

## White Paper



### Offshore Models for Engineering Product Development Captive Center Vs Vendor Partner

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In today's global economy, the word 'outsourcing' has become synonymous with 'offshoring'. Having an offshore strategy in place for an organization is considered to be a basic necessity than a competitive edge. Today, not many companies talk of "Why to offshore", but rather deliberate on "How to maximize through offshore" and "the success factors for an offshore model".

- Global spending on engineering services was \$750 billion in 2004 and is projected to increase to \$1.1 trillion by 2020.
- The value of offshored engineering services is expected to grow to \$150-225 billion by 2020

*NASSCOM / Booz Allen Hamilton*

*Though some companies started engineering outsourcing more than a decade ago, many companies took cautious steps to embark on this journey. Understandably, they were fearful of handing over their core business processes into the hands of a third party. Top executives who wanted to leverage the benefits of outsourcing had to overcome multiple internal roadblocks. More than anything else, the executives had to address the skepticism & reluctance of the core engineering teams within the organizations, on the fact that someone else from outside of their organization can add value to their business. Companies tried different outsourcing models and narrowed down on the models that delivered them the best results. Depending on their nature of business and business objectives, companies have tried out various outsourcing models like, Establishing their own captive center, Working with vendor partners, Entering into a joint venture with offshore companies, Build-operate-transfer (BOT) model, and a mix of two or more of these models*

*Today, companies understand the real benefits of outsourcing; some of them through their own experience and some looking at their competitors who gained significant competitive advantage through offshoring. However it is still a million dollar question for many as to “What is the right outsourcing model for a company?”*

*This white paper takes a closer look at two of the popular offshoring models, captive center and vendor partner model, and highlights the advantages, disadvantages and challenges with these models of offshoring.*

## Captive Center

One of the key drivers for companies to adopt this model was the fear of losing their IP. Especially when companies intend to execute core engineering and R&D activities at these locations, this was a preferred model despite the odds of high setup cost and lead-times involved in getting ROI. Typically these centers are being considered as the extension of the parent organizations and hence it is easy to build consensus among all the internal stake holders of the organization.

### Key Drivers

When companies, like GE, set up their operations in India in early 90s, intellectual property (IP) protection was one of the top considerations for them to select the captive center model. By the end of the century, several companies followed these offshore leaders and attempted to emulate GE's success with this model.

Though IP protection is considered to be the main driver for adopting captive center model, there are other factors that have substantial influence on the decision:

- **Control over the operations**  
Engineering organizations traditionally have been highly centralized and it is perceived that a high degree of collaboration is involved in the engineering activities. Hence these collaborating groups are kept under one roof and are managed with close control. Companies prefer to keep a very tight control over the sensitive matters of their business, like new product launches, product costing data, engineering data, etc. Since captive center model enables them to have a complete operational control and transparency, it is preferred over other models.
- **Knowledge transfer & retention**  
In the field of engineering, while the knowledge management tools are being developed and implemented, most of the key knowledge and experience remains with their employees. Many organizations find that the best knowledge repositories are their people, who have worked for the company for several years and have experience of multiple product launches. It is very common in engineering industry that a person would have spent substantial part of his professional career in one single company. Hence companies prefer to have captive centers where in they can leverage the knowledge/experience of these employees to train new employees and retain the collective knowledge within the organization.
- **Reduce cost**  
When companies have ambitious and aggressive plans for offshoring and would like to do it on a large scale, they would like to retain the “economies of scale” and set up their own centers. Also companies already having an existing set up (for ex: a manufacturing plant) in the low cost region would prefer to extend these centers to support engineering activity as well.

- Strengthen their presence in local market  
With the rapid growth of regional markets in China and India, companies are compelled to establish their foothold in these markets. Such local presence will enable these companies to understand their customer preferences well and they can also leverage the local resources to bring the products faster and cheaper to market. This “follow the customer” trend by OEMs has forced the supply base to establish their presence close the OEMs as well.

By 2013, on the vehicle production volume, China and India would rank No. 3 & .5 respectively, bypassing countries like France, UK, S. Korea

CSM worldwide

## Activities & Timelines

Typically an executive sponsor/ champion will be nominated by the board for establishing a captive center. The sponsor will need to build a business case and align the captive center’s objectives into overall business objectives. The broad level activities involved in establishment and operation of a Captive center are as shown in the Figure 1.



The time required to establish the offshore captive center depends on several factors, such as:

- Country/location where the center needs to be established
- Local government policies & support
- Infrastructural facilities available
- Goals and objectives of the center
- Size of the center

Once the center is setup and is operational with the initial team size, there is a lead-time involved before it ramps up to the steady state level. This lead time is typically a function of several factors like, total team size, knowledge transfer from the parent company to the captive unit, robustness of the processes implemented, etc.

Typically it is seen that the lead time involved in setting up an operation is about 1 to 2 years, while the lead time for reaching a steady state is about 2 to 4 years.

## Key Challenges

- Achieving higher levels of SLAs

It is observed that companies in a hurry to scale up the operations and/or in order to show quick results, tend to establish no or very relaxed SLAs for their captive center. Companies find it very difficult to elevate from this level and improve the SLAs at a later stage. The time & cost incurred in improving the SLAs can be substantial and typically companies would not have accounted for this investment in their business case to establish a captive center.

An automotive company has established a low cost captive center in Philippines. Though this company is getting a cost benefit of over 50% due to labor arbitrage, the effective saving is practically nil due to the quality and delivery timeline issues.

- Goal Alignment and internal resistance

Alignment of organizational goals from parent organization to captive centre, unit level goals, employee level goals and strategies is a huge exercise and requires lot of commitment and direction from top leaders of the parent organization.

Also when a company embarks on a captive center initiative, it is often seen that there is an internal resistance built up in the parent organization at an operational level to send projects to their captive center. The fear of possible job cuts in long term in the parent company results in such a fear and employees try to keep the overall control with them and feed the captives with limited information and work packets.

In contrast to this, such a strong perception does not exist in a vendor partners model as vendor relations could be called off or downgraded easily to suit business fluctuations.

- Perception Change

Due to the heavy startup costs and the lead-times involved in showing the ROI and tangible results, captive centers develop an image of a cost center in an organization. This would result in a diluted focus from top management on this center. To change the perception within the parent organization from being a “Cost center” to a “Profit center” would be a challenge.

- Overhead cost buildup

A successful captive center setup requires high amount of management time and supervision effort in the initial stages. Over a period of time these centers build up high amount of overhead and fixed costs and maintaining a variable cost structures to meet the fluctuating business needs becomes a challenge. This beats the whole purpose of having a captive center.

## Key reasons for failure of a Captive center

- Lack of vision and focus from the parent company
- Thrust on short-term goals and to show quick benefits
- Trying to maximize the labor arbitrage benefits alone with lack of focus on building a value engine in these centers
- Inability to attract, develop & retain the talent in the local markets
- The resources in captives tend to be less fungible as they tend to be product-line focused and employees resist moving from one product line to the other to support fluctuating business needs. Over a period of time, the captives build up high fixed and overhead costs

## Vendor Partner

Working with vendor partners for IT/ITES needs has been a common model in the engineering industry, mainly due to its non-core nature. Companies are quite comfortable giving this work out to vendors as these IT service companies have a core competence in this area and are better poised to take up this work.

However in the last 8-10 years several Engineering Services companies have emerged providing design, engineering & R&D services to the global companies by leveraging the learning from the mature and successful IT model. While many global IT service companies have started their “Engineering arm” to penetrate into engineering industry, there are several niche players providing specialized services.

### Key Drivers

One of the key drivers for the companies to go with vendor partner model for outsourcing engineering activity is to have a flexible resource model that can support their fluctuating engineering needs. Companies are able to build a lean core engineering team in-house and support the additional needs through a vendor partner model. However there are many additional drivers that influence the company’s decision in favor of vendor partner model.

- Shorter lead time to get started and to get results  
Since vendor partners would have an established setup they can provide a quick start and provide ability to quickly ramp-up the operations quickly. Because of their mature global collaborative delivery model, they are better poised to deliver to high service levels.

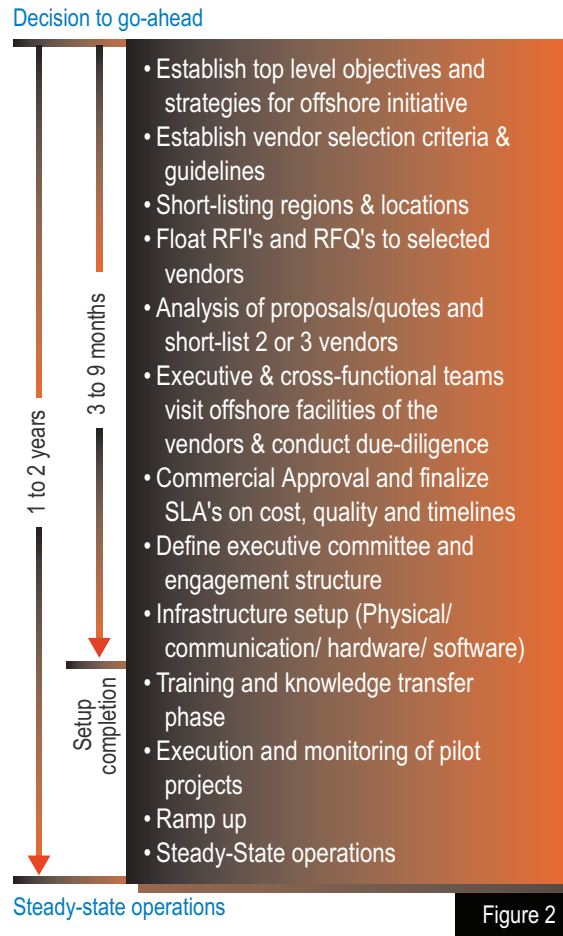
Typically, the engineering service provider companies operate with 25-30% buffer capacity in order to support new business quickly

- Companies can have a pilot execution before going for a large scale operation  
When companies do not have prior experience in setting up a center in a low cost country, the cost of failure can be very high. Hence these companies find the vendor partner model to be very beneficial to pilot out before getting into large scale operations. Upon successful piloting, companies may choose to strengthen the vendor partner relationship to support the large scale operation or set up their own captive operations after gaining enough operational experience through working with vendor partner.
- No large upfront investments required  
Typically a vendor partner would charge based on the services provided, either on an hourly/monthly rate basis or on a fixed price-fixed project scope basis and hence there would be no major setup costs/investments involved. The investments involved, like satellite links, proprietary/custom hardware & software, training, etc will be made on an incremental basis as the operations ramp up.
- No wind-up hassles / costs involved  
As the contract with the vendor partner would typically have an appropriate exit clause, the companies do not have any liability, legally nor financially, in the event of closing the offshore operations. In certain geographies, labor laws can be a major bottlenecks and cost fortunes to wind up the operations, if companies start their own captive centers. Also such failures may have an impact on their brand. In a vendor partner model these issues will not arise as these resources will be deployed onto the other customer engagements by the vendor partner.

## Activities & Timelines

Typically an executive sponsor/ champion will be nominated by the board for establishing vendor partner. The sponsor will form a cross-functional team typically consisting of Engineering, Quality, Legal, IT/Infrastructure security and purchasing to shortlist and identify the vendor partner. The team will form a list of selection criteria for based on their overall business strategy and goals for outsourcing. A typical process followed in a vendor selection is as shown in Figure 2.

The initial setup lead time and the time required ramp up to the steady state depends on the selected vendor. The typical factors that determine the lead time are:



- Size of vendor's operations
- Prior experience and ability to scale up the operations
- Ability of the vendor to attract the required talent
- Vendor's Process maturity
- Domain knowledge and training infrastructure

Typically it is seen that the lead time involved in selecting a vendor and commencing the operations is about 3 to 9 months, while the lead time for reaching a steady state is about 1 to 2 years.

## Key Challenges

- Domain skills and Knowledge Transfer

Companies intending to carry out core design, engineering and R&D work at offshore often find it difficult to find a vendor partner who can provide them with the resources having core domain and technical knowledge. Under such circumstances companies may have to invest lot of time and internal resources to scale up the knowledge level of vendor partner. The ability of the vendor to scale up to meet the skill requirements depends upon vendors' size of operations, their ability to invest in building the relationship, local brand name to attract talent and their process maturity.

- IP protection  
Companies believe that it is risky to carry out core engineering activities with vendor partners due to the fear of losing IP. Companies prefer to work with a captive center model to enable a better IP protection. In the recent times many countries have tightened their IP protection laws in order to attract the global companies to set up their centers in their countries. However in some countries, like China, the IP protection laws are not very stringent yet.

While the above is true, a closer look also reveals that some of the major service providers (whose business size is comparable to their customers business in many cases), take stringent measures to protect the IP of their customers. This is for the fact that any infringement of their client's IP would have a major impact on their image in the market and also on their existence itself. Hence selection of a right partner is a key in this regard.

## Factors working in favor of Vendor Partners

- Because of their business model and scale of operation, they are able to build a Lean organization and provide a variable cost structure and demonstrate high degree of responsiveness to the fluctuating business needs of their customers
- Because of their brand value and global reach, they are able to tap talent from across the globe. (Ex: many of the Indians, who have been working with US/ European companies abroad for decades, are willing to go back their homeland and work for such service providers)
- As the Indian/Chinese OEMs are maturing and becoming global players, enough talent pool is being built in these low cost countries and is available for service providers to tap.
- Service providers are able to leverage their IT outsourcing model, tweak them accordingly and build an effective Global Delivery Model for engineering work.

## Conclusions

Companies need to establish a clear vision and objectives for the offshore initiative. There should be a short term and a long term plan for the offshore initiative, with clear end goals. The decision to select an offshore model should be based on the Total Cost of Ownership (TCO), which accounts for the short term, long term, direct & indirect costs.

Since captive centers tend to be less flexible as compared to the vendor partner, companies should assess the possible fluctuation in their future business and choose a model appropriately.

Companies opting for a captive model should assess their strengths and weaknesses w.r.t the Low Cost Country (LCC) where they intend to establish their captive center. They should understand the realities of operating in a LCC where their global brand image may not help attract talent as compared to the locally respected brands; Infrastructural facilities are different; governmental policies may vary; regional cultures do influence the way business is run.

Companies need to have a strong and whole-hearted support from the parent company to make the captive center a success.

Companies looking for a Vendor partner should carry out enough due diligence before freezing on a partner. They should assess the partner from various perspectives and narrow down to the best choice. Some of the key assessment parameters are vendor's financial stability, ability to scale up, ability to protect the IP and the domain/ process maturity.

## About the Authors

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