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Concept:
The need for manufactures to develop and refine the supply chain has arisen from the multiple challenges they face. With increasing competition and changing customer demands, manufacturers must innovate to ensure that they stay ahead.

Key questions that manufacturers need to evaluate:
- How to keep costs low, particularly when on large parts they compete with somewhat undifferentiated products?
- How to be responsive to customer demand patterns?

These two concerns require them to keep their supply chains absolutely efficient and highly responsive. In the past, this has been done in various ways, outlined below:
- companies have developed strategic relationships with their suppliers,
- frequent material arrivals was implemented so that obsolescence and lead time related delays were countered
- the concept of just-in-time supplies was implemented
- supplier clusters have been formed to ensure efficiency in transportation, component kitting, aggregation, etc.

All of this must be understood in the larger context of the fact that manufacturers are reluctant to own processes that are not core to their product technology.

Before going into the greater detail of the emerging supply chain models that are being implemented, it would be useful to have an understanding of the more traditional procurement system for a manufacturer. The following diagram depicts the traditional procurement pattern of the supplier located in a different city, state or even country.

Figure 1 : Diagrammatic explanation : Traditional procurement pattern

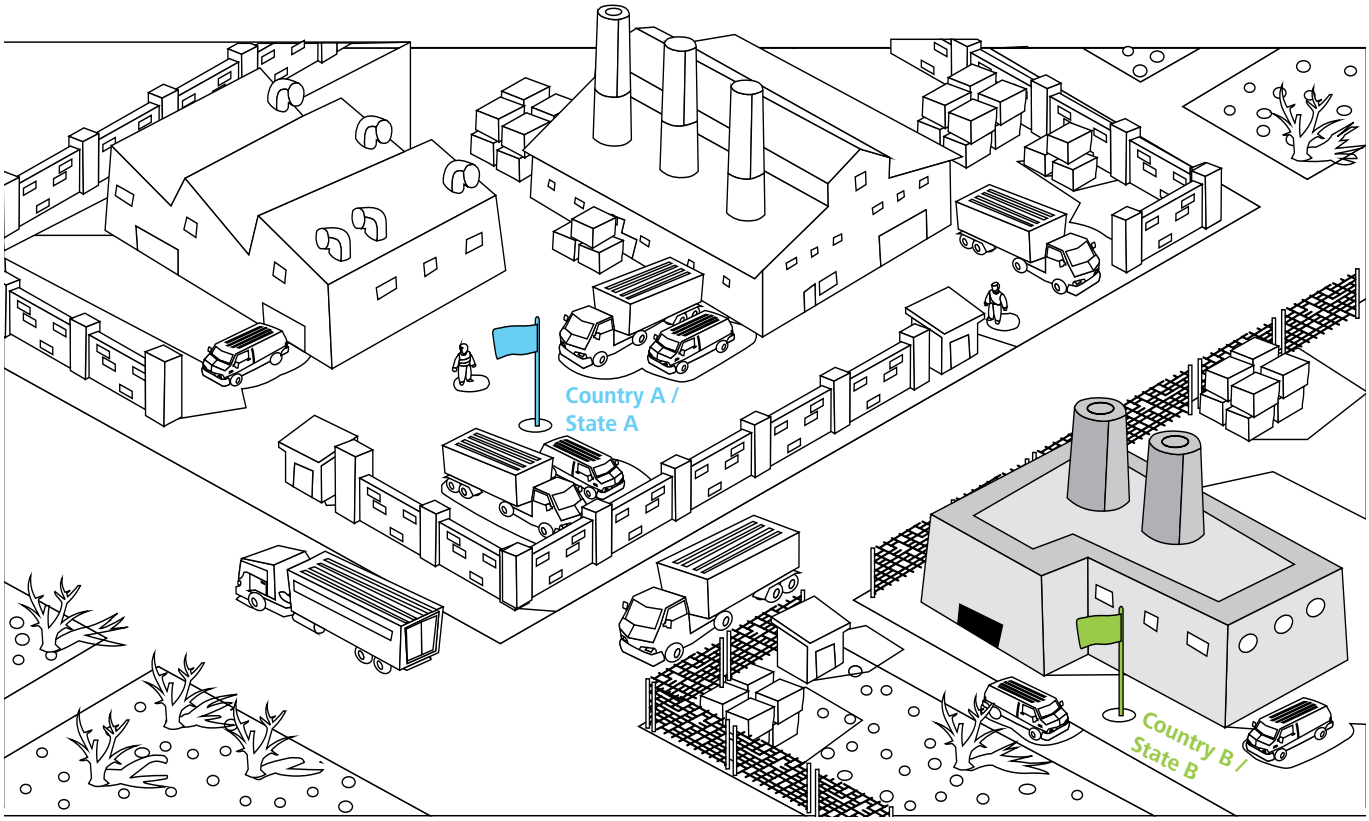
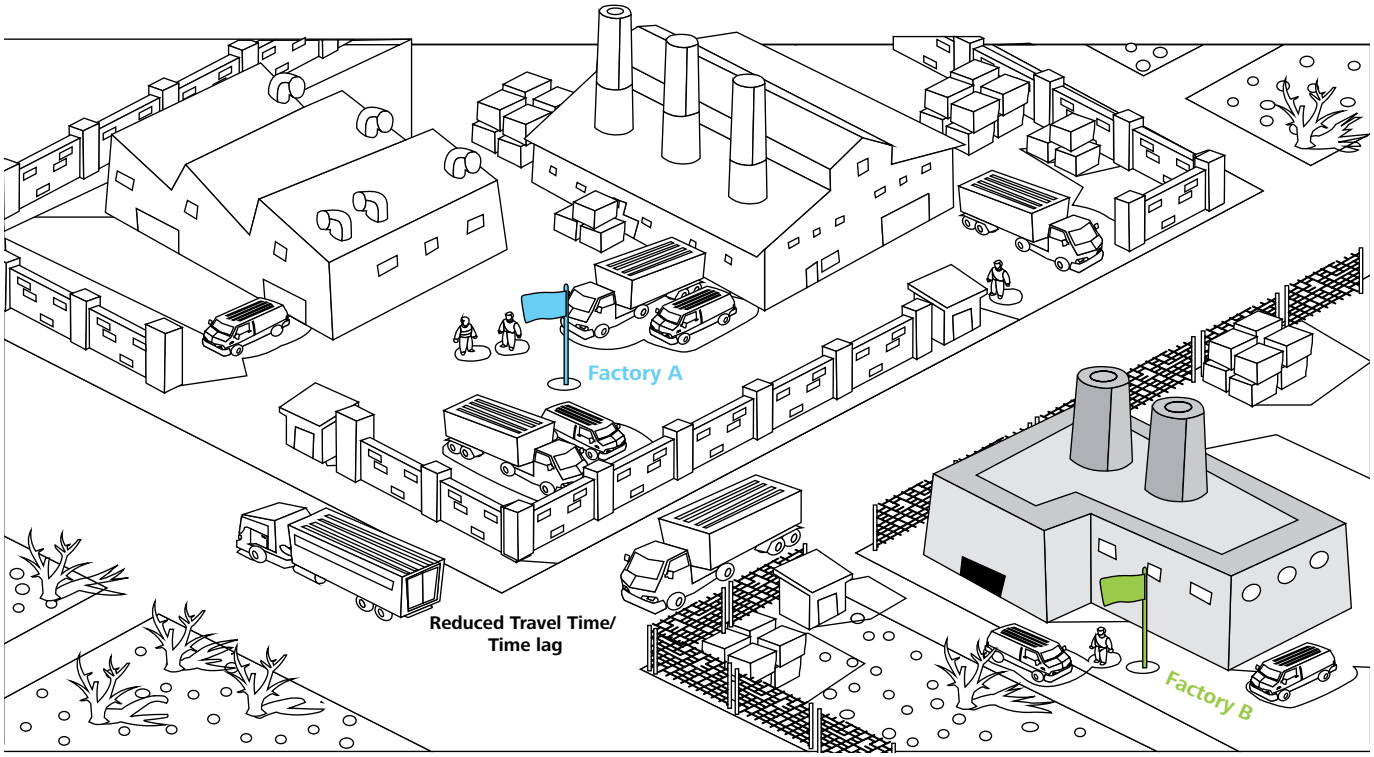


Figure 2 : Diagrammatic explanation : Procurement pattern in respect of Just in Time



The traditional procurement pattern has certain inherent disadvantages - key among these are the costs associated with the transport and storage of the goods. The traditional pattern increases the working capital requirements for product manufacturing. Further, in certain cases, the nature of the inputs required by the principal manufacturer may not permit such a procurement pattern. There is clearly a need to explore procurement patterns which help reduction of these costs and at the same time ensures no disruption in production on account of material supplies.

To overcome the flaws of the conventional procurement model, manufacturers have moved to just-in-time (JIT) supplies from their strategic vendors. That said, manufacturers realize JIT is a notion and in reality, JIT results in someone in the supply chain holding stock possibly at a higher cost of capital. Therefore, while there is movement towards JIT, the stock levels are configured given the risks relating to transport disruptions, cost of holding stock and the operating cycle of the input supplier.

Given the inadequacy of the JIT model in real life, the possibility of yet another construct must be explored, where the supplier and consumer of components, additives and intermediates can better align their supply chains, thereby giving the end customer better cost and service level advantages.

One of the more effective but seldom used models for procurement of inputs is the concept of 'Factory

The concept of the FWF model involves setting up a factory within the premises of the principal manufacturer

within Factory' (FWF). There may be inputs that can be manufactured at a scale determined by the immediate customer without any loss of cost advantage, where there is technical feasibility to align such production to the line requirement of the principal manufacturer. While it is true that the FWF model requires consideration of various tax, regulatory and commercial aspects, the benefits or the need clearly outweigh these difficulties.

The concept of FWP has been represented diagrammatically below.

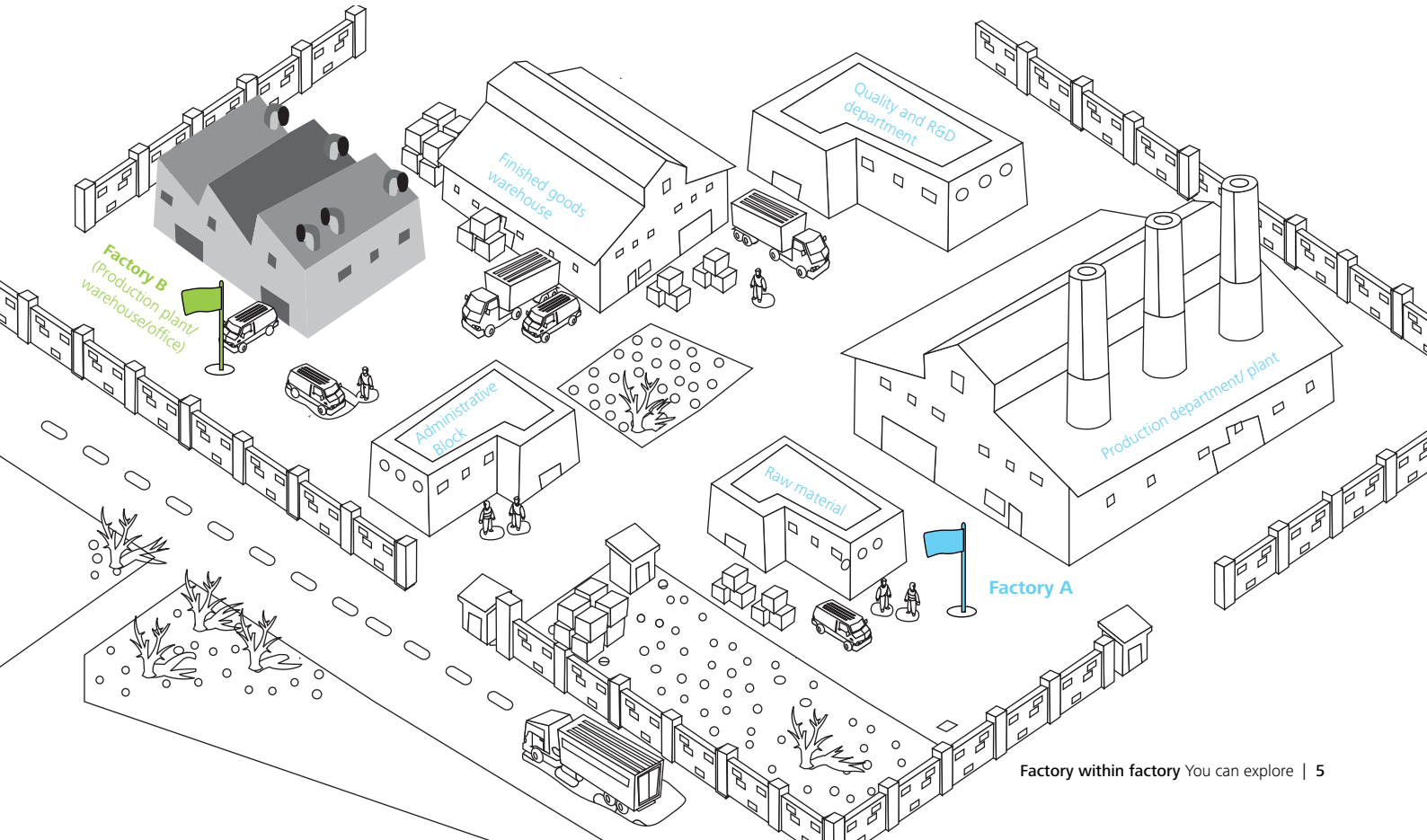
In the diagram, Factory A is registered with the Central Excise Authorities. The concept of the FWF model involves setting up a factory (Factory B) within the premises of the principal manufacturer.

The differentiating factor between FWF model and the existing JIT model is depicted in the diagram.

As a construct, the FWF model seems to have been adopted by multiple sectors. There are examples of chemical manufacturers in India, a global auto Original Equipment Manufacturer ('OEM') in a South American country and a leading consumer electronics company in India, to name a few. For many years now, the auto OEMs have sought to create their dedicated supplier parks very close to the assembly plant, which is close to the classic FWF model. Therefore, it is not just a conceptual construct but something manufacturers under certain conditions can consider.

While the in-sourcing and co-sourcing models are quite popular in the information technology domain, the manufacturing world is yet to fully explore this. Admittedly, there are greater challenges, as the eco-system required for two manufacturers is very different – from the operational aspects to the structural rigidity this model imposes, the taxation complexities, the relative scales and so on. Given the advantages it brings to the table it is an option that manufacturers should evaluate.

Figure 3 : Diagrammatic explanation : Procurement pattern in FWF model



Prerequisites/ conditions

The rationale of opting for the FWF model lies more on the requirements of the principal manufacturer whose scale of operations are much bigger than the subordinate manufacturer. Certain industries including processed chemicals, metal, etc. require specific inputs on a continuous basis. The nature of these inputs and their nexus with the final product clearly justifies the need of having the facility located within the premises or in very exceptional cases, at the shortest possible distance.

To understand this better, let us consider a hypothetical example of XYZ Limited which is a paper manufacturing company. It may enter into an arrangement with a supplier PQR Limited who has expertise for production of one of the significant inputs required to produce paper. Under a FWF model, PQR Limited may set up a factory within the factory of XYZ Limited to produce the inputs to be supplied to XYZ Limited for manufacturing paper.

Similarly, manufacturing steel requires a continuous supply of oxygen into the blast furnace. The supply of the oxygen on a continuous basis is therefore a pre-requisite for such a plant. The FWF model would very well work in this scenario. For example, LMN Limited has expertise and technology to produce oxygen which is required during production of steel. In such a case, LMN Limited may set up an oxygen plant within the steel plant of EFG Limited to supply oxygen for steel manufacturing process.

There are also excellent examples of such factory set-ups in Europe, where multiple suppliers co-exist and maximize efficiencies. There is a particular car-manufacturer, where all the suppliers come together to ensure that the final product, a car, is turned around in the most time-efficient, cost effective and environmentally friendly manner. While the car-maker has overall responsibility and is also the module system integrator, process manager and manufacturer, each system partner also shares a considerable amount of responsibility.

A continuous supply of certain specified inputs for a technology intensive process makes a very good case for adopting the FWF model. In addition to this, another factor could be the way in which certain inputs need to be transported. To illustrate, in case of gases, they need to be supplied at the plant of the principal manufacturer through a pipeline. If this supply was from a subordinate manufacturer located at a far-away distance to the plant of the principal manufacturer, there would be significant cost escalations. Besides cost, there is a possibility of erosion/evaporation of the inputs or change in the chemical composition of the inputs. These reasons, especially the costs, make it infeasible for actual use.

Some of the key questions which may require consideration at the time of deciding on the FWF model:

- Is the manufacturing activity a highly process driven one, say entailing a continuous process?
- Whether time is of essence in procurement of inputs so as to have an impact on their quality?
- What is the form in which supply is procured – solid, liquid, semi-liquid, gas?
- Can the inputs be stored or considering their nature, it needs to be used immediately?
- Is the market for inputs easily accessible and are there any supply bottlenecks?
- Is there a variety of inputs involved in manufacturing process?
- Is the principal manufacturer in a position to offer the subordinate manufacturer certain advantages that are otherwise not available to the latter – like better

Advantages

While specific advantages may differ from industry to industry and from transaction to transaction, there are certain clear advantages in using an FWF model which are applicable to all.

Some of the broad level benefits that may arise from FWF model outlined below

Dedicated supplies

The burden on procurement team is likely to significantly reduce considering that there may be reduced or no outside supplies. Supply bottlenecks are expected to be zeroed.

Quasi Just-In-Time benefits

FWF model can provide JIT benefits with an added advantage of no requirement for inventory storage.

Benefits available under Indirect tax regime and opportunity for saving

It is possible to explore benefits available to job worker, production within the same premises, transfer of credits which would otherwise be costs etc.

Economies of scale and opportunity to save owing to bulk/ continuous purchasing

The dedicated supply is likely to generate economies of scale for the Supplier and opportunity to negotiate for the principal manufacturer.

infrastructure at a lower cost, access to common facilities that for a subordinate manufacturer can be unaffordable, etc.

Methodology/Factors to be considered

While there is no specific methodology for such an arrangement between the subordinate manufacturer and the principal manufacturer, the model would depend upon the intentions of the parties to the arrangement. For instance, a job worker model, a contract manufacturing model, as well as a service provider model could be possibly used in the present case.

Certain criteria which would be helpful in determining the best nature of arrangement with the principal manufacturer have been outlined below:

- **The tenure of the arrangement:** If a comparatively short-duration arrangement of two-three years is proposed then the feasibility needs to be re-examined because of the high fixed costs associated with setting up the FWF. In cases of long-term arrangements of above ten years, the possibility of a contract manufacturing or a service provider arrangement may be worth exploring. In such cases, the principal manufacturer may preferably not want to take on the onus of various indirect tax liabilities associated with the manufacturing process of the subordinate manufacturer.

- **The investment required in setting up the FWF:** Investment required along with the expected Internal Rate of Return of the subordinate manufacturer would need to be considered in order to arrive at the appropriate arrangement.

- **The indirect taxes of the principal manufacturer:** Indirect taxes play a very important role in determining the appropriate arrangement. Depending on the rate of duty payable on the goods of the principal manufacturer, the contract manufacturing option may be explored. There are scenarios where the final manufacturer makes an exempted product or a product which has a lower rate of excise duty. In such a case, the job worker model or the service provider model may lead to higher/inverted duty structure for the principal manufacturer.

- **Capacity utilization:** In cases where the customer requirements vis-à-vis the manufacturing capacity of the subordinate manufacturer is less, he would prefer to follow a contract manufacturing option. This would enable him to freely sell the balance manufactured materials to another customer. Requirements of the principal manufacturer, hence, impacts the nature of arrangement

- **The relationship between the parties:** The provisions under Central Excise have a concept whereby the assessable value under central excise does take into account the fact that the entities are related and that the price has been affected on account of such relationship. In such a scenario, a service provider model may be preferred, wherein service tax provisions would determine the value of services, considering the stringency of service tax legislation.

- **Overcoming logistics issues:** As explained earlier, in certain industries for example, the chemical industry or cement industry, time is of critical essence. Inputs have to reach within a certain time-frame to ensure that quality standards are met. A lag in supply chain can significantly disrupt the process flow/ demand obligations and hence FWF set-up can eliminate the logistics hurdles to a huge extent.

- **Income tax and transfer pricing issues:** There are cases where the overseas parent entity owning the technology may receive certain royalty directly from the

While there is no specific methodology for an arrangement of FWF model, it would depend upon the intentions of the parties to the arrangement.

Being transaction specific, indirect taxes play a very important role in determining the appropriate arrangement.

principal manufacturer. If this is the case, the transfer pricing issues may need to be considered in case the principal manufacturer and the overseas parent qualify as associated enterprises. The disallowance or otherwise of certain expenditure based on the fact that the income is incurred by the principal manufacturer and part of it is borne by the subordinate manufacturer based on certain parameters does tend to become an important determinant on the model to be adopted.

Likely Challenges

The FWF model, like in all cases has certain advantages and disadvantages, and is therefore likely to have its own challenges.

Some of the challenges that have been observed in respect of entities opting for this model include the following:

Tax issues: The FWF model may give rise to some of the unsettled issues owing to the infancy of this model in the entire manufacturing industry per se, bundled with the regular tax issues. Some of the tax issues can be as under:

- **Registrations under tax laws:** It has been observed in many cases that the factories of the principal manufacturers are built on land belonging to a government/ quasi government bodies at highly subsidized costs. In a lot of these cases, the agreements with these Government bodies clearly put a restriction on the principal manufacturer for sub-leasing it to any other entity or for manufacturing any other goods. Thus, obtaining the permission for setting up a factory belonging to a person other than the principal manufacturer may pose a problem.
- **CENVAT credits:** One of the requirements for taking credits under central excise is receipt of goods into the premises/factory of the manufacturer. Since the factory of the subordinate manufacturer is within the premises of the principal manufacturer, there is a possibility that the excise authorities may challenge receipt of certain goods in the factory of the subordinate manufacturer for the purpose of credit availment.
- **Time for payment of duties:** As a corollary to the input credits, excise duty is payable on clearance of the goods from the factory. In case of the FWF model, while the goods physically remain within the same premises, principally the goods can be said to have been removed from the factory and thereby the requirement of payment of excise duty.
- **Valuation aspects:** Since the factory of the subordinate manufacturer is within the premises of the principal manufacturer, certain utilities such as electricity, water, etc. may be provided free of cost or at a concessional rate as the principal manufacturer may himself be getting some concessions from the Government owing to which there is a possibility that the indirect tax authorities would tend to add a notional value of these amenities to the transaction value charged by the subordinate manufacturer to the principal manufacturer. Taxation aspects of any indirect consideration flowing from the principal manufacturer to the subordinate manufacturer need to be examined independently.

Go – No go: In most of the cases where the FWF model is required, the principal manufacturer is located a few kilometers away from the city. The places are generally remote and it is less likely that one has the manufacturers of identical goods in the nearby vicinity. This being the case, the annual requirements of the principal manufacturer play a significant role in deciding to opt for the model or otherwise. The subordinate manufacturer needs to ensure that either its capacity is utilized or it has other avenues whereby the goods manufactured by him would be sold.

Protecting the Intellectual Property: Since the entire factory is within the premises of the principal manufacturer, the risk of the manufacturing methodology being understood and implemented by the principal manufacturer cannot be ruled out. The control of the principal manufacturer can be minimized by imposing appropriate access controls including restricted inspection checks. Since the subordinate manufacturer

sets up the entire factory within the premises of the principal manufacturer, it is very important to ensure that the ownership of the plant always remains with the subordinate manufacturer. The arrangement should typically ensure that the principal manufacturer does not have to have ownership in the equipment of the subordinate manufacturer.

It is equally important for the principal manufacturer to realize that the subordinate manufacturer also has access to a lot of information of the principal manufacturer, some of which may surely be confidential. Hence, protecting the IP, not only for the subordinate manufacturer but also for the principal manufacturer is a critical factor and a challenge at both ends.

Labour issues: The subordinate manufacturer's factory within the premises of the principal manufacturer would always be smaller in scale and certainly employ much lesser personnel as compared to the principal manufacturer. The labour union could impose challenges in as much as whether the union would per se permit employees of the subordinate manufacturer within the premises of the principal manufacturer. There is a likelihood of disputes on account of the possible discretions in the compensation levels of personnel of the principal manufacturer vis-à-vis the subordinate manufacturer. This is more so if the subordinate manufacturer is a multi-national company and the principal manufacturer is an Indian entity. The cultural differences can also repurcate on their own. Likewise, the principal manufacturer may equally face these issues assuming that the benefits enjoyed by the personnel of the subordinate manufacturer are better than those of the principal manufacturer.

Deposits: Considering the commitments involved in such kind or arrangements from both the principal manufacturer and the subordinate manufacturer, a deposit/bank guarantee could often become a key issue. The principal manufacturer may require such a deposit from the subordinate manufacturer considering the fact that the subordinate manufacturer would be located in the premises of the principal manufacturer for a fairly long period of time. Similarly, the subordinate manufacturer may desire a fixed deposit / bank guarantee from the principal manufacturer taking into account that he would be entirely setting up a plant on the basis of the commitment of the principal manufacturer.

The fortunes of the subordinate operation are entirely determined by that of the principal manufacturer. There is also a certain rigidity that sets into the operating model of the former. This is because the subordinate manufacturer has a single customer and will therefore have to line up his activities on the basis of the activities of the principal manufacturer.

There are situations where in the long-run, the economics may not prove fruitful for both parties, given the rigidity of the arrangement. The force-fitting of the supplier in a particular size to suit the needs of the principal manufacturer may also impact the economics.

Conclusion

While it is worth adopting the FWF model in certain cases, the model does not appear to have been used to the maximum possible potential. Moreover, the benefits of such an arrangement have not been adequately leveraged and could bring out lots of competitive advantages.

The decision of whether to adopt the same or otherwise depends on various factors which may be evaluated from experts. Some of the factors that need to be evaluated are outlined below:

- whether it is worthwhile to adopt the FWF model in the given set of circumstances
- determining the most feasible structure considering the various aspects as regards the principal manufacturer and the subordinate manufacturer
- advice and assistance on the optimum pricing structure considering the various tax implications
- advice on obtaining clearances from the tax authorities in the form of obtaining registrations as may be required
- on-going advice and assistance on various compliances that may be required from a tax perspective.

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