Factors Affecting the Successful Implementation of a Proprietary Software Product at Attune Technologies

A dissertation submitted in partial fulfillment of the requirements

For the award of

Post-Graduate Diploma in Health and Hospital Management

By

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May, 2013

Certificate of Internship Completion

Date: 23-04-13

TO WHOM IT MAY CONCERN

This is to certify that Dr. Ridhi Agarwal (PT) has successfully completed her 3 months internship in our organization from January 03, 2013 to April 03, 2013. During this intern she has worked on Factors Affecting the Successful Implementation of a Proprietary Software Product at Attune Technologies under the guidance of me and my team at Attune Technologies.

We wish him/her good luck for his/her future assignments

(Signature)

ATTUNE TECHNOLOGIES PVT LTD. CHENNAI-32

Certificate of Approval

The following dissertation titled " **Factors Affecting The Successful Implementation Of A Proprietary Software Product At Attune Technologies** " is hereby approved as a certified study in management carried out and presented in a manner satisfactory to warrant its acceptance as a prerequisite for the award of **Post- Graduate Diploma in Health and Hospital Management** for which it has been submitted. It is understood that by this approval the undersigned do not necessarily endorse or approve any statement made, opinion expressed or conclusion drawn therein but approve the dissertation only for the purpose it is submitted.

Dissertation Examination Committee for evaluation of dissertation

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DR. R. BHALLA

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Certificate from Dissertation Advisory Committee

This is to certify that **Dr. Ridhi Agarwal (PT)**, a graduate student of the **Post- Graduate Diploma in Health and Hospital Management**, has worked under our guidance and supervision. She is submitting this dissertation titled "- **Factors Affecting the Successful Implementation of a Proprietary Software Product at Attune Technologies** " in partial fulfilment of the requirements for the award of the **Post- Graduate Diploma in Health and Hospital Management.**

This dissertation has the requisite standard and to the best of our knowledge no part of it has been reproduced from any other dissertation, monograph, report or book.

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FEEDBACK FORM

Name of the Student: Dr. Ridhi Agarwal (PT)

Dissertation Organisation: Attune Technologies

Area of Dissertation: Health Care IT

Attendance: 100%

Objectives achieved: On the part of successful implementation of software at customes site.

Deliverables: Assisting and implementing software by coordinating with Team members.

Strengths: Hard working & good communication skills

Suggestions for Improvement:

Signature of the Officer-in-Charge/ Organisation Mentor (Dissertation)

Date: 09/5/13
Place: Chennai

ABSTRACT

BACKGROUND

In response to the on-going problem of systems failure, academics and practitioners have sought to develop lists of those critical factors which, if addressed, might help to ensure that an organization's ability to develop and implement effective new information systems might be radically improved. Such lists routinely include factors such as senior management commitment, proactive user engagement, etc [Plant & Willcocks, 2005; Wang et al, 2007]. Unfortunately, despite the widespread promotion and adoption of such prescriptions, over the last decade, there have only been modest improvements in IT success and in too many cases, the return from IT investment projects continues to disappoint [El Emam & Koru, 2008; Shpilberg et al, 2007]. As noted by Cobb [1996], in his now much quoted paradox: *„we know why* [information systems] projects fail, and we know how to prevent their failure - so why do they still fail. One possible explanation as to why systems development projects are still frequently perceived to be failing, despite our accumulated knowledge of those success factors that should prevent failure, may well be due to how we define success / failure and monitor performance

General Objective

To Analyze various Factors affecting successful implementation of Healthcare IT Proprietary Product at Attune Technologies

Specific Objective

The main purpose of this project is to determine the factors responsible for carrying out a successful implementation of a software project and the barriers that might hinder the process as felt by the employees with a focus to

1) identifying factors which the employees think are necessary for a successful implementation of a software product
2) Ascertaining the factors involved in gaining client s satisfaction
3) Learn about the Perceptions of the employees towards gaining a workable relationship with the client

4) Identifying the relationship between the work experience of the employees in company and their experience with clients
5) Determining the ideal time felt necessary for a successful implementation in a well developed organization
6) Identifying the barriers faced by the health IT company developing proprietary software in successful implementation of the health IT product.

METHODOLOGY

Sample Size: 46

Sampling Method: Convenient

Study Design: Cross Sectional Study

Survey Instrument: Structured Questionnaire Data collection method: Mail based survey

Data Analysis: Descriptive statistics have been carried out.

RESULT

In Total of 60-70 employees in ATTUNE Technologies, 46 responded to questionnaire.

15% of employees didn't respond to one out of 15 questions.

Data analysis is done using Excel and SPSS software

Responses of the Respondent can be depicted through the graphs as follows:

CONCLUSION

Perhaps most importantly organizations need to move away from considering the successful delivery of a new piece of software as being the primary objective of a systems development project, and concentrate on the delivery of real business benefits, which might only be realized once users begin to appropriate the technology and adapt it to their own requirements and working contexts. Moreover, IT should not be viewed and managed as an island, but rather seen as an integral part of organizational life. Consequently, the establishment of set of benefits oriented success factors may have an important role to play in organizations wanting to rise to the challenge of generating greater value from their IT investments.

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to Arvind Kumar - Founding Member & CEO ATTUNE, India for giving me the opportunity to work with the dedicated staff of ATTUNE TECHNOLOGIES where my dissertation study was undertaken.

I hereby express my deep gratitude towards A.Ragothaman - Delivery Manager ATTUNE TECHNOLGIES and my internal mentor **Prof. Anandhi Ramachandran** for their valuable guidance, support, interest, involvement, encouragement and advice which inspired me to work on this project.

I would also like to thank my family and friends for their cooperation extended to me at alone l the times which made it possible for me to complete my dissertation.

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GLOSSARY

Proprietary-Refers to any computer software that has restrictions on any combination of the usage, modification, copying or distributing modified versions of the software. Proprietary software usually can be distributed at no cost or for a fee. Proprietary software may also be called closed-source software

Implementation- is the carrying out, execution, or practice of a plan, a method, or any design for doing something

Go-Live- "Go-live" means that your system is ready to work in a production environment

Benefits realization management [BRM]- has been defined as 'the process of organizing and managing, such that the potential benefits arising from the use of IT are actually realized

Barcode- barcode is a machine readable form of information on a scannable, visual surface.

Interfacing- is a shared boundary or connection between two dissimilar objects, devices or systems through which information is passed

Backflow- Flow of information back to preceding person in case succeeding person doesn't approve or validate it and make it to pending or recheck.

E.g.- Flow of information back to Lab Technician in case Sr. Lab Technician make the report in recheck or retest.

Parallel Run- The process of running a new or amended system simultaneously with the old system to confirm that it functions correctly before going live

Part-1 Internship Report

CHAPTER-1

ORGANIZATION PROFILE

1.1 Vision

To manage world's health information

1.2 Values

To provide innovative solutions to business problems by appropriate usage of technology values Founded in 2009 have the following shared values:

Transparency We take utmost care in ensuring transparency in all our engagements with our clients and our vendors. We actively share relevant information with our clients and vendors enabling them to take informed decisions in all activities pertaining to our engagement

Trust Establishing Trust among various stakeholders is the key driver for a successful business. We, at Attune, strongly believe in this philosophy and leave no stone unturned to establish relationships based on mutual Trust.

Respect We strongly value the relationships with all our stakeholders and greatly respect their needs and decisions. Mutual Respect and Understanding is the cornerstone of all our relationships

Win-Win We strongly believe in establishing win-win relationships with all our stakeholders. Our engagements with customers and vendors shall be based on evolving long-term win-win relationships

1.3 Culture

Entrepreneurial Culture and Innovation We actively foster Entrepreneurship and Innovation across the organization. In this era of Knowledge Economy, we strongly believe that the most valuable asset of an organization is its human talent. By promoting Informed Risk taking, we provide the ability to tap the combined potential of individual team members to add more value to our customers. For us, encouraging Innovation involves fostering a culture of applying un-conventional ideas to solve everyday business problems of our Customers. By challenging ourselves and practicing a vibrant and informal work culture, we ensure constant flow of ideas and suggestions across the organization.

Team Work One of the critical success factors of our business model is the ability of our project teams to deliver effective solutions to our Customers. This requires seamless co-ordination and transfer of knowledge among various specialized teams. Ability to work in cross-functional teams is a key pre-requisite for any member coming on board. Our Recruitment, Retention, Reward & Recognition Policies are aligned to foster and encourage team work across all levels of the organization.

Positive Contribution The organization would promote a culture where anyone is free to challenge the ideas of any other person in the organization. Every employee is expected to positively challenge the issues and come out with alternatives and in the end, may be, accept either the position that was initially proposed or the one proposed later based on objective discussions. Once a decision has been arrived at, the team shall go ahead implementing it without postponing any further.

1.4 Products

Hospitals

Attune Health Kernel is a complete state of the art, secure & web-based solution for hospitals that integrates all its departments and branches that are geographically separated. All the hospitals/branches needs are low-end PC's and Internet connectivity with rest of the IT infrastructure and software taken care by us.

Diagnostic and Imaging Labs

Attune Health Kernel is a complete state of the art, secure & web-based solution for hospitals that integrates all its departments and branches that are geographically separated. All the hospitals/branches needs are low-end PC's and Internet connectivity with rest of the IT infrastructure and software taken care by us.

Clinics & Clinic Chains

Attune Health Kernel is a complete state of the art, secure & web-based solution for hospitals that integrates all its departments and branches that are geographically separated. All the hospitals/branches needs are low-end PC's and Internet connectivity with rest of the IT infrastructure and software taken care by us.

As my headquarter in Mumbai I reported to suburban for implementing our product ATTUNE in SUBURBAN DIAGNOSTICS IN ANDHERI WEST

Duties Performed and learning's

1) Requirement gathering at client site in Sub Urban diagnostics
2) Master data completion-
   - Collection of data from the suburban diagnostics
   - Mapping with the attune IDS
   - Feed the data in masters of ATTUNE by coordinating with other staff members.

3) Asking for validating the masters from quality manager in attune and taking approval from them
4) Coordinating with the testing team in attune technologies
5) Coordinating for users requirement for customizing the product with the developers in ATTUNE Technologies
6) Showing the input and output format to client and taken approval from them
7) Coordinating with the developers to Improve the output report format according to the client requirement
8) Giving training to end users

9) Initiating the parallel run and reporting for the bugs comes during training and parallel run.

Learning's:

During my training I was introduced to the ATTUNE software.

- The objective, design and working of the software.
- How to perform front end task and to generate various reports. For ex. Reports used in pathologies
- How to set complete, validation and approval of the report and 'backflow'
  I also learned
- Importance of understanding the requirements and techniques to gather requirements.
- Importance of identifying who the users are? What is the level of technical competency of the users?
- How to organize and conduct trainings.
- How to initiate the parallel run and motivating the employees
- Importance of barcode
- Importance of interfacing and how to perform it.

Part- 2 Dissertation

CHAPTER 1

1.1 INTRODUCTION

The context for the Survey, reported in this paper, is the continued high failure rate of investments in Information Systems / Information Technology (IS/IT): a considerable amount of time, money, effort and opportunity can be wasted upon IT investments that ultimately fail to deliver benefits [Fortune & Peters, 2005]. Estimates of the level of failure may vary, but over the past thirty years they have tended to stay uncomfortably high. More specifically, it has been suggested that in the late 1970s only 20% of projects achieved something like their intended benefits' [Eason, 1988], and that by the late 1980s, it was estimated that up to 70% of IS projects could be classified as failures [Hochstrasser & Griffiths, 1991]. By the late 1990s, Clegg [1997] reported that up to 90% of all IT projects fail to meet their goals" . More recently the British Computer Society [British Computer Society, 2004] concluded that "only around 16 per cent of IT projects can be considered truly successful', and reported estimates of wastage due to IT project failures were put at $150 billion per annum in the US and $140 billion in Europe [Dalcher & Genus, 2003]. Against this backdrop, it is important that more reliable ways of managing IT projects should be established to help ensure that IT projects can consistently deliver important organizational benefits, rather than simply being a drain on corporate resources.

An IT project is still often judged, by the project team / management, to have been successful if the commissioned technical artifact is delivered, on time, on budget and to specification [Ahn & Skudlark, 1997; Clegg, 2000; Doherty & King, 2001; Eason, 2001; Markus, 2004]. However, from the perspective of the end-users and system owners, a project will only be perceived as successful if it ultimately provides them with improved working practices and meaningful benefits, as identified in the business case.

In this project I focused on estimating the factors which can effects the Successful Implementation

of a proprietary software product at ATTUNE Technologies.

Attune is a visionary healthcare information technology company that delivers next Generation healthcare IT products to the market. While most of the other vendors Attempt just implementing the software, it focus primarily on delivering business Benefits to the customers. It is located In Guindy Chennai. It held's its project all over the India and over overseas.

ATTUNE Technologies provide HIS, LIS, OP chain product, it's a developing organization with a cumulative experts in the fields of product delivery, developing, testing , clinical specialist, sales and marketing, engineering, implementation, quality assurance.

1.2 BACKGROUND

In response to the on-going problem of systems failure, academics and practitioners have sought to develop lists of those critical factors which, if addressed, might help to ensure that an organization's ability to develop and implement effective new information systems might be radically improved. Such lists routinely include factors such as senior management commitment, proactive user engagement, etc [Plant & Willcocks, 2005; Wang et al, 2007]. Unfortunately, despite the widespread promotion and adoption of such prescriptions, over the last decade, there have only been modest improvements in IT success and in too many cases, the return from IT investment projects continues to disappoint [El Emam & Koru, 2008; Shpilberg et al, 2007]. As noted by Cobb [1996], in his now much quoted paradox: *„we know why* [information systems] *projects fail, and we know how to prevent their failure - so why do they still fail?"* One possible explanation as to why systems development projects are still frequently perceived to be failing, despite our accumulated knowledge of those success factors that should prevent failure, may well be due to how we define success / failure and monitor performance

One potentially important mechanism for ensuring that an IT project is focused upon improvements in organizational performance, rather than simply the delivery of a new piece of information technology, is through the establishment of a formal and explicit benefits realization program. Benefits realization management [BRM] has been defined as 'the process of organizing and managing, such that the potential benefits arising from the use of IT are actually realized' [Ward &

Elvin, 1999]. Such an approach is based upon the growing recognition that the benefits of IT typically come from the organizational change that accompanies its introduction, rather than stemming directly from the utilization of a technical artifact [Peppard & Ward, 2005; Peppard et al, 2007; Hughes & Scott Morton, 2006]. Indeed, a number of previous studies have attempted to promote the role of formal and explicit *benefits realization*‘ approaches, for improving the outcomes of information systems development projects, through the proactive management of organizational change [e.g. Farbey et al, 1993; Ward et al, 1996; Remenyi et al, 1997; Ward & Elvin, 1999, Ashurst et al, 2008]. However, to date, there is little evidence that organizations have been able to translate these prescriptions into effective working practices [National Audit Office, 2006]. Consequently, there is a pressing need for more empirical insights into how organizations might most effectively incorporate an explicit *benefits realization*‘perspective into their existing procedures for the design, implementation and operation of information systems. One novel and potentially promising line of enquiry might be to explore how our existing understanding of project success factors might be modified, if such factors were far more explicitly focused upon the realization of benefits, rather than the delivery of a technical artifact. To this end, we sought to investigate the various factors explicitly facilitate the successful realization of benefits from an information systems development project

1.3 Review Of Literature

The purpose of this section is to provide a critical overview of the literatures pertaining to the success factors for systems development and the realisation of benefits from IT projects.

Success Factors for Systems Development

The primary driver for the research into success factors for systems development has been the continuing failure of organizations to realize the full potential from their investments in IS/IT [BCS, 2004; Standish, 2001]. Against this backdrop, a significant body of research has been conducted, in the past thirty years, in an attempt to identify and verify those actionable factors that are critical to the successful outcome of complex information systems development projects. Most of the early research contributions attempted to derive generic lists of those factors that would be equally appropriate for all classes and types of information system [e.g. Cerullo, 1980; Rademacher, 1989, Sauer, 1993; Willcocks &. Margetts, 1994; Yap et al, 1992; Li et al, 1997]. In more recent years, the tendency has been to focus studies more explicitly on success factors for specific categories of information system. For example, the success factors for CRM systems [Kim & Pan, 2006; King & Burgess, 2007]; ERP systems [Sonmers & Nelson, 2001; Plant & Willcocks, 2005; Wang et al, 2007]; executive information systems [Poon & Wagner, 2001; Salmeron & Herrero, 2005] and global systems [Angeles & Nath, 2007; Biehl, 2007] have all been previously studied. Despite the significant period over which success factor studies have been published, and the variation in the technologies studied, there is a surprisingly high degree of consistency in their findings. In particular, nearly all studies have highlighted the importance of factors such as: active user involvement [e.g. Rademacher, 1989; Yap et al; 1992; Kim & Pan, 2006]; senior management commitment [e.g. Li, 1997; Sauer, 1993; Wang et al, 2007]; appropriate staff training [e.g. Milis & Mercken, 2001; Biehl, 2007]; the expertise / capability of IT staff [Yap et al; 1992; Rademacher, 1989) and clear identification of project outcomes [Biel, 2007; Sonmers & Nelson, 2001].

Although there is now a vast body of literature pertaining to success factors in systems development contexts.

The success factors approach has many attractions; it is also flawed in a number of significant ways. For example, it has been argued [e.g. Bussen & Myers, 1997; Goldfinch, 2007; Larsen and Myers, 1999; Nanhakumar, 1996] that:

I. The success factors approach views system development projects as a static process instead of a dynamic phenomenon, and therefore ignores the potential for a factor to have varying levels of importance at different stages of the development and implementation process. For example, user involvement may be very important during the systems analysis and implementation phases of a project, but less so during the software coding phase.

ii. The success factors approach does not explicitly recognize the variability of systems development projects, and therefore it fails to account for the dynamics of the social, organizational, and political context in which any IS project will unfold. For example, it can be argued that the effects of user participation on project outcomes may vary greatly depending upon contextual factors, such as: participation forms; types of participants; participation climate, and leadership styles [He & King, 2008].

iii. The approach treats each individual success factor as a discrete independent variable, and it therefore fails to take account of any potential inter-relationships between variables. For example, the clear identification of appropriate project outcomes, may be dependent upon active user involvement during the early stages of an IT investment project.

iv. The existing literature also typically assumes that these factors are purely focused upon a project which concludes with the delivery of the technical artifact, rather than continuing throughout the life of the system.

A further problem with the factors approach, as noted by King & Burgess [2006], is that many, if not most, success factor studies conclude with a list of factors but provide little further guidance, about how and when these factors should be applied in the context of actual IT projects. Consequently, all too often there is a serious disconnect between success factors and project success, so that it becomes difficult to discern any clear causal relationships. Finally, in addition to these much rehearsed criticisms, it can also be argued that as the approach is project focused, it typically fails to

take account of organizational learning and capability development over a significant period of time, in which many individual projects may be undertaken.

In conclusion, the stream of literature on success factors in systems development is far too pervasive and substantial to be completely without merit, yet it appears that the common prescriptions it offers need to be far better explained and focused if they are to become more effective. One potentially fruitful, yet currently unexplored, line of enquiry is to investigate how success factors might be re-configured if they were more explicitly focused towards the delivery of benefits in the medium to long term, rather than the delivery of a new piece of information technology, in the short term.

Benefits Driven Approaches to Systems Development.

There is already an established and comprehensive stream of literature on benefits, within the information systems domain, but it has tended to focus on either the identification of success criteria [e.g. Mason, 1978; Delone & Mclean, 1992; Seddon, 1997; Rai et al, 2002; Delone & Mclean, 2003; Petter et al, 2008]; or methods for the evaluation of benefits, once an information systems has been implemented [e.g. Farbey et al, 1992; Farbey et al, 1993; Remenyi & Sherwood-Smith, 1999; Irani & Love, 2001; Irani et al, 2007]. By contrast, interest in approaches to the proactive management and realisation of benefits is relatively recent, and our understanding of this potentially important topic is, as yet, underdeveloped. Indeed, as can be seen from the discussion below, there has been a lack of empirical investigation into the adoption of benefits management approaches. It is now increasingly recognized that the adoption of a benefits realization program can be an important mechanism for proactively managing IT development projects, so that they more explicitly focus upon the delivery of value over a systems operational life [Ward & Elvin, 1999; Ashurst et al, 2008]. Moreover, recent research suggests that benefits realization management is based

Benefits Driven Approaches to Systems Development.

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and realization of benefits is relatively recent, and our understanding of this potentially important topic is, as yet, underdeveloped. Indeed, as can be seen from the discussion below, there has been a lack of empirical investigation into the adoption of benefits management approaches. It is now increasingly recognized that the adoption of a benefits realization program can be an important mechanism for proactively managing IT development projects, so that they more explicitly focus upon the delivery of value over a systems operational life [Ward & Elvin, 1999; Ashurst et al, 2008]. Moreover, recent research suggests that benefits realization management is based upon the two key premises [Peppard et al, 2007]: *IT has no inherent value*‘and *benefits arise when IT enables people to do things differently*‘. The defining characteristic of a benefits realization approach is that it seeks to define an explicit program of organizational change, that will complement a new information system‘s functionality, and in so doing facilitate the realization of important benefits [Hughes and Scott Morton, 2006; Peppard et al., 2007]. This approach is, therefore, consistent with the idea of ‗*techno-change*‘ [Markus 2004] which states that value is realized from investments in IT when the focus is on delivering benefits for stakeholders rather than just on delivery of an IT solution. Indeed, a growing number of studies have attempted to promote the role of formal and explicit ‗*benefits realization*‘ approaches, for improving the outcomes of information systems development projects through the proactive management of organizational change [e.g. Ward et al, 1996; Remenyi et al, 1997].

Unfortunately, despite this growing interest, the benefits realization agenda is exhibiting many of the same characteristics, as the socio-technical literature [Avison et al., 1998; Mumford, 1995]: an excellent idea, in theory, but having little impact on the way projects are being managed, in practice. Consequently, benefits realization appears to be a good example of the often substantial gap between management theory and practice [Pfeffer & Sutton, 2000]. Indeed, there is a growing body of literature that advances the case for a variety of different benefits realization tools, techniques and approaches [e.g. Remenyi & Sherwwod-Smith, 1998; Ward & Daniels, 2006; Esteves, 2009; Bradley, 2010]. However, there has been relatively little empirical investigation of what, if anything, organizations are doing in practice, to proactively manage benefits from their IT investments. Against this backdrop, there is a pressing need for novel contributions that present insights into how an explicit focus on benefits realization might best be incorporated into the actual routines of systems development and implementation.

Critique of Literature

For far too long information systems success has been defined primarily in terms of completing a software development project on time, to specification and within budget [Sauer & Davis, 2010]. Indeed, the most well used index of information success / failure – the biennial Standish Group reports – defines success using these very criteria [e.g. Standish, 2006]. However, in practice the delivery of information systems on time, to specification and within budget, doesn‘t automatically equate to the delivery of real benefits to the host organization. Using traditional success criteria, information systems projects can be judged as being successful soon after implementation, and therein lies the problem. The delivery of value from a software development project is unlikely to be instantaneous or even apparent shortly after implementation, and benefits realization should therefore be viewed as an on-going journey, rather than a destination [Goh & Kauffman, 2005; Hardgreaves & Armstrong, 2005].

The literature on success factors for information systems development has also typically adopted a short-term perspective, which assumes that the success of projects can be judged once the software development project has been completed, which is normally shortly after implementation [Sauer et al, 2007]. Consequently, the success factors that contribute to the successful outcome of software development projects might not identify with those that are necessary to deliver real organizational

benefits in the longer term. The key difference, apart from timescale, would seem to be that the traditional success factors literature focuses primarily on the delivery of a technical artifact, and rather ignores, or Page 9 of 35
underplays, the need for complementary organizational design, upon which the realization of business benefits is dependent [Markus, 2004]. Against this backdrop, there is a pressing need for a critical re-evaluation of the traditional success factors‘ for software development projects, to see whether they take on a different form when being applied within the confines of information systems development initiatives that have an explicit benefits realization orientation. In particular, we were keen to explore how such success factors might be modified, if their purpose was to facilitate the realization of meaningful business benefits, in the long term, rather than the delivery of a technical artifact, in the short term.

1.4 General Objective

To analyze various Factors affecting successful implementation of Healthcare IT Proprietary Product at Attune Technologies

Specific Objective

The main purpose of this project is to determine the factors responsible for carrying out a successful implementation of a software project and the barriers that might hinder the process as felt by the employees with a focus to

1) identifying factors which the employees think are necessary for a successful implementation of a software product
2) Ascertaining the factors involved in gaining client s satisfaction
3) Learn about the Perceptions of the employees towards gaining a workable relationship with the client
4) Identifying the relationship between the work experience of the employees in company and their experience with clients
5) Determining the ideal time felt necessary for a successful implementation in a well developed organization
6) Identifying the barriers faced by the health IT company developing proprietary software in successful implementation of the health IT product.

2.1 HYPOTHESIS

H_{01}-There is no significant relationship between the degree of management support experienced and successful implementation

H_{a1}-There is a significant relationship between the degree of management support experienced and successful implementation

H_{02}-There is no significant relationship between the degree of user participation experienced and successful implementation

H_{a2}-There is a significant relationship between the degree of user participation experienced and successful implementation

H_{03}-There is no significant relationship between business driven force and successful Implementation

H_{a3} -There is a significant relationship between business driven force and successful Implementation

H_{04}-There is no relationship between the time limitation for go-live and successful Implementation

H_{a4}- There is a significant relationship between the time limitation for go-live and Successful implementation

H_{05}-There is no relationship between the requirement gathering, Master data work and Successful implementation.

H_{a5} -There is a significant relationship between the requirement gathering, Master data work and successful implementation

2.2 METHODOLOGY

Sample Size: 46

Sampling Method: Convenient

Study Design: Cross Sectional Study

Survey Instrument: Structured Questionnaire Data collection method: Mail based survey

Data Analysis: Descriptive statistics have been carried out.

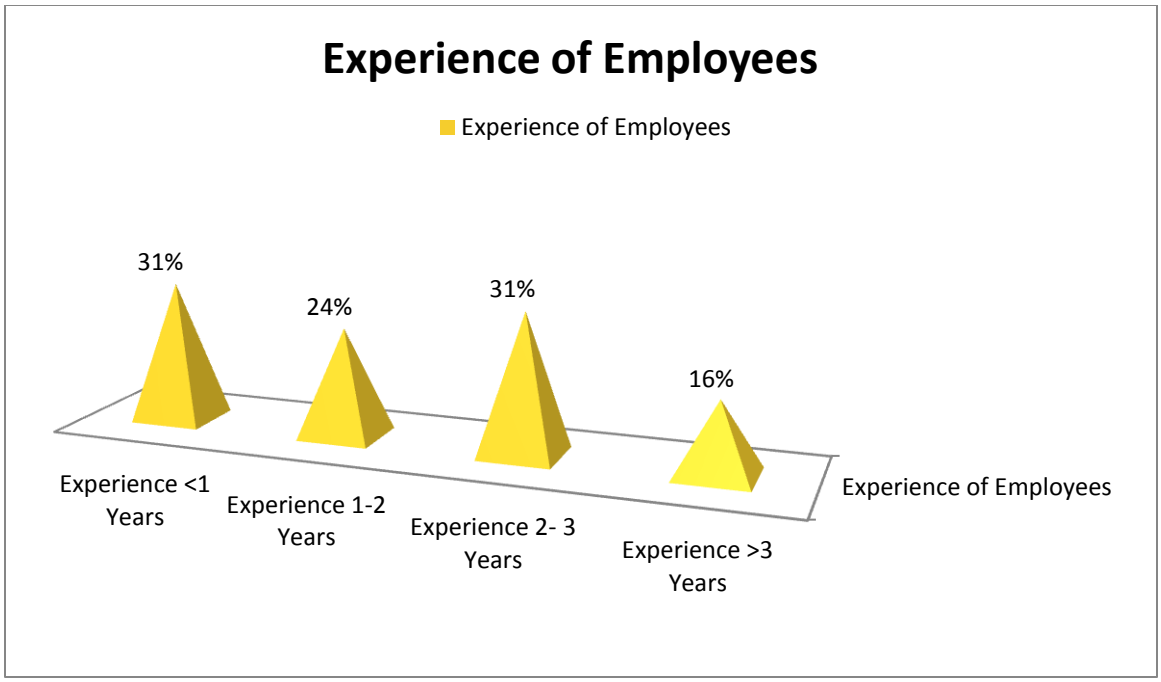
3.1 RESULT

In Total of 60-70 employees in ATTUNE Technologies, 46 responded to questionnaire.

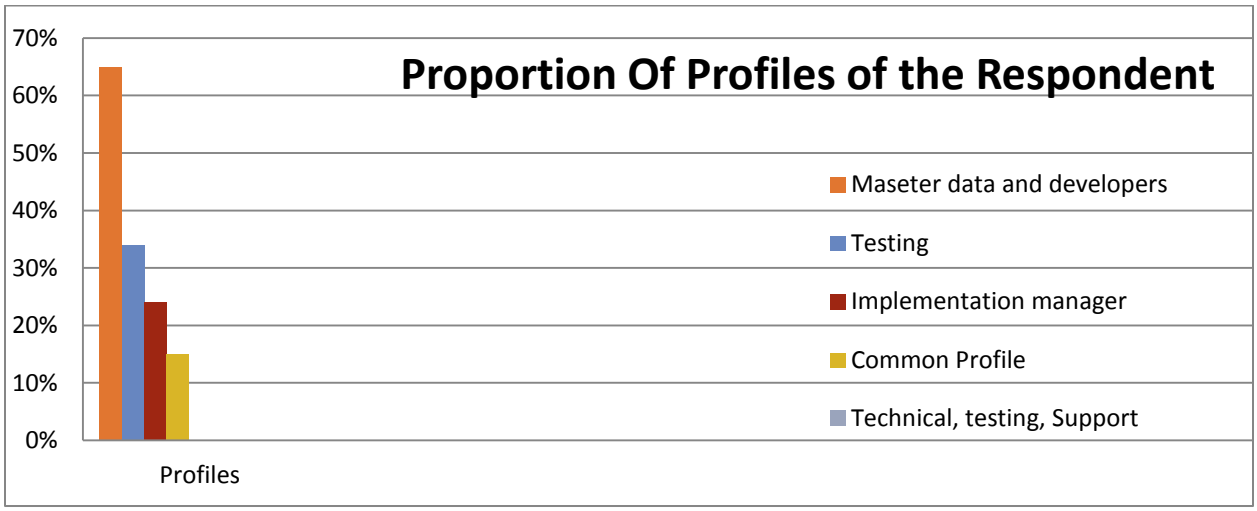
Data analysis is done using Excel and SPSS software

Responses of the Respondent can be depicted through the graphs as follows:

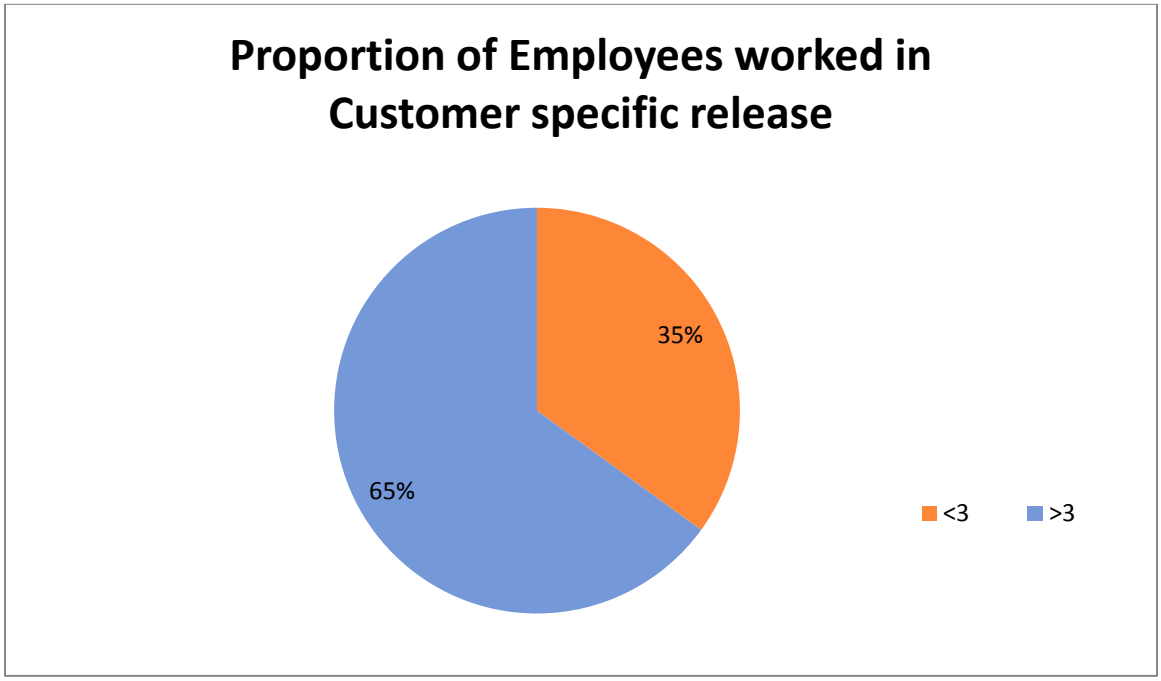
1) Of the total respondents 31% have an experience of <1 year and 2-3 years, 16% have >3 years of experience and 24% have 1-2 years of experience



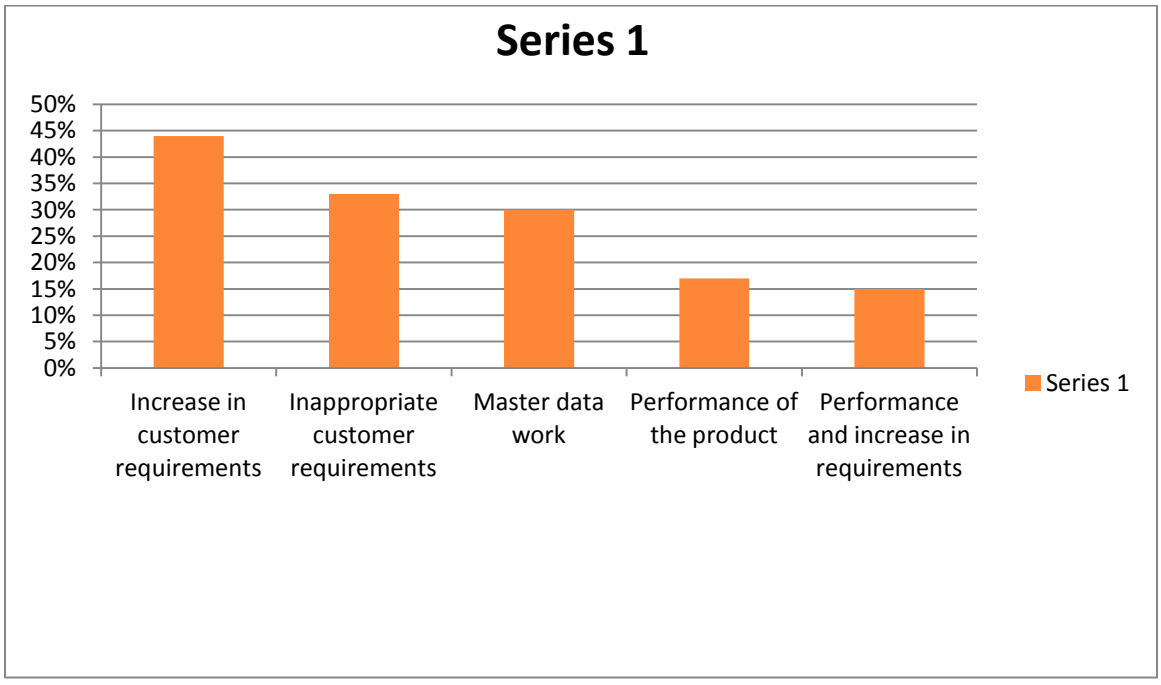
2) 65% of respondents are working as master data performance and developers, 34% respondents are working in testing, 24% are implementation engineers while 15% have common profile of technical work, testing and master data performance. Remaining respondents are in quality assurance, sales and marketing



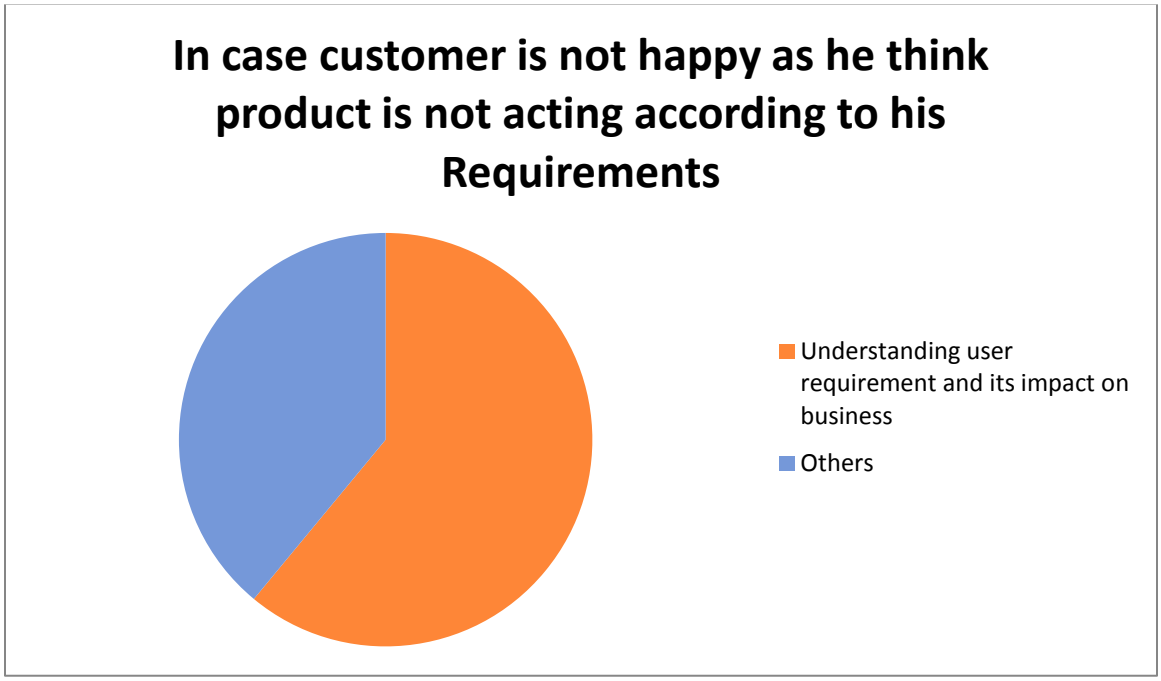
3) Out of the total respondents 65% have worked in >3 customer specific release and rest have worked <3 customer specific release.



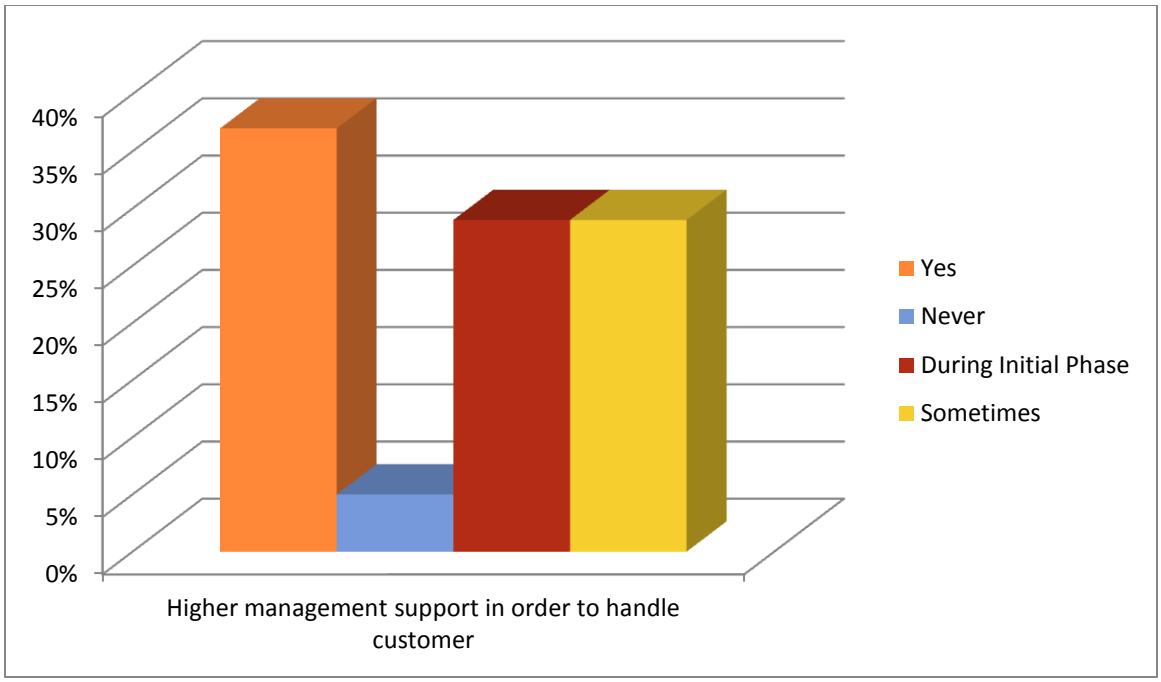
4) 44% of respondent believe increase in customer requirement, 33% inappropriate customer requirement, 30% believe master data work, 17% believe performance of the product are the main problem faced by them in any customer implementation out of them 15% said master data work performance of the product and increase in the customer requirement are the common points



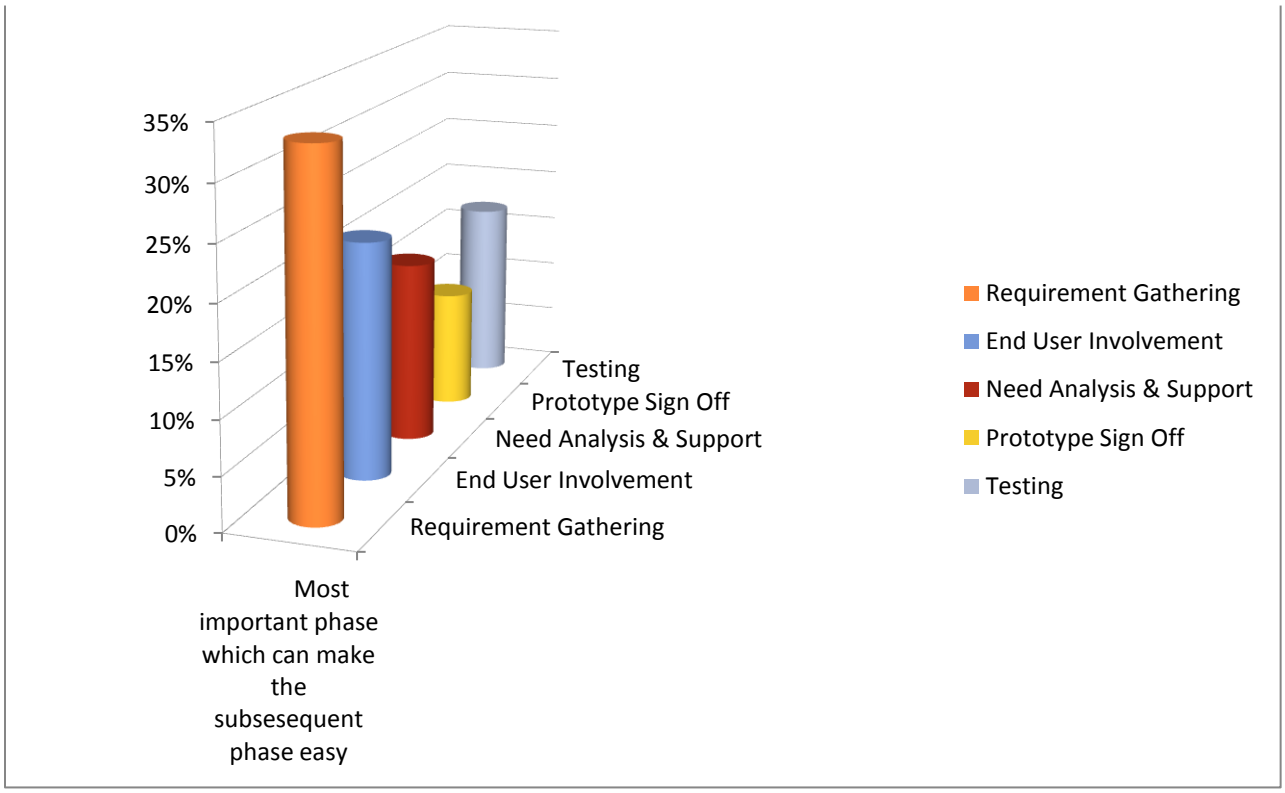
5) 61% of respondent think understanding the users requirement and its impact on business and if possible customize the product according to requirement is necessary if the customer is not happy with the product you provided.



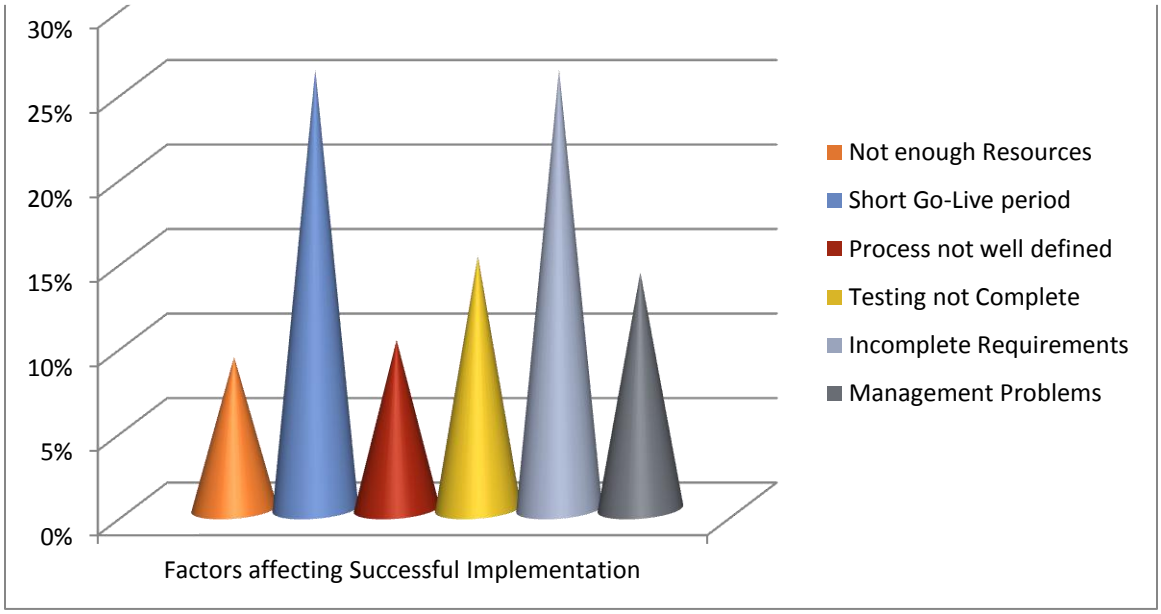
6) 37% respondents believe there is a need for higher management to step in to handle customer remaining respondents felt in equal proportion



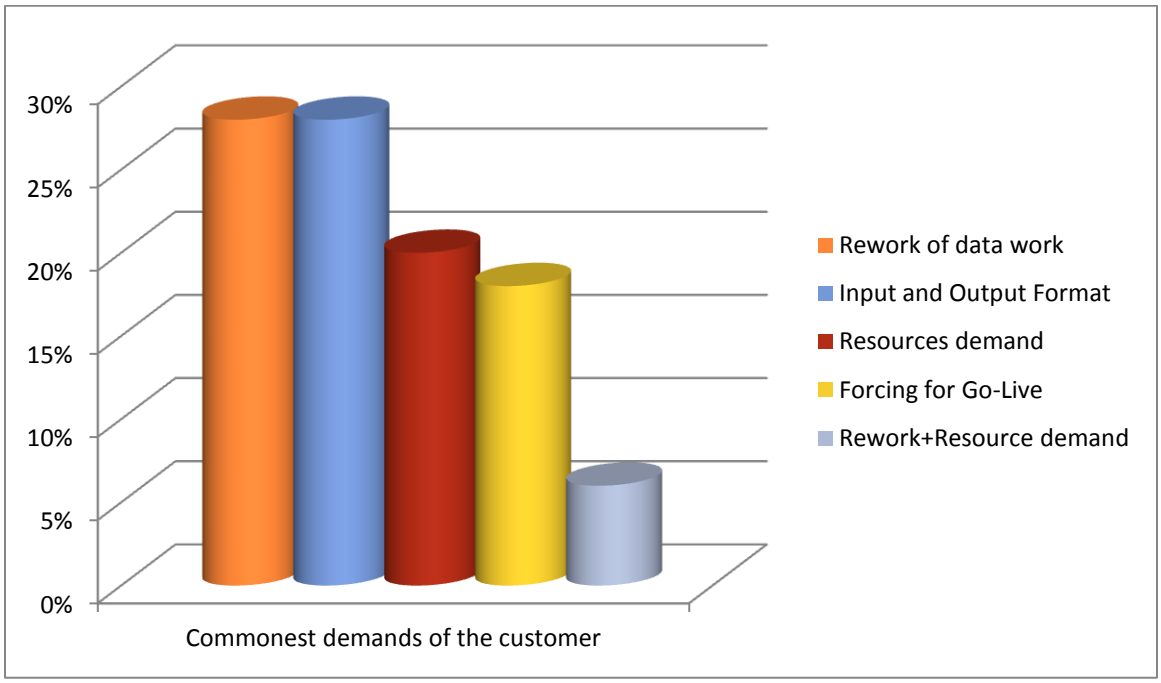
7) In case of the most challenging task, 33% of respondents opted for requirement gathering, 22% of respondents believe it is end user involvement,17% voted for analysis and support and remaining think testing and prototype sign off if done properly can make subsequent phase easy



9) 26% of respondents think insufficient time for go live process and incomplete requirements are the main factors affecting successful implementation remaining proportion held by insufficient resources, testing and process not well defined.



10) 28% of the respondents think the rework of data work and input and output format are commonest demands of the customer and rest proportion held by resource demand and forcing for go-live.



3.2 RESULT OF ANALYSIS

T test is used to test the formulated hypothesis between the independent variable and the dependent variable.

P Value < .05 Proves null Hypothesis to be rejected and P value > .05 proves null Hypothesis to be accepted.

To describe how strongly pair of variable are related Correlation is used denoted by (r), if r is positive it denotes if one variable get larger than the other gets larger, if r is negative it denotes if one gets larger other gets smaller.

Table below summarize the result of this data analysis

Hypothesis 5 results are inconclusive by T test.

	INDEPENDENT VARIABLE	**P VALUE**	**CORRELATION VALUE**
HYPOTHESIS 1	Management Support	0.03	-0.27
HYPOTHESIS 2	End User Participation	0.04	-0.03
HYPOTHESIS 3	Business Driven Force	0.044	0.11
HYPOTHESIS 4	Time Slot for Go-Live	0.03	-0.14

4.1 DISCUSSION

From the analysis of data collected it was possible to test the hypothesis as presented previously. Each of the null hypotheses is rejected as P value is below .05 indicating that alternative hypothesis accepted and then relation established between each of the variables using correlation.

To distil the key themes emerging from this study, into a set of principles, upon which other factors can be established, as described below:

Benefits orientation:

A common theme, if not the defining theme, of each of our factors is their clear and explicit focus upon the delivery of benefits. Whilst the delivery and implementation of a piece of new software is clearly an important milestone, the ultimate goal of an information systems development project should be the delivery of clear business benefits. Whilst benefits may not be at the forefront of every discussion and decision, throughout the project, there are many critical junctures in which users and senior managers must play a proactive role in ensuring that benefits will ultimately be realized.

Management Support:

Management support for successful implementation was a significant in explaining the differences in degree of the attune technologies employee perception of the successful implementation. Organization with higher degree of management support had higher degree of success in implementation. Support of management presumably creates a climate that encourages members of the organization to implement new methodologies that may deliver more effective system supporting organization process. Organization where management recognizes the weakness in their system and process appear willing to allocate sufficient resources to make implementation successful.

Organizational change:

As it has been persuasively argued, benefits primarily arise from the organizational change, including improved information usage, that accompanies an IT implementation, rather than directly from the technology. Collecting user requirement and Gap analysis is the initial most Important phase which can have it effects on the developing and designing of the application and leads us to

know some of the limitation of our application which in future effects the customer's satisfaction henceforth the successful implementation.

Organization with higher degrees of end user participation had higher degree of success in implementation. The behavior of participants that reflect a sense of ownership in the system projects, as well as willingness to use the system has a significant impact on successful implementation.

Customize to context:

No two IT development projects are the same, and therefore it is important that the application of these factors must be tailored to its specific organizational context and to meet changing demands during the project and investment lifecycle.

Life-long application:

Our study suggests that most, if not all, have currency throughout the operational life of the system. Indeed, too much emphasis has been placed upon the design and development of information systems, and far too little on their operational behaviors, implications and performance. For example, whilst senior management commitment and involvement are clearly very important at the outset of a project, it is equally important that senior stakeholders demonstrate their support for a system, in the early stages of its operation.

5.1 CONCLUSION

Perhaps most importantly organizations need to move away from considering the successful delivery of a new piece of software as being the primary objective of a systems development project, and concentrate on the delivery of real business benefits, which might only be realized once users begin to appropriate the technology and adapt it to their own requirements and working contexts. Moreover, IT should not be viewed and managed as an island, but rather seen as an integral part of organizational life. Consequently, the establishment of set of benefits oriented success factors may have an important role to play in organizations wanting to rise to the challenge of generating greater value from their IT investments.

5.2 LIMITATIONS

1) Relatively Small Sample size due to time limitation
2) Potential bias with respect to the way in which the users interpreted the situations to which they were exposed.

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QUESTIONNAIRE

Dear Sir/ Madam

The following survey is being conduct by me for understanding the various factors that affect and hinder a successful implementation of software product. The study would benefit the employees and the organization by putting forth strategies that would help to smoothen the implementation process in the organization. I request you to kindly take few minutes to answer the questions.

Circle the appropriate choices.

1. How long have you been working in Attune Technologies?
    1. < 1 years
    2. 1-2 years
    3. 2-3 years
    4. < 3 years
    5. 3 years and above

2. What's your job profile in Attune Technologies?
    1. Clinical specialist
    2. Testing
    3. Business Analyst
    4. Implementation manager
    5. Quality assurance
    6. Development Engineer
    7. Others (please Specify)_____

3. In how many customer specific releases have you worked on? Can you please name them?
    1. 0-1
    2. 1-2
    3. 2-3
    4. >3

4. What are the main problems faced by you in any customer implementation(more than one option is possible)
    1. Master data work
    2. Performance of product
    3. Input and output format
    4. Inappropriate customer requirements
    5. Inappropriate resources
    6. Integration Issues
    7. Delay in sign-off
    8. End user not interested/Change Management
    9. Increase in customer requirements
    10. Others_ (Please Specify)_____

5. How do you think a client should be handled so as to keep the bi-directional flow of information in a proper format
    1. Independently
    2. In a Team
    3. Mostly through written communication
    4. Depends on the customer

6. What are the activities that is required to be performed to gain co-operation from the user at the implementation site?

1) To standardize mode of communication either E-mails, phone, Face to face conversation
2) Proper knowledge about the features of the product
3) Clinical knowledge for effective communication
4) To generate spirit of motivation among users
5) Leadership skill
6) To explain the users in their own language
7) Complain against the following member
8) To customize product user friendly

7. What is the most challenging and important implementation phase for you which if done properly can make the subsequent phases easy?

    1. Need Analysis
    2. Requirement Gathering
    3. End User Involvement
    4. Prototype Sign Off
    5. Testing
    6. Support
    7. Other (Please Specify)

8. What do you think is the most important point, if we work on it as a team could make implementation easy
    1. Focus on customer requirement
    2. Focus on master data
    3. Focus on performance evaluation
    4. Focus on appropriate resource allocation
    5. Focus on customer satisfaction
    6. Focus on Prioritizing the customer requirements
    7. Other (Please Specify)

9. What do you do in case if the customer is not happy and what you have done is NOT compliant with the earlier signed user requirements

    1. Restart the phase again
    2. Try explaining the customer that the requirement was not there in the contract
    3. Implement the new requirement in-order to maintain relation with the customer

4. Deny the implementation of the new requirement
5. Others_____
6. Understanding the users requirement and its impact on business and if possible customize the product according to requirement

10. In-order to handle the customer, do you think that there is a need for the higher management to step in
    1. Yes
    2. Never
    3. Sometimes when the customers is not ready to accept the contracted requirements
    4. During Initial phase of implementation
    5. Others (please specify)

11. What is the most important stage for successful implementation
    1. Requirement gathering
    2. Master data work
    3. Training
    4. Parallel rum
    5. Go live
    6. Post go live support
    7. other

12. What are the most common demands of the customer as felt by you? (more than one option is possible)
    1. Rework of data work
    2. Input and output format
    3. Resource demand
    4. Forcing for go-live
    5. other

13. What are the factors affecting a customer's satisfaction.

1. Unable to fulfill all their requirements due to over budget or software limitations
2. Communication gaps
3. Involving them on all stages of implementation
4. Completing the implementation on time
5. Completing the project including go-live within budget
6. Never completely satisfied.
7. Other

15. What are the barriers do you feel that affects in successful implementation?

1. Not enough resources
2. Short time for go-live process
3. Processes not well defined
4. Testing not complete (especially if parallel system from client needs to be interfaced)
5. Incomplete requirements
6. Leadership/ management problems
7. Others (Please specify) _____