Innovation

Imperative for Indian
Software Service Industry

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ABSTRACT

Innovation in companies is a mix of innovation culture and innovative system.

India has branded itself as an Information Technology Leader and the Services industry is a major contributor to the Gross Domestic Product. Service oriented companies need to align their business strategies with innovation and define their objectives and work environment accordingly.

Innovation in companies is a mix of innovation culture and innovative system. Hence, innovation must envelope everything a firm does that is critical for its continuing survival and growth. Such innovations have to take place not only in product and process breakthrough's but also in host of business, organization and process-related areas that are critical for facilitating product and process innovations. Key management processes of new product development; capital project appraisal and resource allocation need to be carefully redesigned making them conducive to the innovation process within the firm.

Taking these actions to support innovation within the firm will allow the Software Services companies to successfully leverage their domain knowledge. It will also allow them to capture the Value added activity market. Companies that come to India for cost savings will stay on for the quality of people and ultimately invest in innovation. It's time to capitalize on the country's greatest international advantage: the ability to innovate.

EMERGING OUTSOURCING SCENARIO

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The Software Industry in India has gained significantly from providing quality services to clients around the world, at low cost. However, with competition from other developing countries, India is fast losing its cost advantage. As cost pressure increases, Indian Software companies need to leverage their domain knowledge into a definitive advantage over their competitors by transforming into Innovation centers. They need to move from IT Services to Engineering Services offering end-to-end product solutions.

As per their recent survey of Senior Executives from across the globe, The Boston Consulting Group suggests that 70% of executives are willing to spend increased amounts on Innovation. An interesting observation was that the fraction of those who suggested significantly greater spending has increased by more than 10%

since last year. [8]

In a recent article on the tremendous potential for engineering services outsourcing to Izdia [2], NASSCCOM highlighted the results of a study by Booz Allen Hamilton and NASSCOM. They project that the business potential for Indian Engineering Services could grow from the existing $1 billion to almost $50 billion annually by the year 2020. [2] This is a huge opportunity for Service Providers to look at their core strengths and channel them into knowledge-based activities.

The NASSCOM report speaks of "globalization of innovation". Several multinational companies have established Research & Development centers in India and are generating significant Intellectual Property (IP)

through them [5]. As a strategy, these design centers team with third-party design services to ensure that the complete solution is developed in India. Increasingly, companies are looking at Service Providers to contribute to their Intellectual Property. The outsourcing of Innovation is driven by several factor among which are shorter time to market requirements and advantages of pooling worldwide resources. [9]

Service providers are thus moving from being optimizers to technology enablers. A recent article mentioned a research by Frost & Sullivan estimating the total design market in India to be $3.25 billion. More than 75% of this is in Embedded Software. It predicts that the design services market could be worth $43 billion by 2015. [6]

INNOVATION AS AN IMPERATIVE

Technological strengths should contribute to breakthroughs in multiple application areas.

Innovation & Intellectual Property Management has become a Key area of business in the Knowledge-based Economy and it is a fact that is accepted around the world. In spite of this consensus, only a small number of leading multinational organizations are actively building their Intellectual Property as a value generator. Since Indian Software Services industry has close associations with most of these leading organizations, it is imperative that they too follow the act. Those in the know, have understood the considerable importance of Intellectual Property and as a result, have pro-actively put in place a framework to track Innovation. So far this approach has been far from aggressive and the innovation awakening is happening at a much slower pace than required.

Technological strengths should contribute to breakthroughs in multiple application areas.

Consider the Medical Equipment industry in India, which derives mainly from electronics & software development industries. Although the level of technology in the electronics industry and expertise in the software domain almost match those of developed countries, we lag in design and manufacture of new products in core areas. Therefore, this industry has been heavily dependent upon licensing from foreign firms.

Initially India focused on rendering high quality software development services. In order to reduce costs, maintenance and lower-end jobs will move to cost beneficial locations. This will force companies to work at higher technology levels and on significantly more challenging work scenarios. They will need to accept the risks involved in development of technologies, which was not the case some years back. Companies will also need to accept probable failure as a possibility. Although the Services Industry has not traditionally been considered an "Innovation-base", it must move towards this goal if it must sustain itself in the long run. Software Services companies need to think outside the box and look to ways of contributing their domain expertise into the knowledge pool of the global market leaders in specific technology segments.

India is today the Research & Development choice for MNC's. Around 200 global companies have already set up their Research & Development centers in India. [5] Almost 25% of all fresh global investments in Research & Development centers land in India. IT services companies who have exclusive offshore development centers for their clients will increasingly be involved in product and technology development in India to ensure value form money. Corporate Research & Develoment labs are collaborating with suppliers and clients, sharing software code with programmers, tapping networks for scientists and entrepreneurs for the world's best ideas. Service Providers should make the most of these opportunities.[7] Service oriented companies need to align their business strategies with innovation and define their objectives

and work environment accordingly. What the Service Industry needs to do is get away from a culture where it merely goes by the Defined Requirements.

Indian Companies have already started going well beyond this and contributing to projects right from the requirement definition stage. It is this ability to contribute its domain knowledge that will give India the edge over competitors. For the potential to transform into reality, companies must focus on their role in the knowledge industry to supplement their role as software service providers. The maturity and domain expertise of the Indian Software Service Industry must metamorphose into increased business opportunities. Higher-level tasks can be undertaken by Indian counterparts to provide significant cost advantages to companies around the world. At the same time, it can continue to offer affordable expertise to those that lack it.
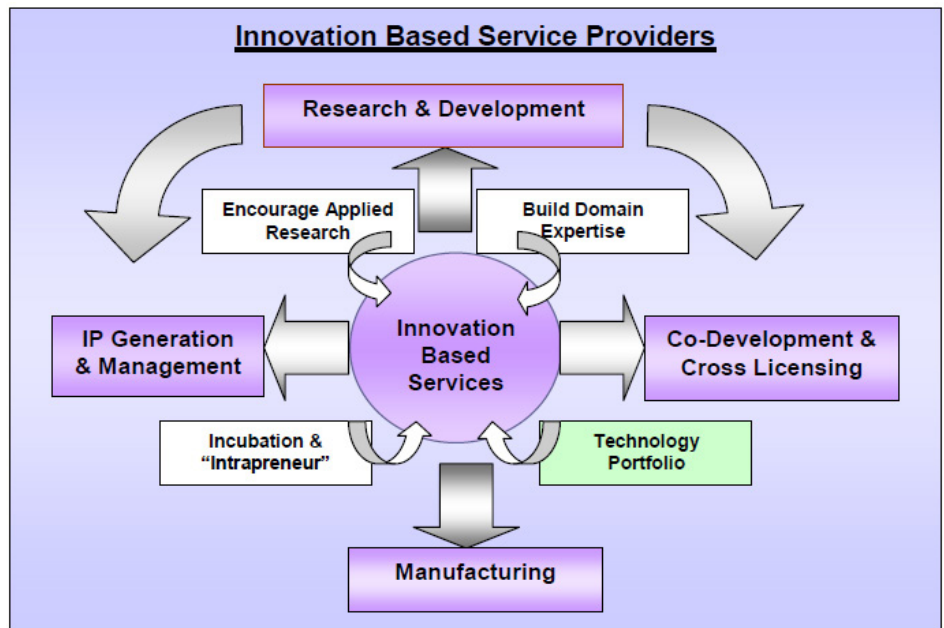
Intellectual Property is now a key consideration in Mergers and Acquisitions. According to one expert, Lenovo's strategic goal in the IBM–Lenovo deal was to access IBM's Intellectual Property especially the Software patent portfolio [1].

INNOVATION BASED SERVICE PROVIDERS

Key management processes of new product development, capital project appraisal and resource allocation need to be carefully redesigned

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As the Industry moves in this direction, individual organizations must establish knowledge & innovation management systems that will help them identify and quantify their domain expertise. The systems established must ensure that in areas where significant domain expertise already exists albeit at other organizations, the company can consider options such as licensing to avoid reinventing the wheel. Service providers must look at a new paradigm

that encompasses Research & Development, IP Generation & Management, Co-Development & Cross Licensing and tie-ups with Manufacturing.

Research and Development

Companies must set in place a mechanism to include Innovation and Idea Creation as part of any Project Development Cycle and do a thorough review of existing Intellectual Property to ensure that it does not violate any existing Intellectual Property. Companies must also appreciate that while the latent potential of an idea may not be apparent, it must design a mechanism to log ideas that come up. It must also develop a team to work on the feasible ideas to reach them to a logical level at which they can be classified as valuable Intellectual Property. Innovation also involves a significant investment of manpower, money and ma-

terials much before you can start reaping the benefits. At times, some Intellectual Property may not yield returns at all. But that should not drive Software Services companies away from Innovation. For companies to sustain their stronghold as High-end Service Providers, Innovation is imperative. Companies will need to work closely with academia as well as with other companies in order to being out the best. Industry and academia should work together to enhance the technical expertise of middle level technocrats to take India forward in Innovation.

The Research and Development mindset allows people

the freedom to explore. Time-bound projects limit innovation at work. They require knowledge workers to move across different domains and prevent them for graduating in their specialized domain. Incubation within organization will allow "Intrapreneurs" to contribute to business growth through creation of Intellectual Property. It will generate technology-oriented Techno-business leaders. Services companies should encourage the best talents available in the area of Research & Development to build their technology portfolio for the growth of business.

IP Generation and Management

As companies continue to work on projects in specific areas, its pool of experts grows. It is imperative to utilize this resource appropriately. It is these experts that represent the "domain knowledge" and must be showcased to clients as contributors to the project. For the "experts" to have due credibility in the international perspective, it is the Intellectual Property that they own that is the only objective measure of the "company's" domain knowledge.

Since Service Providers work on client defined required, the ownership of Intellectual Property usually lies with the clients. The dilemma that Service Providers must address is that the client has approached them for their domain expertise and at the same time the client would also like to retain rights over the Intellectual Property "generated" during the development. A separate "Technology Focus Group" should be formed within companies that will generate domain specific Intellectual Property. A culture of Innovation and Intellectual Property Management must be developed so that all Knowledge Workers are driven to bring their innovative ideas to fruition providing additional business opportunities to the company.

Shorter product development cycles also require the use of existing domain knowledge. Knowledge Management must always be a top priority for such companies. With the increased movement of personnel across companies, it is of utmost importance that the "Technological Edge" belongs to the company and not to a select few.

Co-Development and Cross-Licensing

Service Providers are building their competencies by simulating pilot projects. These service providers should partner Indian companies for catering to the domestic market. This can be mutually beneficial allowing Service Providers to gain the required expertise without spending resources in non-revenue activities. In due course of time, highly specialized service providers will emerge. As a result, projects will be implemented as a consortium by bringing together the domain expertise of various groups and providing the best output.

Companies must establish Intellectual Property protection systems in order to gain an equal footing in technology transfer arrangements. Licensing serves as a welcome substitute to direct investment and to direct marketing through export. When a third party gets a license and works the invention for the licensor, the royalty ranges from 20% to 50%. Therefore, a repository of Intellectual Property plays an indispensable role by increasing the willingness to enter into a license agreement. It also allows for an extended life of the license, which may last the whole duration of the initial patent and continue under follow-up patents.

After establishing a foundation based on domain-specific Intellectual Property, the Service Provider can project itself as an extended development center for its clients. It can manage its licensing and technology transfer options in a manner that creates a WIN-WIN situation for its clients and itself.

Manufacturing

Service industries can tie-up with manufacturers and provide design & manufacture services. The combined scope of the project can be used beneficially to provide cost advantages to the client as well as to contain manufacturing costs at the design stage itself. Manufacturing units that have developed the technical know-how over the years have diversified into the services industry providing domain-specific solutions. Manufacturing companies will also consider partnerships with product development companies to project themselves as end-to-end solution providers along an Innovate-Develop-Manufacture model. In a contract-manufacturing scenario as well, including design & development could be the next step. [4]

ORGANIZATIONAL CHANGES TO MEET CHALLENGES

Awareness of Innovation and Intellectual Property Rights

The following can help promote innovation in Service based industries:

- Innovation-oriented culture
- Visionary business strategies aimed at generating revenue from IP and innovation
- Management encouragement towards generation of IP
- Access to latest technology
- Retention of Domain Experts
- Development of skills
- Research & Development
- Knowledge Management System
- Awareness of Innovation and Intellectual Property Rights
- Willingness to Change (overcoming Psychological inertia)
- Increased Appetite for Risk
- "This is a new idea. Let's work on it and see where it goes."
- Cross-functional contributions
- Appropriate reward mechanism [3]

The Chief Executive Officer is the key driver for companies to enhance its innovation culture [10]. Most of the companies that participated in recent IP Zone at Bangalore IT.in (considered Asia's largest IT fair) are founder-led companies. The winners of the IT Innovation awards belonged mostly to this group. This indicates that professionally managed companies may need to do more in their approach towards Innovation. One of the major shortcomings they have is the approach to institutionalize third party methodologies and systems rather than creating de-facto standards for Innovation Process and Strategies.

CONCLUSION

If software services companies to move up the value chain, it is imperative that they become innovative and look at the business opportunities that intellectual property brings. This calls for a paradigm shift in the way these companies are run. Backed up by focused initiatives from management, knowledge worker will certain help to convert India from a brain pool to Innovation hub.