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A Critical Study of IT Transformation Practices to Achieve Business IT Alignment

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Abstract
Transformation is the creation and change of a whole new form, function or structure. IT transformation means a significant change of organization's IT systems with an aim to achieve a state of alignment of IT strategy with business strategy. IT transformation of an organization from its legacy environment to the next generation of technology is one of the most complex and expensive changes an organization can undergo.
The objective of IT transformation is to build more efficient enterprise architecture and transform the IT organization into an effective business partner. It is a process that results in a dynamic state of business IT alignment. There are many reasons why organizations should align IT with Business, like cost reduction, productivity enhancement, implementation of new business strategies or to gain competitive edge etc. A number of case studies have also shown how significant cost and performance efficiencies were achieved by organizations through business IT alignment (BITA).
Numerous studies, research papers and articles available in the public domain suggest that business IT alignment has remained a perennial problem for the industry with no standard solution. This study takes a critical look at various prevailing IT transformation practices and the key factors that lead to optimum business IT alignment. A survey was carried out to incorporate viewpoints of professionals from the Indian industry.
Keywords: *IT transformation, IT strategy, business IT alignment (BITA), perennial problem, IT practitioners and consultants*

Introduction

In today's age and time we are witnessing a rapidly changing global IT landscape with fast moving market trends. Evolution of new technologies is crafting the future models of next generation business world. This is putting organizations under immense pressure to evolve and align technologies with business goals and kee p pace with the competition.

Corporate IT systems have evolved dramatically over the past decade. Today, technology has become an essential productivity tool and a key driver of growth for many businesses. Therefore businesses around the world are recognizing IT as a strategic asset, and are making radical adjustments to better shift their IT investments to create a more agile enterprise. Such technological, organizational and operational changes often referred to as 'IT transformation', appear different for each organization, depending upon its size, geography and industry. It must be recognized that IT transformation is not about changing things for the sake of change, but about better aligning the IT

system to the needs of the business [1][2]. Business-IT Alignment (BITA) is the essence of IT transformation. Information technology has changed the way companies organize their business processes, communicate with their customers and business partners, and deliver services. A key factor for a successful company is an effective and efficient alignment of the way IT supports business strategies and processes. The alignment of the information technology and business strategy is a continuing activity for most contemporary organizations. As Luftman (2003) mentions, "Alignment is the perennial business chart-topper on top-ten lists of IT issues" [3]. Business-IT alignment involves optimizing communication between executives who make the business decisions and IT managers who oversee the technical operations. The implementation of flexible business plans and IT architectures, as well as effective cost allocation, are critical components of any business-IT alignment effort [4].

Transformation is the creation and change of a whole new form, function or structure. Several practitioners have defined Transformation in a variety of ways. It is an oft-used and yet misunderstood term. It means many things to many people. It must be viewed as more than routine changes which might occur under a normal day to day business decision making processes, such as enacting improvement programs or the adoption of a new IT system. This might be described more appropriately as "business as usual". In our view real transformation involves a fuller business wide change in systems and processes driving overall business or service improvement [5]. Bruce E Perrot is his article (Perrott B.E., 2008, p. 63) argues; 'When change is radical, they [companies and industries] must manage a metamorphosis by way of transformation' [6].

IT Transformation is more than mere optimization or modification of engineering components, but is rather a holistic revamp of the existing technology base used to support the company's mission-critical business. The need for the IT system to support the incredible emergence of new business can be a starting point in the justification for transformation [7].

IT transformation is a complete overhaul of an organization's information technology (IT) systems. IT transformation usually involves changing the IT department from being a reactive, inflexible organization to being a more pro-active, flexible part of the business that can respond quickly to changing business requirements [8]. Below is a look at some of the key characteristics of transformation.

- At its root, IT transformation is about cultural change. If you're not seeking to fundamentally change the way IT does business - to change organizational behaviors and attitudes - then it's not an IT transformation. It's merely a project.
- It may be a big project. It may be a vitally important project. But it's still not transformation. You may need to transform in order to make the project a success, but quite simply transformation is about cultural change.
- Transformation is a change in mindset. It is based on learning a system of profound knowledge and taking actions based on leading with knowledge and courage.
- Transformation is the creation and change of a whole new form, function or structure. To transform is to create something new that has never existed before and could not be predicted from the past.
- The transformation is a fundamental change of the entire corporate environment. The change is about the ability of the organization to improve its reaction time and to realize the improvement of processes and procedures.
- If it's a transformation effort and you don't focus on your people and on behaviors, your initiative will fail.

Global scenario

Here we try and understand through an extensive literature review as to how transformation has been approached by Strategic IT practitioners and business community. A large number of journals, conference papers, theses, industry and academic presentations, blogs and whitepapers were identified

in which transformation figured prominently as a key concept. Though the list is exhaustive, only some of the prominent and relevant references from all such sources could be discussed in this section.

Tactical Strategy Group in its whitepaper titled 'IT Organizational Transformation (ITOT) Methodology A Process for Reinventing & Redeploying IT' [9], has introduced an ITOT methodology to affect transformation. The ITOT methodology provides a blueprint for assessing and redesigning IT landscape in an organization. This extremely useful methodology provides guidelines which help to;

- Understand how to determine if your IT organization needs to be reinvented
- Document your existing information management functions across and beyond the enterprise
- Introduce new governance structures for IT, including the use of a formal IT constitution
- Learn how to redesign IT into a more collaborative and adaptive infrastructure
- Deploy IT organizational redesign techniques within your organization
- Understand and deploy the transition process for moving from today's IT organization to the new, redesigned IT infrastructure
- Measure the value of this process

The paper suggests 11 ITOT tasks to carry out transformation with each having a defined objective, a deliverable and set of steps to meet the stated objective. This particular approach could prove to be highly effective in defining a transformation roadmap.

The Economist Intelligence Unit carried out a survey (Elizabeth Bennett, 2008) about the challenges and opportunities that faced with regards to IT transformation. The study [10] covered over 950 IT professionals globally, as well as desk research and in-depth interviews with executives from around the world. This survey indicated that IT transformation, while challenging and time-intensive, tends to bring smoother operations to both IT and the broader organization, improved communication between IT and non-IT departments, and business innovation via successful implementation of new technologies.

The study recommends that those undertaking an IT transformation project should consider the following [10];

- Addressing corporate cultural issues is a key to any successful IT transformation project. Senior IT executives must work doggedly to communicate goals, and build bridges up and down the chain of command throughout the organization, both in business strategy sessions and regular meetings with technology employees.
- IT transformation is not a cure-all. Changing processes and organizational structures may make IT departments more agile, but will do little good if IT professionals do not adapt their thinking around how better to align their efforts with that of the business on a regular basis. IT staff must be encouraged to communicate regularly with business partners.
- Walk before you run. Before embarking on a large-scale IT transformation initiative, assess the length of time it will take to complete the effort, as well as the costs, risks and eventual benefit to the business. Connect with all stakeholders to make sure requirements are properly met.
- Track and publicize success. Make sure to assess the return on investment of any IT transformation project. Not only will it strengthen IT's reputation among business partners, it could help to build momentum for future IT initiatives.

Roger K. Allen, a noted change management expert suggests a transformation model with seven key variables (environment, strategy, core process, structure, systems, culture and results) that must be aligned for a business to be successful. Alignment implies a holistic or systems point of view that finds the best "fit" between all organizational elements [11].

Due to the rapidly changing business trends, organizations are under immense pressure to adopt

the changing trends and evolving technologies to keep pace with the competition. It is necessary to ensure that IT systems do not become a drag but are optimized and managed so as to transform business functions by being better-aligned to business needs while ensuring operational efficiency. HCL Technologies has suggested a three phase approach to technology transformation involving Operational cost, Business process efficiencies and Business-IT Alignment [12].

John Palinkas (2011) in his article "What Does "IT Transformation" Mean to You?" observes that the term "IT Transformation" means very different things to different people. He demystifies the term by calling it as a fundamental approach to delivering a service that significantly improves the service characteristics [13].

A lot of times transformation is necessitated by the need to deliver better value to the customers as in the case of U.S. Department of the Interior. In June 2011, the Department set out to overhaul their IT environment because IT was characterized by inconsistent alignment with the Department's missions or the needs of its customers. Therefore an IT Transformation plan was drafted as a multi-year program involving every facet of the Department and would realign how information technology is designed, priced, and delivered in support of customer goals to achieve the Department's mission. The target outcome was to deliver a better customer-focused IT service. This document [14] sets a template on how IT transformation can be planned through phases viz. identification of IT Service areas, IT Transformation Roadmap and IT Transformation Management.

Transformation is a rigorous process that takes years to produce desired results. Therefore it is essential to make sure that a sound strategy is put together for it to succeed. A whitepaper by Technology and Business Integrators, a Technology and Management consulting firm [15] outlines five key pillars that an enterprise must support in order to successfully deploy a true IT transformation strategy. It alerts you on the potential roadblocks you may face internally and suggests how to overcome them to ultimately reach the goal. It states that a successful IT transformation strategy is holistic. From a technology perspective, this means it must address and encompass all aspects of IT services-including servers, storage, data centers, applications, cloud computing, virtualization et al—and integrate them all into a cohesive and efficient system that supports increased productivity, greater efficiency, and higher profitability. The papers suggests that best practices, standards and processes like IT Infrastructure Library (ITIL), Capability Maturity Model Integration (CMMI), and Application Portfolio Rationalization (APR) must be included as part of a sound transformation strategy to ensure long-lasting, measurable and scalable success.

Business IT leaders must play torchbearers when it comes to effecting an enterprise-wide change. In his article Vinit Kapur, a business consulting professional [16], asserts that for IT to play a strategic role, CIOs must first reinvigorate the organization with a new structure that enables tighter business alignment and then implement new processes and technologies that generate better business value. The author observes that initiating a quantum change initiative is not easy, and not every company is ready for a total IT transformation.

All well-planned transformation programs combine business and technical content with IT and Business executives joining hands. This article [17] describes a study that highlights the characteristics of a typical transformation program. This study revealed that companies rating themselves as mature in transformation management assess certain aspects of transformation differently than those less mature. This study was carried out on 28 companies from EMEA, America and Asia Pacific region with CIOs, Program leaders and Directors as respondents. It studied the objectives of transformation, its key deliverables, enablers and inhibitors. It also observed that most of the transformation projects take between 2 and 4 years. Besides, this work also uncovered factors that drive transformation management and its approaches.

Without a blue print a change program is destined to suffer failure. Stephanie Overby (2009) emphasized in her blog [18] the need for a definitive

transformation roadmap explaining 'how' the objectives would be achieved. It also requires each transitional project to be explained in details with clear steps and timeframe.

A Capgemini survey [19] provides insights of transformation practices in European companies. It highlights the needs, reasons of success or failure and finds out how executives can drive successful transformation. Transformation has been described as a "strategic, enterprise-wide change projects that have a profound impact on the organisation's capabilities, environment, processes and performance". This was an online survey of 125 senior executives from Western Europe at businesses with minimum annual revenues of US$500m and interviews with 15 senior executives from across industry to ascertain their views.

Over the years IT landscapes have become complex and changing them to adapt to dynamic business environment is becoming challenging. In this paper [20] the researchers investigate the nature and characteristics of IT Transformation using the resource-based view which they propose as a framework. They quote that 'Transformation is regarded as a change process and associated with radical change' (Eriksen, 2008; Perrott, 2008). The paper discusses three cases with different transformation triggers, goals and durations and maps the changes into Technological and Organisational IT Resources and Capabilities.

Contemporary business environment is rapidly and continually evolving in terms of new Govt. policies, regulatory compliance, different delivery models, and technology innovations. A complicating factor is that these shifts within the business landscape don't follow a predictable path. To succeed, you must also respond quickly and effectively across multiple dimensions and be prepared to transform your organization from top to bottom and beginning to end. As part of their service portfolio, Management and Technology consulting firm, Booz Allen recommends a Transformation Life Cycle (TLC) [21] that provides a holistic, integrated approach for developing new or improved capabilities by simultaneously addressing the four dimensions of change (i.e., People, Process, Technology, and Physical Infrastructure) that enable the capabilities. It describes the activities, methodologies, and techniques needed to transform the organization through the entire life cycle involving 5 phases -Envision, Define, Design, Develop and Deploy.

Over the years practitioners and academics have suggested various approaches to IT Transformation. It serves to broaden the understanding while designing a framework for transformation. Yet another important reference accessed was from a project proposal for University of California San Francisco (UCSF) by Deloitte [22] for their intended IT spend reduction program which called for IT transformation. This project was initiated in the wake of unprecedented financial challenges, reduction in receiving state funds, lagging IT services and infrastructure as compared to peer organizations and high cost to operate IT. Deloitte proposed an assessment of the current state of UCSF's IT organization, operations, infrastructure and spend, and provide recommendations, sequencing, related timeline and net savings estimates for optimizing efficiency and effectiveness, streamlining operations, and reducing costs. This case provides a good understanding on how an IT transformation initiative should be approached.

Yet another perspective comes from a global IT consulting company, BearingPoint which argues that while designing their transformation strategy most organizations focus primarily on functional capabilities and business process which is a misplaced approach. Instead the company proposes a data driven approach [23].

In a difficult business environment, a carefully transformed IT environment can lay the foundation for survival, competitive success, and long-term growth. HP's Viewpoint paper on IT transformation [24] mentions that by adopting an enterprise-wide, value-driven model for IT change, organizations can address the critical variables of infrastructure, applications, process, and people. This holistic approach fully leverages proven methods of automation, virtualization, and modernization to realize those measurable gains.

For a business it is extremely crucial to identify the situations that would call for transformation as a remedial measure. In their paper senior executives of Management Consulting major Accenture [25] observe that critical warning signs that, if promptly and properly recognized, can signal the need for fundamental transformation. They can be termed as transformation triggers which can be categorized as Financial, Operational and Market triggers. They believe that failing to recognize these early warning signs can be disastrous. Still, there is no universal threshold, and each industry and company will have its own alarm levels.

In his technology blog author Israel del Rio [26] mentions that Business and Technology are but two of the key transformation drivers along with Competition and the internal dynamics of a company and planning for your IT transformation involves assessing the future for each of these drivers.

Software AG, an IT firm propagates modernisation approach for IT Transformation by suggesting steps to achieve the set objectives [27]. The steps start with Assessment of current state and then creation of Transformation Roadmap which is various IT transformation components (Integration, Harmonization, Consolidation, Innovation, Modularization and Extensions) and delivering quick-wins and long-term business success.

Another System Integrator, Patni Computer Systems, spells out key drivers for application transformation as – Poor service levels, Change in business processes, Higher Maintenance/ enhancement Cost, Resource Availability and Technology Change [28].

A number of studies have stressed on the governance aspect in transformation process. One such whitepaper [29] states that it is important to have a clear and active leader throughout the life cycle of the entire transformation process. Most often this role falls to the IT Director or CIO within an organization, but it is essential that the individual is able to work with both the operational and the business elements of the organization. Successful transformation is greatly dependent on how well the governance of the programme is handled and having a defined strategy, roadmap and communication are all essential elements of ensuring good governance and a successful transformation process.. The paper identifies key drivers of transformation as Operational, Service, Technology and Business.

John Palinkas [30] tries to figure out why IT transformation initiatives fail and what can lead to their success. According to him the critical success factors for transformation project are, i) A clear shared vision of the change that is continuously communicated to everyone; ii) Ensure understanding and acceptance of the reasons for the change by everyone; iii) Create and implement metrics linked to the desired business results and iv) Be quick and nimble with interim deliverables that are 80% right.

Survey & Analysis

Having referred a large number of research papers, journal articles, blogs and various web-sources, industry whitepapers, and discussions with industry practitioners and experts it was noticed that they largely focussed on non-Indian perspective. Therefore it was decided to explore the Indian environment on the concept of transformation as a means to achieve business IT alignment. Factors gleaned from the literature review along with inputs from experts were incorporated to craft a survey questionnaire which was forwarded to professionals that included Business Technology Consultants, CIOs, IT Advisory Consultants, IT Consulting professionals, IT Strategy and Transformation Consultants.

In this survey, respondents were asked questions on the following areas;

1. If they have managed/participated in any transformation project.
2. Their rating of Critical Success Factors for business IT alignment.
3. Challenges faced in business IT alignment projects
4. Key drivers for IT transformation
5. Critical Success Factors for IT transformation.

The participants were also requested to contribute their comments in case they felt any important parameters escaped being addressed in this survey.

The idea was to make this exercise as wholesome as possible.

The analysis of the survey responses is presented hereunder;

1. **Participants classified themselves under following roles;**

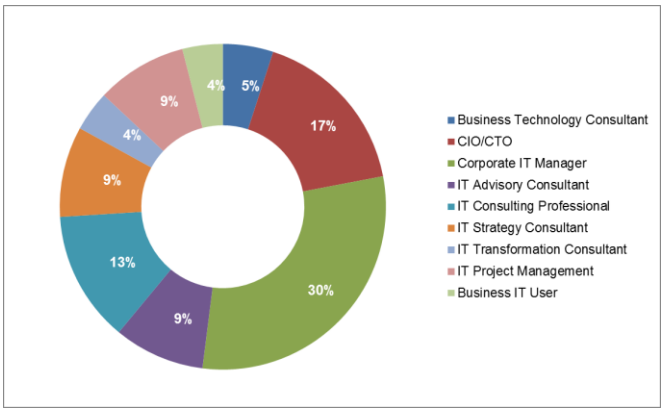

Figure 1: Percentage of respondents

- As the breakup indicates, 51% of the participants come from Corporate IT environments (CIO/CTO, Corporate IT Manager and Business IT user) while the rest are from Consulting backgrounds in varying roles. It was important to consider a 360 degree view from business IT ecosystem comprising of people, processes and technology perspectives.
- Professional experience of the respondents ranges from 6 to 28 years

2. **Exposure to IT transformation initiatives.**

A whopping **78%**of the participants have exposure to IT transformation initiatives, which supports the belief that modern day businesses are striving hard to compete and excel through deployment of appropriate technologies. Information technology is being seen as an important productivity tool and transformation helps businesses align their IT strategies with business objectives.

3. **Specific factors critical for alignment of Business and IT.**

Rating in terms of their importance.

Critical factors to achieve business IT alignment (BITA) were identified based on literature review and discussions with experts. A list of 14 such factors was prepared and respondents were asked to rate them on a 5-point Likert scale as below;

1- Not at all Significant
2 - Somewhat Significant
3 - Neutral
4 - Quite Significant
5 - Very Significant

Table 1: Specific factors critical for alignment of Business and IT

BITA CSFs	***Not at all Important***	***Somewhat Important***	***Neutral***	***Quite Important***	***Very Important***
1. Top Management mandate	0	4	9	26	**61**
2. Open, clear & transparent communication between IT & Business.	0	0	5	35	60
3. Having a clear corporate plan as a guide for IT planning	0	4	4	57	35
4. Adherence of well-defined Governance structure	0	9	13	52	26
5. Clearly defined and effective roles and responsibilities	0	0	4	37	59
6. Top management actively engages in IT planning	0	13	13	48	26
7. Proactive IT department	0	0	9	43	48
8. Reliable IT services by the IT department	0	0	9	48	43
9. Skilled IT team able to keep up with	0	0	10	52	34

BITA CSFs	*Not at all Important*	*Somewhat Important*	*Neutral*	*Quite Important*	*Very Important*
advances in IT as per organization culture					
10. Processes to measure business value are in place	0	0	12	54	34
11. Healthy and productive User-IT relationship	0	0	13	50	37
12. Being able to obtain suitably qualified personnel to execute projects	0	8	11	51	30
13. Taking into account people and politics while planning	0	10	30	36	24
14. Effective external partner interface	3	4	10	**65**	18

Rating in percentage terms

- Top Management mandate clearly receives the highest attention with 61% respondents considering it very important for business IT alignment.
- Top 5 most important factors are;
  i. Top Management mandate at 61%
  ii. Open, clear & transparent communi-cation between IT & Business at 60%
  iii. Clearly defined and effective roles and responsibilities at 59%
  iv. Proactive IT department at 48%
  v. Healthy User-IT relationship at 37%
- All respondents are almost unanimous in assigning'low importance' to all the listed factors with only 3% rating effective partner interface as low priority.
- External partner effectiveness received the top billing overall with 65% considering it 'Quite Important'
- Nine of 14 parameters were accorded 'quite high importance', highest amongst all categories

1. Possible challenges while implementing a business-IT alignment project in the organization.

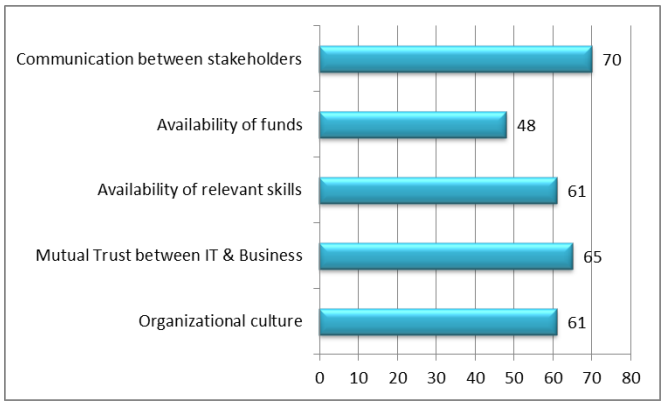

Figure 2: Percentage of respondents: BITA Challenges

- Stakeholder communication has been rated the most critical challenge to achieve business IT alignment.
- Additionally, some other challenges mentio-ned by industry professionals were as under;
  - Change Management
  - Top Management Commitment
  - Competence of the Program Manager
  - Properly maintained quality documentation
  - Quantified KRA & ROI
  - Flexibility to make some changes in Business process
  - Emergence of new technologies and its effect on Projects where already huge investments are made
  - Detailed and clear documentation of everything with version management

2. Important triggers or key drivers that can potentially initiate IT transformation in an organization.

Rating as per significance.

Following 5-point Likert scale was used;

1 - Not at all Significant
2 - Somewhat Significant
3 - Neutral
4 - Quite Significant
5 - Very Significant

Table 2 below depicts the important triggers according to the experts who undertook this survey.

Table 2: Key IT transformation triggers

Transformation Triggers	Not at all Significant	Somewhat Significant	Neutral	Quite Significant	Very Significant
1. To align with dynamically changing business environment	0	0	26	30	**44**
2. Competitive threats	0	13	30	35	22
3. Need to comply with newer regulations	3	5	22	32	**38**
4. Need for improved service levels	0	9	9	52	**30**
5. Need for improved turnaround time	0	4	22	52	22
6. Need to enhance IT processes	4	13	22	48	13
7. Change in enterprise architecture	4	4	26	52	14
8. Fast paced technology change	7	11	25	36	21
9. To overcome heavy dependency on key resources with techno-functional knowledge.	0	22	26	43	9
10. Managing frequently changing skill requirements	0	22	17	**57**	4
11. Relieve internal resource constraints	4	17	35	35	9
12. Pressure on IT budgets	0	22	17	35	26
13. To improve ROI	9	17	13	26	**35**
14. Management Change	13	0	17	35	**35**
15. Unprecedented financial challenges driving aggressive cost savings targets	4	17	13	53	13
16. High cost to operate IT	4	13	30	48	5
17. To collaborate more effectively with internal and external business units	0	9	30	43	18

Rating in percentage terms

- Top 5 most important triggers in descending order of rating are;
  i. To align with dynamically changing business environment at 44%. This clearly means that the most important reason to initiate transformation project is to achieve business IT alignment in the organisation.
  ii. Compliance with regulations at 38%
  iii. Management change and ROI improvement are rated equally at 35%
  iv. Need to improve service levels at 30%
  v. Pressure on IT budgets and competitive threats are at 26%
- Overall 13 out of 17 triggers received high rating as 'quite significant'.

- Top rating of was accorded to Management of skill requirements by 57% as 'quite significant'.

3. Key factors for the success of IT transformation initiatives.

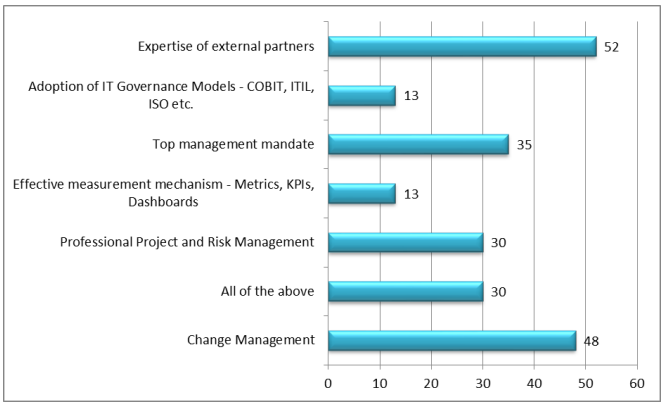

Figure 3: Percentage of respondents: Key factors for IT transformation

- Expertise of external partners is considered important by 52% of the participants. IT transformation being a complex exercise, generally organizations take technology/ consulting partners
- on board. An external partner well aligned with client's expectations is crucial to a successful transformation.
- Almost half of the respondents rated change management as the most important factor in IT transformation which indicates the prominence accorded to human resource factor in business technology process.
- Overall all the six factors received high scores which indicates that there is a general consensus amongst technology management community on the importance of these areas.
- Surprisingly, governance and partner effectiveness were rated very low which is perhaps an aberration because of the small sample size.
- Apart from these, factors such as clear role definition, team motivation, adherence to timelines and quality, domains knowledge of consultants and effective coordination between teams were also suggested. Most of these factors fall under the discipline of project management and governance.

Conclusions

There has been a great deal of focus on business IT alignment amongst business IT community globally. As the pace of business continues to quicken, many corporate IT departments have realized the need to revisit how they deliver services to the rest of the enterprise. Transformation is the 'vehicle' through which an enterprise can achieve alignment between technology and business objectives which is so crucial in attaining their strategic goals. In order to understand the nature and characteristics of IT transformation this paper attempted to explore sources that describe the work carried out in this area both at conceptual as well as practical levels by thought leaders and the Consulting world. Responses were sought from a cross-section of stakeholders in India to try and understand their concerns vis-à-vis this topic. This helped in gaining better insights of challenges faced while aligning technology with business and also as to what would normally trigger a transformation exercise. Since business IT alignment is a highly complex area a similar study on a much wider scale will be far more credible for it is likely to reveal more trustworthy and actionable information.

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