

Structural Alignment with Process Maturity – Way to Leaner and Nimble IT organizations (Aiming at Value not Size)

Authors

Gulprit Singh

(PGSEM - 2008022)

Organization: Motorola

Email: gulprit@gmail.com

Phone: +91-9886888856

Harpreet Singh

(PGSEM-2008023)

Organization: Sapient

Email: harpreetsingh76@gmail.com

Phone: +91-9880469203

Abstract

This paper uses a mechanism of structural evaluation and alignment in organizations coupled with existing process maturity models to derive nimble IT organizations delivering higher value and moving faster the value curve as against a market expansion curve. This paper thus critically evaluates the existing practices and the literature and critiques on the implication of lack of structural and cultural maturity of the organizations based on the process maturity and value delivery. It then looks at the existing structure and the culture of Indian IT companies on the dimensions of Organization Structure, Culture, Levels of Hierarchy and Communication mechanisms based on the fundamentals of organization designs and how they have evolved. It then identifies the gaps with respect to the high end IT services and consulting organizations and proposes the framework for the companies to evaluate their structural and cultural path aligned to value growth and long term leadership against market growth. The trade-offs across the two dimensions are also evaluated. This paper then leaves the readers with the set of questions that need to be evaluated and area of further research to get the agility dimension right with within the organization to ease the transition up the value chain.

Keywords: Structural nimbleness, Value Chain, Cultural Alignment, Process Maturity

Introduction

Indian IT industry has been constantly innovating in terms of business models, processes and practices. This has helped the industry in constantly managing in growth. The key driver of this growth has been market expansion driven growth and not value growth. The value growth comes in terms of providing high end information technology consulting and services, identifying and defining problems and designing solutions as a source of competitive advantage. On the contrary the size growth is in terms of a high growth industry that is in constant need for implementation services at affordable cost driven down from the high end IT consulting services. This has been the easier growth to achieve and the pie is constantly expanding. This defines the problem of **“Moving up the Value Chain”** as Indian IT companies try to change the orbit from the implementation based services to strategic IT solutions. As Indian IT industry looks to move up the value chain, this paper evaluates the structural and cultural dynamics associated with these organizations.



Fig 1: The software value chain ^[2]

There has been a lot of research gone towards building various software development, processes maturity models and tools to enable predictable, consistent and quality software delivery. These terminologies include Waterfall, CMMI, SPICE, and ITIL and so on. Some models have been internal facing while the others mostly are external facing. At the same time, there has been constant process centric innovation by Indian IT companies over the years. All this has manifested into building client confidence and delivery. None of them (neither the literature, nor the process innovations) have managed to clearly document and give industry directions towards the right structural maturity of the organizations coupled with the process maturity as they grow. Neither has organizations managed to evaluate the right structural dimensions for them, thereby reducing layers with process maturity. Rather, more and more complex roles have evolved, all of these are coupled with complex software sizes to further manage the client risks and delivery better. All this has been limiting Indian IT companies into delivering low and mid tier IT services. The process alignment has thus become the mechanism of building confidence amongst its client rather than managing organizations more effectively internally. There is a huge leverage in terms of knowledge, but that leverage doesn't manifest into structural lightness and higher value as the size grows and the knowledge gets diluted and not codified. This becomes one of the parameters holding Indian IT companies back.

As shown further, with process maturity, it is intuitive that the organizations should become leaner and flatter, but this has not happened, essentially due to the growth factor which needs so many gates to manage. Also, in terms of the growth, Indian IT companies will now have to make tough choices in terms of proposed path they wish to take, and there is a tradeoff associated with each of them.

Evolution of Indian IT industry and Process Models

Indian IT industry growth saga has been well known. It has evolved from a meager few million industry to a whopping 40 billion industry and still growing strongly. It has taken many manifestations in terms of nature of services and offerings and complex models are constantly evolving. In terms of delivery, what started from resource augmentation to offshore development centre models has further evolved into Global Delivery Model and still innovating to capture multinational facets of development, delivery and deployment. Indian services majors have well recognized that to retain their competitiveness, they have to evolve their model from a simple "one hop offshoring" to a more sophisticated and globally distributed delivery model. This has been achieved through by unbundling of the service delivery process into different components and by delivering them from multiple locations more effectively. Further Indian players are using their domain expertise to further strengthen and deepen their engagements with clients. Practice focused competence centres have been set up to develop expertise in select industry verticals ^[1]. There have been attempts towards consultative selling but the success has been limited.

As elaborated later on, based on the unstructured interview with PGSEM program participants, the following elements of Indian IT industry stand out, amongst the entire development saga. These are captured as follows –

- There has been a constant innovation in terms of process and practices for efficient client delivery.
- Resource optimization is used as a mechanism to further improve profits
- Quality gates and practices are employed with active reporting to the clients through charts, metrics and graphs to boost confidence of the client
- With complex software delivery processes have become more complex and hence complex roles have evolved to manage the delivery
- With aim at domain expertise and industry verticals, there is increased job specificity in the work and low variance

Clearly, the growth has been in terms of size as the pie has been so far expanding at a healthy rate, with enhanced value becoming the secondary driver complimenting the primary through practices. This can be shown in the figure below.

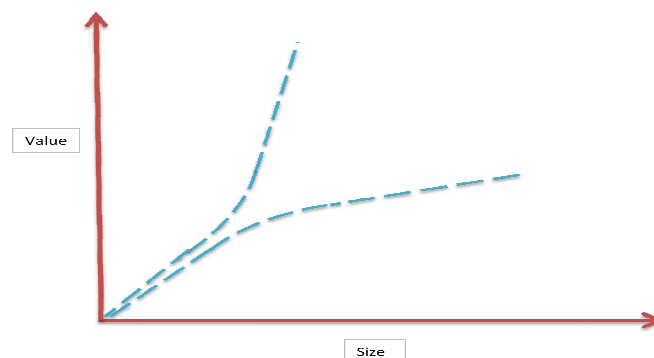


Fig 2 : Value v/s Size based growth

With the growth of Indian IT industry, there has been a constant and significant growth in associated literature, practices and standards. These include Capability Maturity Model (CMM)^[4], ISO 9000, People-Capability Maturity Model Integrated (P-CMMI), Digital Six Sigma, 5 Nines, ITIL^[5], esCORP and many more. Each has brought with it new set of parameters and nuances. With all this, many companies further adopted Project Management Professional (PMP) practices to streamline the project delivery coupled with setting up of separate Project Management Office (PMO). Different companies with their growth have further tweaked and adopted the models coupled with their practices. While this has happened, there has been two key elements of this evolution. They were focus on the following –

- Ensuring measurability of the quality of the deliverables coupled with practices to achieve those.
- Processes and practices that will ensure quality of the deliverable with metrics for effective reporting.
- Reduce variability in the delivery of the software

The central theme that emerged in all of this is about building client confidence and low variability in the organization delivering the software. There has been very little literature aimed at looking within the organization.

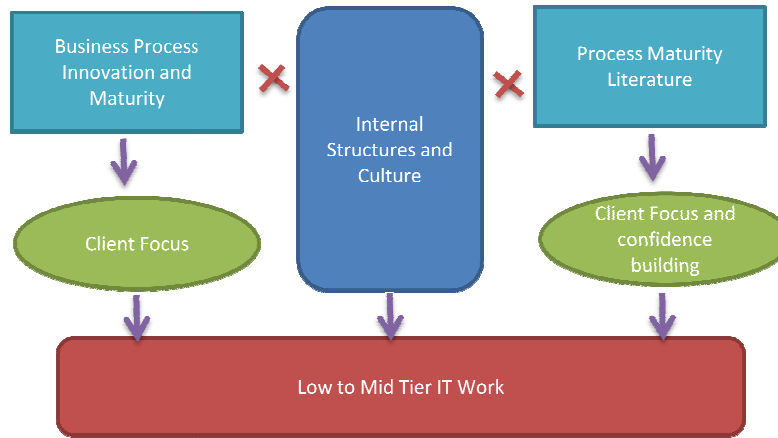


Fig 3: Practices-Literature Landscape

As shown in the figure above, the linkages between the internal structure and culture of the organization with the business process innovation and maturity are largely missing with each aiming towards delivery and client confidence all mapping to a low to mid tier IT services, until recently when “Agile” processes ^[6] and practices have been brought in, which talks about structure and culture which is much more dynamic and adhoc. Unfortunately, through unstructured interview with participants of various companies, it is found that it has failed to bring in structural freedom within the organizations, but has only been accepted in terms of iterative development model with feedback loop for client confidence. The structural and cultural aspects have been safely ignored, firstly due to the lacunae associated with change and control. Indian IT companies have become highly bureaucratic in their structure and operations and hence there is a fair bit of resistance to change to the new structure and culture. Second challenge faced is about the size. Since the focus is always on the size, there is a constant aim and manipulating teams to manage the mix of experience and novices thus going against the philosophy of process. What Indian IT companies have adopted well here as well is the sprint development model with demo-able deliverables to further build their confidences with clients and manage the teams at a more granular level, thus again manifesting into client confidence as earlier pointed out. Thus, clearly Indian IT industry has gone leaps and bound on different dimensions viz. Software development Activities, Software development and deployment models, process models, sourcing models but has left an important dimension of organization structure and culture models as captured in figure below.

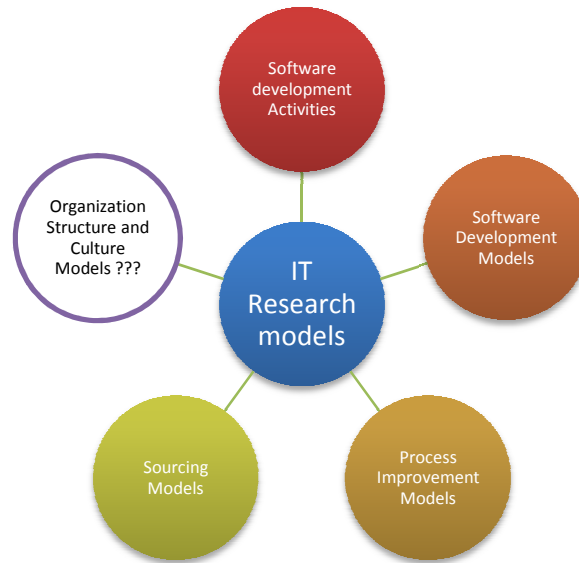


Fig 4: IT research models

Thus, the industry has matured well in terms of other parameters but it has not manifested in the nimble and lean IT organizations. All the current processes and practices have just further strengthened the case of low to mid tier IT work, as it always was, but there has been no structural step towards “Moving up the value chain”.

Ideally, as the industry and processes mature, it should lead to leaner and flexible organizations as the theory of operations suggest. Also, instead of top down approach it has move towards a ground up approach in case it has to move up the value chain. There is a huge value gap here to be captured. Further, this shall position the Indian IT companies to focus on the value parameter away from the size parameter.

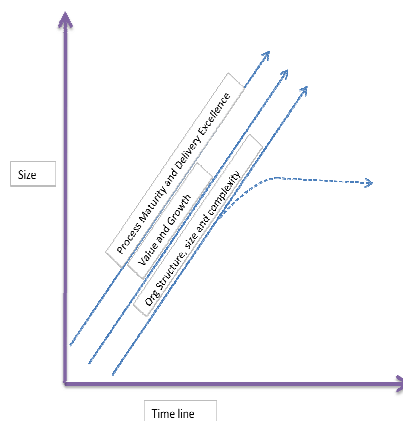


Fig 5: Structural Maturity Graph

Structural and Cultural Evaluation

In unstructured review with PGSEM (Post Graduate Program in Software Enterprise Management – A program aimed at mid level IT professionals) participants from various companies, the following structures of organizations are commonly emerging with little variations. This has been captured in the figure below. The development models, process models and the delivery models sit between the client and the engineering organization. The practices constantly adapt themselves in coupling with the clients and are then driven top down from the client interfaces and senior leadership down to the organization. Linked with the verticals, the structure is highly specific and low variability structure with constant addition of roles and gates to further manage the ever increasing complexity of the software and managing clients. The complexity of structures has further increased with distributed or global delivery models and multiple parallel hubs start appearing. Culture has become more on more bureaucratic and practices more rigid.

Primary Research of PGSEM Students

There were two levels of survey done towards understanding the culture and structure of various IT organizations with an aim to relate it to the culture and structure needed for top end consulting work in the IT domain. The participants of survey were IT professionals with an experience ranging from 4 years to 10 years. Consciously, participants with higher experience were excluded to minimize philosophical influence from the senior management. The first round of survey was a focus group discussion to understand patterns of structure and culture within the organization. The feedback from the first round of survey was used to arrive at the structural and communication flow pattern within various organizations. This focus group discussion comprised of six members from different IT organizations each with varying sizes ranging from 3000 employees to 20000 employees and more.

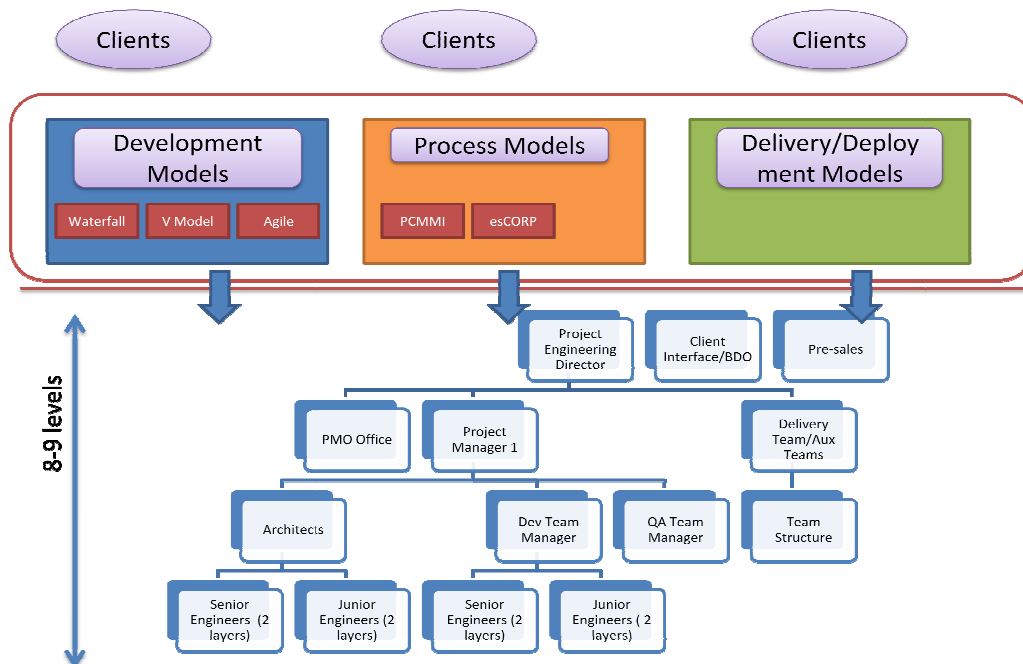
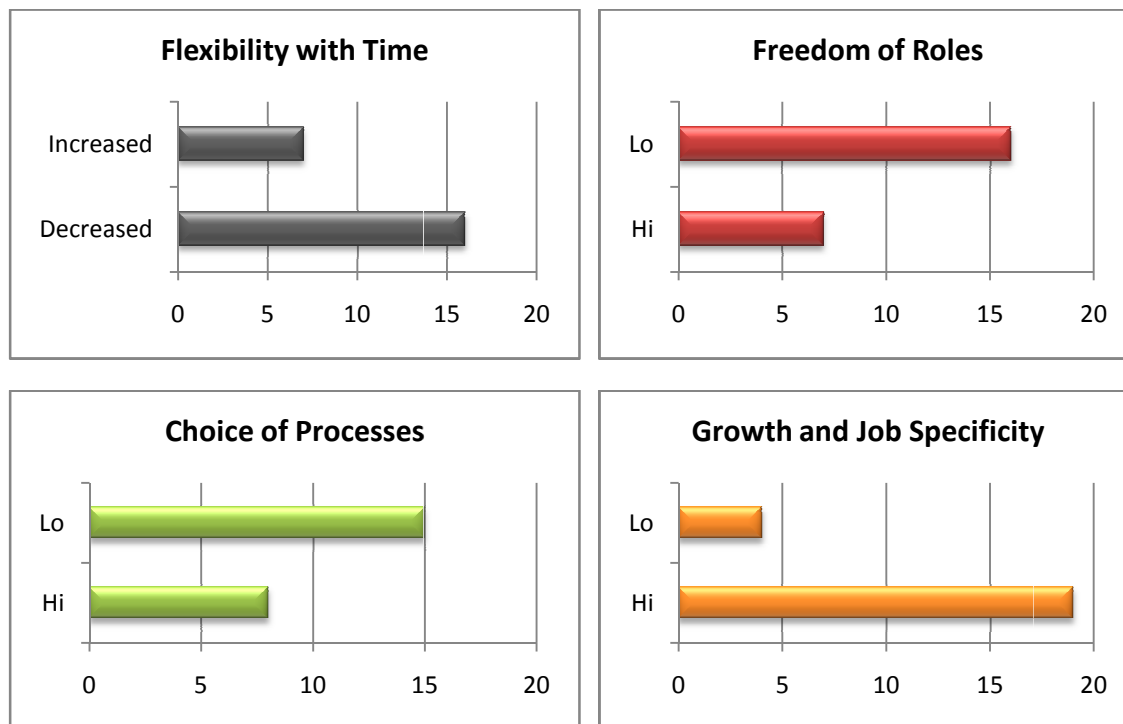


Fig 6: Current IT organizational Structure

As shown in the figure above, top down structure with process models, development models and deployment models are closely linked with customer reporting, feedback and confidence building. Further the flow of the information is top down, and there is a sense of dilution at different levels. The communication is also top down with directions driven down the hierarchy. Thus the core of the delivery is not people but the processes and practices which lie at the helm of the structure. The teams are pushed to a corner and are expected to deliver to the specifications. On the contrary, in a consultative model of engagement, the people and team become central and tools and processes become peripheral. Indian IT industry has over year changed these dynamic pushing teams to the corner. Thus based on the focus group round it was concluded that –

- The structure of organization is highly bureaucratic
- The communication flow is top down
- There is high degree of job specificity
- There is low scope of variability
- Highly process centric and processes pushed down
- Over years, the bureaucracy, processes and metrics have increased

Further, a structured interview was sent to a group of 23 participants to further validate the structural dimensions identified. The summary of the result suggests as follows –



Clearly, the survey results further validate the points identified above through unstructured interviews.

Gaps

All the parameters identified above suggest Indian IT companies are actually operating like IT factories, with a mechanistic way of operation. This goes against the formational basis of a consulting establishment. A typical structure of a consulting organization has following elements –

- Flat structure with low level of hierarchies
- Role flexibility with situational adaptation
- Knowledge is focal, and not processes
- Communication is multi-directional

Further, Indian IT companies based on the focus group recommendations have moved more towards this model now than earlier. Many of the participants confirmed that there was more flexibility, free flow of information and role variability early on, and has diminished with years as the organization has grown. This is a clear indication that the growth path chosen has been that of the size and not one of the value delivery. As Indian IT companies decide to change their preferred axis, to the one of moving up the value chain, it has to first look within structurally to get the necessary changes leading to that direction alongside trying to sell consulting practices. Indian IT companies have tried to address this issue by floating a new consulting Business Unit with aim of getting these elements right. While this may look right theoretically, the challenge is about the DNA of the organization. Can an organization exist in two skins? One with a low end work aiming at mechanistic approach and other with a free flowing consultative approach. It may not be easy to do this, and hence the changes have to be across the organization, ground up.

Proposal

In order for Indian firms to move up the value chain, the processes and technologies should be used as tools of choices for efficient delivery. With twenty plus years of experience with Indian IT industries and the maturity of technology and practices, this should have a direct implication on the structure of the firms with the firms becoming leaner and nimble, removing unwanted gates which become the hygiene factors. The teams and project structures have to become dynamic and not too far away from the client. The choice of different elements should be left on the teams to decide what suits well between the client and the organization. With these elements together, following structure of consultative IT organization is proposed.

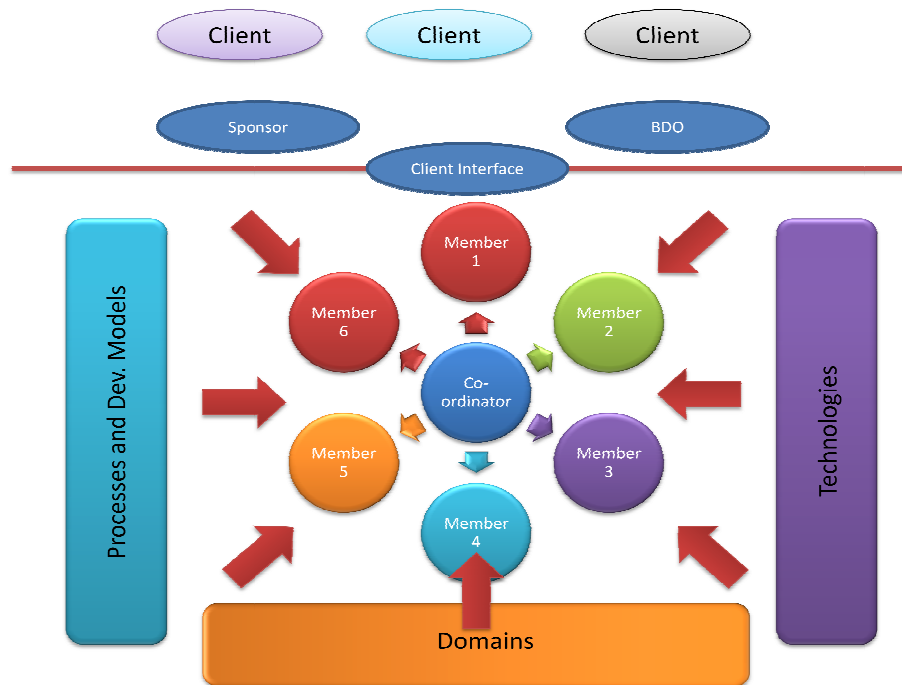


Fig 7: Consultative Structure for Indian IT firms

As per this structure, there is a thin layer of client facing management team with communication mechanisms as a mixture of formal and informal. The interfaces are well aware of proposed work and are in constant touch with the project coordinator who acts as a interface to the team and has a stake with the client as well as the team. Further, the team is organized in a star patten with free flow of communication across. The teams are dynamic in nature and each member can constantly change roles based on the needs and the circumstances. For example, a member apart from the implementer can also act as the consultant of processes and dev models, while another member can bring the expertise of quality assurance (QA) to the overall team apart from base contributions. With this model, the processes, domains and technologies become the support pillars which are chosen once the problem is received and then the team decides what process and practices to be used, what technology can be used to efficient deliver the value to customer and domain becomes the backbone of expertise with each of them understanding it well. This is now a consultative structure, with people becoming the core of the functions.

Recommendations

It is high time for Indian IT companies to change their orbits aiming to moving up the value chain. With size based growth this bracing the industry, this choice is not easy. There has to be tradeoff. If Indian IT companies have to move up the value chain, it will have to relook at its structural flexibility and agility as one of the key element. Managing the strategic IT projects through a different Business Unit is not easy, as it is like two organizations existing in one. Thus Indian IT companies will have to change the approach in the way they do their businesses and therefore re-align people, structures and communications around that.

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