project may satisfy every requirement, fulfill every acceptance test procedure and lastly final agreement of project manager. However, it might fail to put on the market because it could fail to pass the

ISBN: 978-1-61804-333-7

important test of user acceptance as the most powerful organism in the client's organization. As it is conducted lots of researches as well as has developed various models regarding management of user acceptance, we expect to see future research concentrating on factors are influential in end-user adoption for the purpose of increasing rate of project success comprehensively, especially in new technologies such as E-services and Web-based services.

Acknowledgement

This research has been prepared and supported by Research & Development Department of Ahoora Ltd | Management Consultation Group.

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