

An analysis of nissan's business



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When one considers the proposed eight year plan on the behalf of Nissan to bring the production of the “ Leaf” model to the plant there is the consideration of the issue of why its takes so long to bring about the actualisation of such an initiative. However, when the literature (Slack et al 2009) is consulted the answer in short would seem to be that the whole process of concept generation and design is a complex and elongated one which begins with the customer and marketing departments long before the process ever reaches the operations stage.

Initial stages see concept generation taking place, this is the initial brainstorming stage in which a new “ concept” product will be thought up by those within the company. Slack et al (2010) however, highlights the importance that the concept generation stage is one in which a whole new encompassing concept must be brought to the consumer rather than merely a detailed plan and specification. For the Nissan Leaf, the concept is not the design of an electric car, but the presentation of an environmentally friendly form of transport as a concept (Paukert 2010).

After concept generation, the next stage is that of the start of the marketing process. Here detailed market research needs to be conducted which will ascertain whether or not any one will want to actually buy the Nissan Leaf (Jobber 2007). There is little point in continuing with an initiative from an operations perspective, if there is no market for the initial concept.

Having considered the initial stages of the marketing process Nissan will then be able to consider two other key elements of the initiative, the finance of the project and the physical design of the process. In some ways these

two elements may be seen as going hand in hand, given that it is unrealistic to ascertain the costs of a process without knowing exactly what that process is. Yet a process would never be designed without constant reference to the costs involved.

In designing the process detailed attention needs to be giving to the input factors, these are raw materials and labour on the whole as well as any specialised capital equipment needed for the new Lead model. Once the input factors have been determined process designers can give a detailed specification of the manufacturing process which encompasses all elements of the transformation including quality, speed, dependability, flexibility and costs (Slack et al 2010) and results in the production of the final model of the car.

Again the design stage may be seen as adding significant levels of time to the imitative overall. Take for instance the element of procurement of raw materials, this may seem like a simple buying operations. However, in the automotive sector the buying of raw materials may involve months of complex negotiations in itself. Such negotiations may include items ranging from the detailed specifications of products and services to be obtained through to the management of complex supply chain agreements aimed at facilitating just in time delivery and production (Christopher 2005).

After all of these elements have been considered, only then can Nissan move onto the physical stages of operations management. Having established a concept, the fact that there is a market and proposed process. Nissan can then produce a prototype product, the use of prototyping is an essential part

of the design process. Prototyping helps to identify previously unforeseen problems in the whole value chain and as such results in increased efficiencies and lower wastage and defect rates at the later operational stage. As such, one may consider that the prototype and testing stage is an essential one in protecting the reputation of Nissan with its customers when the model goes into production.

In conclusion one can see that the great number of processes which take place in the total bringing of a new product to the market necessitates a greater deal of time than one may consider, if only the physical elements of operations management were to be considered.

Question 2

Academic theory is far from fixed over the issue of how suppliers should best work together. On the one hand, some (Christopher 2005, Waters 2009) generally advocate a positive view of increasing levels of co-operation between suppliers which is often referred to as supply chain or value chain management. However, others such as (Lambert and Knemeyer 2004) suggest that whilst there is value in the concept it is not a universally applicable one and that many times all that is needed is a good contract which all parties to the agreement stick to.

In the case of the production of the Nissan Leaf, Nissan has chosen the first option which is to invest significantly in its supply chain and supplier relations. This is not an uncommon practise within the automotive sector were other producers such as Toyota have increasingly moved towards

supplier co-operation models of production, rather than functioning in isolation (Spear and Bowen 2004, Spear 2004).

One of the key initiatives which Nissan has embraced is that of just in time production, just in time production is a concept which sees that inventories are minimised and lean production is achieved by enhancing communications flows and minimising traditional operations issues such as bottle necks and quality issues which see the need for buffer stock to be employed (Slack et al 2010). However, lean production is not just a concept which can be used internally within a business. In order to facilitate true lean production, a manufacturer must work with its suppliers and distributors.

Here Nissan has worked closely with those who supply input good into the factory to reduce lead times which has the effect of reducing the levels of inventory required at the Nissan factory. This has multiple positive effects for Nissan, chief amongst there is a saving in financial terms, in effect the company has less of its capital tied up in inventory. The concept also has an impact on the concept of quality, buffer stocks and other inventories often present the opportunity for such materials to become defective or damaged merely by being held in storage (Fitzsimmons and Fitzsimmons 2008). By eliminating such buffer stocks, Nissan has also increased its overall level of quality by removing a chance for a contributory factor namely that of factory damage to be eliminated. The process however, is not a one way street, the benefits of such a policy should also be transmitted to the supplier as the management of the whole supply chain sees the same benefits of reduced inventory throughout the supply chain. In effect lean production should not simply mean that inventories are simply moved back to a previous stage in

the supply chain, they should in effect be eliminated on a permanent basis (Christopher 2005) saving money and increasing quality for supplier and customer.

Nissan in its Sunderland operation has also worked with its suppliers to improve quality significantly. In the case of the Sunderland operation the key consideration from a quality perspective is that all components which come into the factory do so in a working condition and meet the original specifications and tolerances of the components ordered.

From a theoretical perspective the concept of quality asks the question do the qualities of a product or service meet the needs of the customer? The answer to this question may be expressed not as a yes or no but as a to what extent or degree the qualities of a product or service meet the needs of the customer. Where there is a divergence between customer expectations and the provision this is referred to as a "gap" (Slack et al 2010).

At Nissan's Sunderland plant this concept has been employed to a significant degree. Whilst the customer is usually considered to be the end user of a product or service, Nissan employs the concept internally within the business. As such, not only is there a concept that those supplying into the business at the front end have a customer supplier relationship with Nissan. In addition those working within the factory also have a customer supplier relationship, each process in the production process being considered as the supplier to the next customer. The application of such a formalised and high profile concept of process management has allowed Nissan to make

significant improvements in the overall quality levels achieved within the plant.

Finally, there is the consideration of the concept of quality and cost. There is often the consideration that higher levels of quality lead to higher costs of a business (Fitzsimmons and Ftizsimmons 2008). Nissan however, along with many other companies within the manufacturing sector uses its supplier relationships and the concept of quality to attempt to reduce costs. By working with suppliers to eliminate problems throughout the supply chain the result is a reduction in defects and wastage rate. As such this results in real cost savings for Nissan by reducing the amount of rework required and eliminating expensive repairs and rectifications once a product reaches the customer.

Question 3

Here Nissan has chosen to produce the new “ Leaf” model at the Sunderland plant in the UK. The Nissan Leaf is a new concept car which sees the incorporation of new technologies to create a fully electrically powered car. The Nissan Leaf is reported to have a range of 100 miles and will be operable at a cost of 3p per mile, this compares to a cost of around 14p per mile for a standard petrol powered hatchback of the same size (Vaughan 2010).

Nissans decision to choose the Sunderland plant as the site for production of the new Leaf model is a significant investment for the company which will have an impact upon the companies operations and strategy for years to come. In addition the choice is a strategic one which links to the company’s

overall policy of harmonising its European operations in the project initiative referred to as “ Next 21”.

This section will now consider the key reason for why Nissan has chosen the Sunderland plant for the production of the new Leaf model. In the first instance Nissan’s decision to produce the Leaf model in Sunderland may be seen as a function of internal considerations. The Sunderland plant in recent years has experienced significant levels of improvement in relation to supplier management, quality levels and productivity. As such the plant has demonstrated that it is a viable site worth further capital investment from the company centrally.

Secondly Nissan’s Sunderland plant also has a good link to the company’s Next 21 initiative, an initiative designed to bring all of Nissan’s plants and operations into line with performance levels experienced in Japan. In the first instance, the Sunderland plant has already demonstrated the ability to achieve the same levels of performance as those experienced in Japan. Secondly the Sunderland site is also a strategic location from a geographic perspective for furthering the company’s ambitions in Europe. The Sunderland location is close to key ports such as the Port of Tyne and ABP Grimsby, both of which have significant car distribution operations with links to European markets (ABP 2010).

Not only will such consideration allow Nissan better access to its European markets from a distribution perspective, there is also the consideration that in locating a site inbound logistics are just as important. Sunderland’s location, close to port facilitates and connected to the main road and rail

networks will also mean that the company is able to effectively receive goods into the plant. This is a key consideration for the just in time production concept, there are concerns that if Nissan had have located its operation in an alternative area such as the Southeast. Issues such as congestion on the road system could have had a direct impact on the company's ability to operate a just in time manufacturing process effectively.

Other factors which have influenced the company to use the Sunderland plant for the production of the new Leaf model are those which are related to wider environmental concerns. In the first instance, the Sunderland region is recognised as having a lower wage rate than that of the national average (One Northeast 2010), for Nissan this means that the company is able to benefit from lower costs due to an overall lower wage rate at the site. Where the company does choose to operate a policy of paying its works at the national rate, this will result in increased value perception on the behalf of local workers and thus increased levels of employer loyalty and productivity.

Finally there is the consideration of government policy and tax incentives. As an area which is defined as a regeneration zone, those investing in the area are apt to receive both subsidies and tax breaks. Nissan has a long history of good relations with various UK governments and has on numerous occasions received subsidies and state aid. Such as was the case when in 2001 the UK government awarded Nissan £40m to invest in the production facilities required to produce the Nissan Micra at the plant (Castle 2001). Such incentives can help to offset the significant costs of capital investment required in such a project.

In conclusion one may see that Nissan's decision to choose the Sunderland plant is a combination of many factors however, the selection of plant may be seen as a key strategic decision which aligns the company's key internal operational strengths with the opportunities of the external business environment.