

Changing the Rules of the Game: Non-Linear Business Models for IT Services

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Abstract: The biggest challenge for any business is not just attaining the growth but to sustain the same. Information Technology has been changing the rules of the game rapidly in all spheres of life. Information Technology (IT) business itself the change is not only uncertain but has proven to be unforecastable. Rapidity of change due to advances in IT and in the IT-business has created an extreme level of competition that has been unprecedented as IT has eliminated various types of barriers for anyone to start a new business. The newer technologies like cloud, mobile, analytics, machine learning/artificial intelligence, and internet-of-things, are enforcing IT services companies to transform themselves to deal with the newer challenges as they are creating newer companies. As of 2017, a quarter of organisations are spending 15 percent or more of their IT budget on machine learning capabilities, and we expect the number of machine learning examples to rise in the near future. In this scenario, Companies should not only focus on 'building new competencies' but also developing new business models. These challenges are accelerating the search for innovative business models. Business model will be useful in distinguishing one business from another and identifying the resources necessary to implement them. Business model converts innovation to economic value for the business. The mushrooming of technology-based start-ups indicates a new threat and opportunity. In this scenario, business model innovation has become the key to competitive advantage. For example, in the Aviation industry "No-frill Business model" had made huge impact around the world. According to this model, Airlines will offer generally low fares in exchange for eliminating many traditional passenger services This study identifies the recent disrupting trends in IT. This paper develops the Business model matrix representing the innovative, non-linear business models for IT industry.

Keywords: Non-Linear Business Models, Business Model Matrix, Analytical Logical Value Inventive Systems (ALVIS) Thinking.

INTRODUCTION

The rule of the game is changing with high pace in all spheres of life. In IT business where change is the only unchangeable, uncertainty and unforecastable future are quite common in this competitive arena. The Trump administration has tightened the screening process for H-1B visas. If the H-1B programme is scrapped, it would disrupt the traditional business model of Indian software services exporters and increase their cost of doing business in the US [1]. The biggest challenge for any business is not just attaining the growth but to sustain the same. The newer technologies like cloud, mobile, analytics, machine learning/artificial intelligence, and internet-of-things, enforcing IT services companies to transform themselves to deal with the newer challenges. As of 2017, a quarter of organisations are spending 15 percent or more of their IT budget on machine learning capabilities, and we expect the number of machine

learning examples to rise in the near future [2]. Almost all digital marketers started to use this technology to offer a highly-personalised service to the customers. The global DevOps market size is expected to reach USD 12.85 billion by 2025, according to a new study by Grand View Research, Inc. [3]. According to Bass (2015) DevOps is a set of practices intended to reduce the time between committing a change to a system and the change being placed into normal production, while ensuring high quality [4].

Companies should not only focus on 'building new competencies' but also developing new business models. These challenges are accelerating the search for innovative business models. A business model can be defined as the mechanism by which a business intends to generate revenue and profits. It describes how a company plans to serve its customers and involves both strategy and implementation. Abell

(1980) defines the business through three significant components [5]. According to the author the Business Model can be described through identifying i) customer groups (who will be served by the business), customer needs (what are the customer needs that will be met) and technology or distinctive competencies (how are these needs going to be met).

Business model will be useful in distinguishing one business from another and identifying the resources necessary to implement them. Business model converts innovation to economic value for the business. For example, In the Aviation industry “No-frill Business model” had made huge impact

around the world. According to this model, Air-lines will offer generally low fares in exchange for eliminating many traditional passenger services. These airlines will be operated based on “low ticket prices and limited services”. Air Deccan was the first India's low-cost carrier [6]. In the field of Information technology there are two models widely discussed i.e. linear and Non-linear business models.

The following Business model matrix describes the understanding of Non-linear business models. The non-linearity in business depends on two dimensions Resources and Clients.

New service / New Clients	<p>LINEAR BUSINESS OPTIONS</p> <ul style="list-style-type: none"> i) High Cost ii) High Training requirements 	<p>NON-LINEAR BUSINESS OPTIONS</p> <ul style="list-style-type: none"> i) Less Cost ii) Moderate Training requirements
	<p>LINEAR BUSINESS OPTIONS</p> <ul style="list-style-type: none"> i) High Cost ii) Moderate Training requirement 	<p>NON- LINEAR BUSINESS OPTIONS</p> <ul style="list-style-type: none"> i) Less Cost ii) Less Training Requirements
	New Human Resource	Existing Human Resource

Fig-1: Business Model Matrix

Linear business options will be in operational, when the vendor delivers new service to existing clients or new clients by increasing head counts proportionately. Here, the revenue comes from new projects/service depends on the number of people involved. Non-linear business model will be developed when the vendor delivers new service to both existing customers and new customers by effective utilization of existing resources. New services/projects will be delivered even without recruiting more headcounts.

Traditionally, linear business model has been adopted by all IT majors. In a widely adopted linear business model, revenue is effort based (more the number of people working, more the revenue). Linear business model is inadequate in facing the new challenges facing the IT landscape. Rising staffing cost, Skill shortage and attrition are the major challenges which make the IT companies to think about non-linear business models. IT services companies are looking for smarter ways to boost revenue without boosting staff numbers.

In Non-linear business model, revenue expansion does not imply proportionate head count increase. This is the system in which (as opposed to linear systems) the effect of external factors is not purely additive and do not change in proportion to a change in an input. The linear business model denotes labour based service delivery, whereas non-linear business model denotes asset-based service delivery. In simple term linear business model relies on number of people (quantity of work force) and non-linear business model relies on intellectual asset of people (quality of work force). So, the companies can demand a premium from its clients by providing high-value services. In this respect the Indian IT industry will continue to explore non-linear business models which will shift the terms of engagement away from headcount. This article shows light on promising non- linear business model options for Indian IT industry.

IP ASSET BASED SERVICES

The Indian IT sector moves up the value chain and takes on jobs that are priced more as a total project cost as compared to the projects that are priced on dollar per hour basis. It is necessary to have revenue per capita almost increased by an order of magnitude to achieve the competitive advantage. As per the words of former president Dr. A.P.J Abdul Kalam, “Intellectual property products which alone can increase the per capita revenue non-linearly for the Indian Software Industries” [7]. Now firms are focusing more on intellectual property-based solutions that is creating some frameworks that will be more productive. Delivering solutions around IP-assets (frameworks and productized services) is a powerful service differentiator and a significant margin lever. Implementing such solution requires significant customization which plays to the strength of Indian services providers. Contracts can include a licensing component along with a services component, with support revenue streams, making it another good non-linear option. Large players in the industry are investing in this capability although revenue streams currently are a small proportion of their overall business. Inorganic route is another way to acquire IP assets.

SOFTWARE AS A SERVICE (SaaS)

Software as a service (SaaS) is a software application delivery model where a software vendor develops a web-native software application, hosts and operates (either independently or through a third-party) the application for use by its customers over the Internet. SaaS is a method of selling software in which a vendor or service provider hosts the applications and makes them available to customers as a service, rather than as a product. Customers do not pay for owning the software itself but rather for using it. The customer is charged for usage rather than outright ownership. Revenues will be linked to usage and transactions performed. Companies are being attracted to SaaS as a strategy to cut costs, improve service delivery and faster RIO through faster implementations.

According to new data from the IDC market research firm, global revenue in the Software as a Service (SaaS) industry topped \$43 billion in the first half of 2017 — up 23 percent from a year ago, making up nearly 70 percent of the overall cloud market. With software as service (SaaS), the user organization pays for software services in proportion to use. Shorter implementation, scalable, agile, Security, lower up-front costs and pay-as-you-go pricing are the major reasons for the growth of adoption of SaaS.

India is expected to be the fastest growing ‘software as a service’ market in the Asia-Pacific with its five million small and medium businesses (SMB). India and China have been ranked as having the greatest potential in the mid to long-term future by

‘software as a service’ application vendors. The SaaS business grew at the rate of 33 percent (year-on-year) in 2017 according to Gartner [9]. The report also points out the increase of SaaS is the major sign of migration of application and workloads from on premises data centres to the cloud. The research firm predicts that the momentum continues to sustain in 2017 eventually plateauing through 2020 as the market further matures.

The solid foundation of Service Oriented Architecture (SOA) will make sure of effective SaaS. Service Oriented Architecture (SOA) is a computer systems architectural style for creating and using business processes, packaged as services, throughout their lifecycle. SOA also defines and provisions the IT infrastructure to allow different applications to exchange data and participate in business processes.

These functions are loosely coupled with the operating systems and programming languages underlying the applications. By reusing the functionality in applications, SOA offers the promise of cutting development costs because parts of existing services can be more quickly adapted to serve new business processes.

SOLUTION ACCELERATORS

IT service providers are on the course of innovation and pulling towards “Solution accelerators” which have brought about a paradigm shift in the IT. Solution accelerator is internally developed software that technology services firms use to automate a particular business process or aspect of product development for a range of clients, where 30 to 70% of code can be reused across engagements [10]. These help in acceleration of deployment of business solutions. As IT services firms focused on industry vertical-specific solutions, they could identify the patterns of common processes across client organizations and opportunities to capture those and gain in terms of productivity. Solution accelerators can be reconfigured which will offer greater flexibility to the users and making each implementation as unique. They make every installation different from any other. Solution accelerators are more agile as they are only partially finished and are completed based on the specific needs of a client. As per Forrester, more than a dozen solution accelerators save an average of 25 to 30% in a project implementation cycle for a client. This is because of the fact that solution accelerators are developed with the intention of deploying them at multiple client sites. Therefore they are well tested and can possibly be implemented sooner. Researchers at IBM have developed over 120 “Solution Accelerators” for 17 verticals that help cut short overall deployment of technology and business solutions. According to Forrester, Infosys Technologies Ltd and HCL Technologies Ltd could generate as much as 50% of

their revenue in the next five years from business gains from “solution accelerators,” [11].

IBM has developed solution accelerators ‘Secure Trade Lane’, a new comprehensive global logistics information platform. It gives global supply-chain stakeholders access to information on demand, allowing real-time access and response to physical cargo monitoring data as well as the related logistics transaction data [12].

OUTCOME-BASED PRICING

Indian IT industry is gearing up in innovating new pricing models. It is gradually moving towards Outcome-based pricing. For long, the Indian IT industry has priced its offerings based on the effort and time it took. In this model, revenues based on a customer's success or business benefit will increase in proportion to overall revenues. In the case of insurance client, instead of pricing manpower used and time taken, a certain fee will be charged per policy earned by the client. So, IT vendor may go up or down with the business volume of clients. But there is a certain risk involved. The vendor efficiency and clients’ commitment would make this model successful. This model requires each side to trust each other to deliver on their commitment to achieve the clients’ business outcomes unlike the usual client/supplier relationship. The IBM-Vodafone deal is an outcome-based pricing deal in which IBMs pay is directly related to the commercial performance of Vodafone [13]. It was the first time in the Indian IT services market that a revenue sharing deal based on outcome signed.

VALUE-BASED PRICING

Value-based pricing is an admired pricing model adopted by IT service providers. In Value based pricing method, prices will be fixed based on the perceived value to the customer, rather than on the actual cost of the product, the market price and competitors’ prices. This is the method of pricing products in which companies first try to determine how much the products are worth to their customers. The goal is to avoid setting prices that are either too high for customers or lower than they would be willing to pay if they knew what kind of benefits they could get by using a product.

It will be the situation where suppliers know the customers’ needs but customers don’t know their needs. In that state supplier has to discover what clients need and make them to understand the benefit of IT implementation and pricing based on the value perceived by the clients. For example, supplier can make the client to understand that “After, implementation of IT service, client will save \$1,000,000 per year on their IT outsourcing costs [14]. Supplier may agree to do the service for the client for 25% of the first year savings. However, this technique

is adopted among small percentage of IT service projects and outsourcing contracts. But vendors are already pushing hard for such deals in order to generate the popular non-linear growth. The success of the value-based pricing depends on “Client intimacy”. The existing IT services companies focus on delivery excellence as the key driver for Value.

ANALYTICAL LOGICAL VALUE INVENTIVE SYSTEMS (ALVIS) THINKING:

The Indian IT companies should focus more on radical innovation to face the unique challenges in this digital age. Integrative innovation methodologies must be adopted by Indian IT companies. One of the recent such methodology is ALVIS thinking. ALVIS integrates Value thinking, Inventive thinking, and Systems Thinking, together with Analytical and Logical thinking for software innovation challenges. ALVIS by no means eliminates the analytical and logical thinking that have stood the test of time. Surprisingly, despite the 150-year-old proposal by Darwin, acceptance of “evolution” as a model of reality is a recent phenomenon. That the technical systems, just like living beings, also evolve was discovered by a Soviet engineer, Altshuller, in 1946, after studying scores of patents in multiple domains [15]. He used this study to propose a Theory of Inventive Problem Solving (acronym TRIZ in Russian). TRIZ identifies discrete technological stages on the lines of evolution. TRIZ evolution lines based on system laws can be very nicely used to generate next-generation concepts. As mentioned, software systems also evolve; and a software innovation framework can benefit from TRIZ. TRIZ for the new wave is also evolving [16] to incorporate AI and for inventing technical systems with a mind.

The second component is value thinking, coming from actual practice by Toyota and termed Lean Thinking. However, lean – considered by many as waste reduction (and mapped to people reduction in many IT companies) – is not proposed here, rather it is a ‘value maximisation’ view of lean that should be considered.

Finally, systems thinking – which includes scenario planning, thought experiments and understanding the new sciences of complex adaptive systems and network-centric organisations including social networks – is the third component. This combined framework could be mentioned as the Analytical Logical Value Inventive and Systems thinking (ALVIS). Combining these diverse thinking dimensions is the key to new ways of Global product development

We are already in or will be within few in what is termed as the Sixth Wave of Innovation. The fifth wave was driven by digital networks, software

and new media, and is rapidly giving birth to the new wave – The Sixth Wave of Innovation. This new wave of innovation will be driven by (a) Networked, Autonomous, Nano and Hypersonic – Things, (b) Algorithmic Intelligence and Quantum Computing and (c) Synthesized – Biology, Energy and Reality [17]. Business models need to be Invented using newer ways of thinking and inventing. In this process the trial and error methods of the past need to be made stronger by increasing the depth and width of our thinking and our ability to work with machines with intelligence of their own.

CONCLUSION

IT industry has to move up in the value chain and come up with innovative products that will create the impact in the international market. Indian IT industry could not be satisfied by having a position of low-cost destination. India's dominance as a low-cost outsourcing destination seems to be on the decline, with countries like China, Mexico and Hungary are the fast-emerging preferred choices by IT services providers according to research study by Pierre Audio Consultants (PAC), European market research and strategic consulting firm for Software and IT Services Industry (SITSI). Indian IT industry should be positioned based on superior customer value. The success of IT services will be determined by the growth competitiveness. Growth competitiveness is determined by the innovative ability of the organization. Organizations should devise new gaming strategies to sustain and grow in this changing rule of the markets by identifying new innovative business models.

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