
Identifying Core-Competencies of a Corporation: Learning from Toyota

(Excel toolware CD included)

Prepared for:

PROF. MANOJ K. SRIVASTAVA

Faculty Operations Management

By:

ANSHUL GUPTA

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Executive summery

Organizations compete for customers, profit and market share with their products and services that meet customers' needs. Core competencies are innovative combination of knowledge, special skills, propriety technologies, information and unique operating methods that provide the product or service that, customer value and want to buy.

This study carried out to understand the development of Core-competencies of Toyota Motors, and how companies like TATA motors and Maruti have implemented many of those strategies of Toyota, to develop their own Core-competencies. Using the case of Toyota, a generic framework have been developed, using which any company in any sector can develop their future Core-competencies.

Study starts with the understanding the criteria for something to be considered to a Core-competency. A series of strategies developed and adopted by Toyota are explained. And then an overall understanding of the concepts is developed to make these strategies be possible to implement in different sectors like FMCG and service sectors.

I have developed a framework for the development of the Core-competencies of MDI, by judging the functional and process requirements that will give MDI a competitive advantage. The mechanism used is Quality function deployment (QFD). And in the end, suggestions are provided regarding where MDI should focus more to develop its Core-competencies.

1. Introduction

1.1 Determinants of Core-competencies

Toyota North America's mission statement: 1. As an American Company, contribute to the economic growth of the community and the United States. 2. As an independent company, contribute to the stability and well-being of team members. 3. As a Toyota group company, contribute to the overall growth of Toyota by adding value to our customers. One interesting aspect of this mission statement is that nowhere does it mention profits or continuing improvements or even the stockholders. In true Japanese style, it is concerned about a larger goal; above the competitors.

Organizations compete for customers, profit and market share with their products and services that meet customers' needs. Core competencies are innovative combination of knowledge, special skills, propriety technologies, information and unique operating methods that provide the product or service that, customer value and want to buy.

Organizations have many capabilities and competencies but only a few of these are combined and integrated in such a way that they can be considered as Core-competencies. In their extraordinary 1990 HBR article, "The Core-competencies of the Corporation," Gary Hamel and C. K. Prahalad, mount an attack on the traditional philosophy of strategy. According to Gary Hamel and C. K. Prahalad, there are the three criteria for something to be Core-competency. These are:

1. Core-competency provides potential access to a wide variety of markets.
2. A Core-competency should make a significant contribution to the perceived customer benefits of the end product.
3. A Core-competency should be difficult for competitor to imitate. And it will be difficult if it a complex harmonization of individual technologies and production skills.

Toyota's core-competencies lie in achieving excellence through continuous improvement and waste reduction. Toyota followed five strategies for becoming the number one carmaker in the world -*Strategy One: Kaizen* – *Kaizen* means continuous improvement. Many companies neglect to take *kaizen* seriously, and those companies are not industry leaders. *Kaizen* is the single most important manufacturing philosophy in the world today. Why so many companies refuse or neglect to practice it? The answer to that may take several forms:

First, *kaizen* is expensive in the short run. For example Toyota practices of shutting down the production line whenever any significant breach of quality is detected. Many manufacturers would rather fix defects at the end of the line-or send their defective products into the marketplace and hope for the best-than stop the line. In long run of course, *kaizen* is the optimum method for building profits.

Second, *kaizen* requires managers to give up the one thing that makes them superior to the staff employees: information. The heart of the *kaizen* is information sharing to the extent that even the lowliest, least-paid worker knows everything important there is to know about the product at hand.

Third, *kaizen* acknowledges the continuing existence of defects and problems-without assigning blame. The Japanese consider that the act of blaming is time wasting activity. More often than not the system is to blame, not a person. So workers are encouraged to detect the problems and are rewarded when problems are fixed.

Kaizen is the overarching philosophy-the large extent-that protects all other Japanese management practices like: total quality control, supportive labor relations, industrial robots, the suggestion box, lifetime employment, productivity studies, zero defects, and many others. *Kaizen* completely oriented towards process, not profits. When profit is the main motive, it's no wonder that so many manufacturing plants have remained unchanged over dozen of years. Change is always expensive. In long run, of course, improvement process is clearly the better option because waste-even in the midst of abundance-will eventually catch up and pull you down.

Taiichi Ohno, the father of Toyota production system was known for his imaginative style. He gave the concept of *genchi genbutsu*, means observe: learn through careful observation at the site. People can't fix the problem until they know what is really causing it. For example, Henry Ford gave the concept of conveyer belt system, by simply observing what is causing the delay and how can process be made faster. TATA ACE-a mini truck by TATA launched in 2005 is another example. TATA wanted to create a new line that went beyond Tata's current truck offering. A vehicle that was cheap enough to take on the three wheel cargo rickshaws in the country. Based on this brief TATA decided to approach users of current three wheel cargo rickshaws and get their feedback on a future four wheel cargo vehicle. The persons who were interviewed all wanted a cheap vehicle that could take a certain amount of produce or products from village to market. However when asked why they would prefer a four wheeler as compared to their current three wheeler, one rickshaw user told "If I had a four-wheeler, I would have better marriage prospects in my village,". This meant that

besides the normal use of carrying cargo around, the future customer also expected a certain amount of prestige in owning and running a four wheeler cargo vehicle. The new vehicle was a big hit selling 100,000 in just 20 months.

Kaizen philosophy makes no distinction between big and small- everything helps and everything can be improved.

Kaizen thinking

Results Thinking

Long term	Short term
Small improvements	Big innovations
Small steps	Huge steps
Unrestricted	Limited
People oriented	Technology oriented
Team heroes	Individual heroes
Gradual, smooth	Abrupt, volcanic
Maintain/improve	Scrap/rebuild
Process	Profits
Invest in process	Invest in equipment
Works best in slow economic conditions	Works best in fast growing economic conditions
Conventions	Inventions

Kaizen is the only industrial method capable keeping up. It remains the best explanation why Toyota is now the most successful carmaker on the planet earth. In 2008 Toyota produced 630,000 more automobiles than General Motors.

Strategy Two: Just In Time (JIT) - Taiichi *Ohno*, built his processes on the theme of waste. He once classified production waste into seven categories:

- Overproduction
- Waste machine time
- Transportation waste
- Processing waste
- Taking inventory
- Inefficient motion
- Defective components

The main villain in all of this, according to *Ohno*, is overproduction. Because the cost of carrying a produce idle is huge. Let's say by way of example, that Maruti keep producing M800, 24 hours a day, 7 days a week, and never stops the line to keep its production cost down. Let's further say that demand of M800 falls in Utter Pradesh

and Madhya Pradesh. Those darn North Indians have decided in their wisdom to buy Tata Nano instead. It doesn't matter to Maruti. Maruti will keep that line rolling and will either think about warehousing the extra M800s or else discount them sharply. The most expensive thing that Maruti can do is to stop production. Why? Because Maruti has a lot of inventory built up to keep that production going, and it has to utilize them by producing M800 or they will increase the cost of production thereby destroying Maruti's margins.

But, Maruti being a Japanese company is following a JIT system. So it would not matter if demand falls in UP or MP.

Another key to Toyota's success in this area is its training of vendors and subcontractors to buy into the system as well. JIT system requires mastery of hundreds of conductors directing thousands of musicians at the same time to remain profitable. If anyone sections leaves behind, the audience will lose interest and profits will fade away.

For example, TATA motors have hundreds of suppliers for tiers, engines, oils, plastics, logistics etc. and the existence of synchronized coordination between them makes to production of vehicles smooth.

Another important concept in connection with JIT is *Jidohka*. This term has been astutely translated as *autonomation* (distinct from automation, which means doing the exact same machine task over and over). In autonomation the emphasis is on "no".

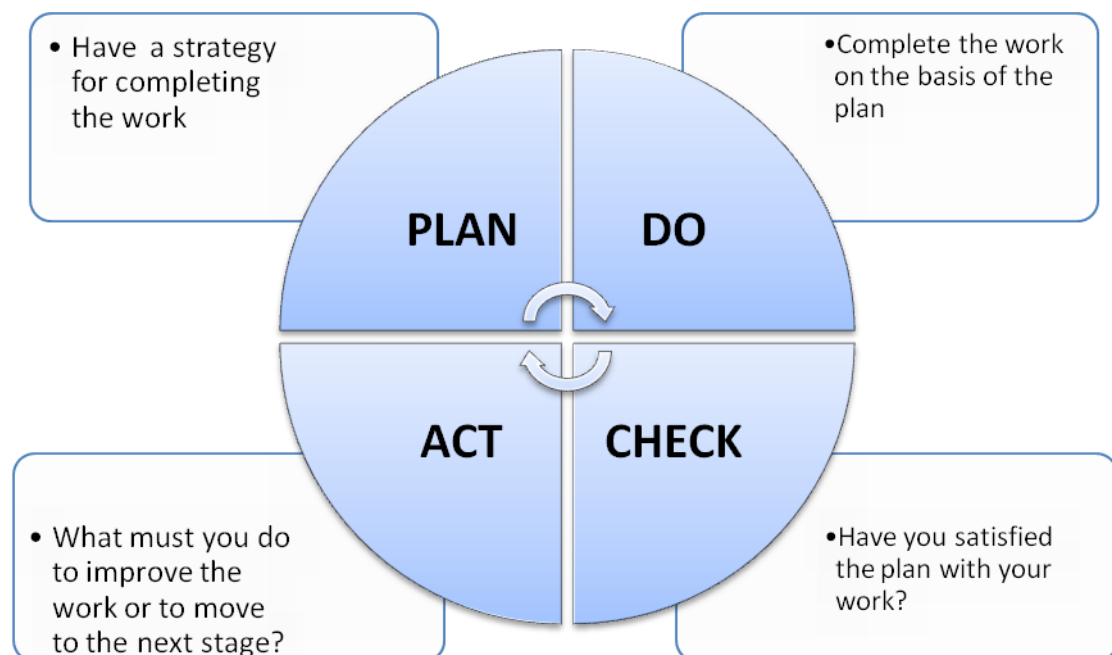
Strategy Three: The suggestion system - No one on the earth knows the task better than the worker performing it. Henry Ford probably liked the fact that he was receiving inputs on improving the line for free. Eiji Toyota liked the idea of turning every employee into a Quality Circle (QC) expert.

Toyota's global suggestion system results in hundreds of thousands of improvements every year, from arrangement of a work team on production floor to the quality of soap in the rest rooms. Nearly 90% of suggestions are implemented and the cash reward still applies - ranging from \$5 to \$2000, per idea.

Similarly Titan implemented a suggestion scheme, called Idea Plus, serves as a forum for airing good ideas. The suggestions are sent to department head, which analyses them. Those that are feasible are implemented, and the department head explains why the rest are not workable. The total employee involvement (TEI) team administers the process and looks at best practices and suggestions, as well as what other companies are doing in quality circles.

Titan trains employees in quality control tools, and guides them to solve problems. On completing a project, employees make a presentation. These are judged by the TEI team and by key people across functions. The best presentations are entered in external competitions, and those responsible for them get mementoes.

In theory, the Deming wheel increases your long-term prospects for success, rather than you're simply reacting to problems as the crop up. PDCA (plan-do-check-act) cycle shown below, can improve any process-even incrementally-over time.



Strategy Four: The Kanban system – The notion of perishability is the fact of life for many modern organizations. Commercial airlines try to sell their unused seats just before the takeoff at rock-bottom prices, vegetables sellers try to sell in the same way just before market closing otherwise their produce will perish. Newspapers must sell the day they are printed; nobody buys yesterdays paper.

That was the key for Ohno – perishability. Steel can perish, too! Iron can perish, too! Tires are perishable if not used and instead are stored, wasting space and capital. Perishability moved him more than any other concept to pin Toyota's future on JIT thinking.

And that's where *kanban* comes in. It's a pre-computer concept still in use at Toyota worldwide because it works beautifully. When a part is used, the worker can send the *kanban* back upstream as a record of what part was used and as an order for a new one. This system reduces communication time and prevents most problems because the status of a part is clear and instantly observable.

Strategy Five: Ask your customer – Many successful companies understand intuitively that customers are more than passengers on board. Customers provide the population, decides what course to take, and also steer the ship. And once in a while, when the mood strikes them, customers abandon the ship for another.

Nobody has a lock on customers. They are famously fickle. They decide that New Coke was nowhere near as pleasing as Old Coke. They decide that CD players were not as cool as iPods. The making of TATA Ace mini truck was on the similar lines.

1.2 Managing Core-competencies

Most of other capabilities are imperative to the business's survival, but not to its ultimate success. For example finding a right place/ market to sell your product or good pricing for your product are imperative for success but for short term.

The roles and related actions for the HRD function in supporting a core competence based strategy.

- I. Inform the strategic planning process
 - ❖ Provide educational resources about strategy and core competency
 - ❖ Provide learning opportunities to evaluate the potential for core competency based strategy
 - ❖ Core competency assessment through competitive intelligence
 - ❖ Analysis and assessment for strategic decision

- II. Identify and describe core competencies
 - ❖ Study and codify core competencies using various mapping and assessment procedures
 - ❖ Inventory current competency skill levels
 - ❖ Ethnographic study of collective competency informal learning Process
 - ❖ Enhance social capital of the organization through network promotion, rituals, identity, relationships, reflective practices
 - ❖ Encourage learning at advanced levels and/or in diverse fields
 - ❖ Develop a culture that appreciates innovation, entrepreneurship and risk-taking

- III. Protect core competencies
 - ❖ Complicate and elaborate learning and development practices
 - ❖ Tightly couple the performance management system
 - ❖ Pay special attention of core competency amplifiers
 - ❖ Embed culture with rituals and values
 - ❖ Provide ongoing skills maintenance and enhancements for groups and teams
 - ❖ Increase employee identification with and loyalty to the company
 - ❖ Encourage the formation and development of new competencies

Marketing system design issues are critical and can be a source of competitive advantage. Some companies are, in fact, defined more by their marketing system than by their products. For example, the innovation and phenomenal success of HLL was not so much in the product as in the distribution through creative channels.

1.3 Good and Bad Core-competencies

As somebody once said that – “If you can’t prove it, please don’t use it”. Not all competencies are right. Defining the right competencies is everything. If you use your intuition alone, the program will fail. But if you ground competencies in sound science, the programs will pave the road for Growth.

For example, if you have a hunch that managers in your organization need to "set clear expectations" for their employees, put this to the test. The best way to test a competency is to conduct the research within your own organization. Survey as many employees as you can, asking them if their managers set clear expectations. Then compare the data you collect to real performance metrics -- customer engagement or retention, or better yet, employee productivity. If you find a significant correlation between managers setting clear expectations and performance on the job, you have found a solid competency. If no significant relationship exists, don't use it.

2. Framework for developing Core-competencies of MDI

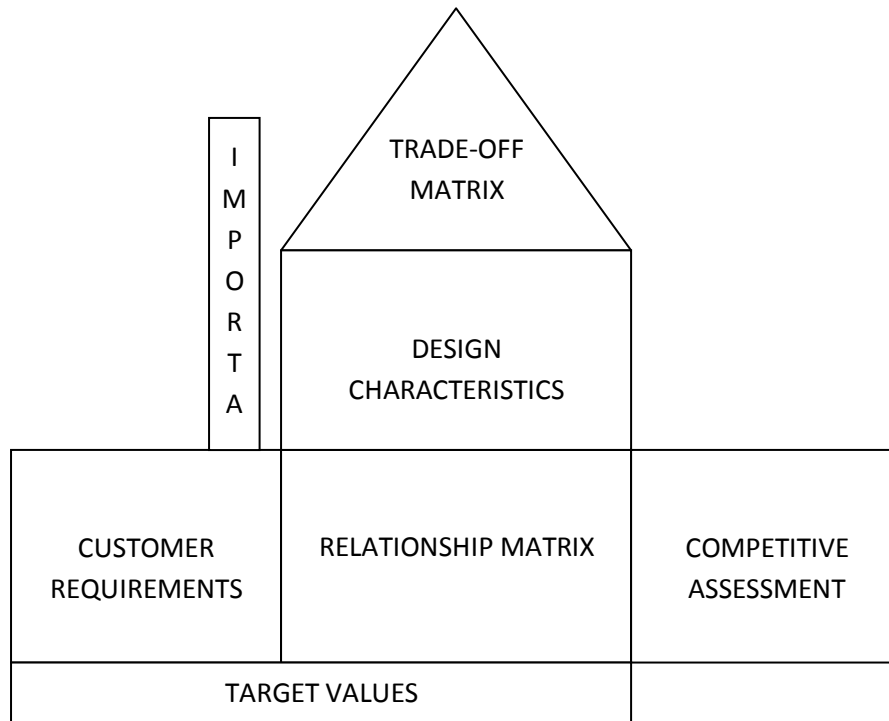
Focus of Core-competency is customer. So the identification and development of Core-competencies should be done by keeping customer at the centre. A framework can be generated for any corporation on the basis of what is actually valued by the customer. We can list down the requirements of the customer and the competitors' offerings and then employ a mechanism to find out the specific functions or process design capabilities that need to be implemented.

Despite the fact that more and more service industry companies are beginning to use quality control, many people believe that promoting its wider use in this field won't be easy. The reasons for this are that data are difficult to obtain (quantification is difficult) and service is not measurable material object. Nonetheless, the service industry is finding it necessary to conduct quality assurance activities –such as setting quality targets and establishing quality design –in order to clarify the quality of its service in relation to customer needs.

I have developed a framework for the development of the Core-competencies of MDI, by judging the functional and process requirements that will give MDI a competitive advantage. The mechanism used is Quality function deployment (QFD). Quality function deployment provides specific methods for ensuring quality throughout each stage of product development process, starting with design. In other words, this is a method for developing a design quality aimed at satisfying the consumer and then translating the consumers' demands into design targets and major quality assurance points to be used throughout the production stage. Design review is also very important since it represents an opportunity to inspect the design itself.

A product/ service quality can be assured through the quality of subsystems, the quality of subsystems through the quality of parts, and quality of parts through process elements (control items).

Figure shown below is the outline of House of Quality:



In case of MDI, there are four different types of customers. They are:

- Corporate customer (consultancy and research work)
- Post Graduate Programme in Management (PGPM) students
- Executive Management Programme (EMP) students.
- Students Exchange Programme (SEP) students

And all these customers have different requirements, except few for which they give different relative weights. For example, corporate customers have very stringent time limit requirements but for PGPM students there is no such requirement and for EMP students fast and flexible timing is of importance without any quality compromise. SEP students will give more importance to facilities and corporate visits but PGPM students will give most importance to final placements!

I have listed some of the major customer requirements for PGPM students and their assumed importance:

S NO.	CUTOMER REQUIREMENTS	IMPORTANCE 1-10
1	Good placements	10
2	Pedagogy followed	8
3	Quality of the faculty	9
4	Infrastructure facilities	6
5	Industrial exposure	9
6	Admission procedure followed	6
7	Ranking of B-school	8
8	Fee charged for the course	6
9	Culture of B-school	6
10	Responsiveness of administration	5

In the second stage of QFD, we do a *competitive assessment*. On the scale of 1 to 5 (with 5 being the highest), students evaluate our service (i.e. providing MBA) against competitor B-schools of the country.

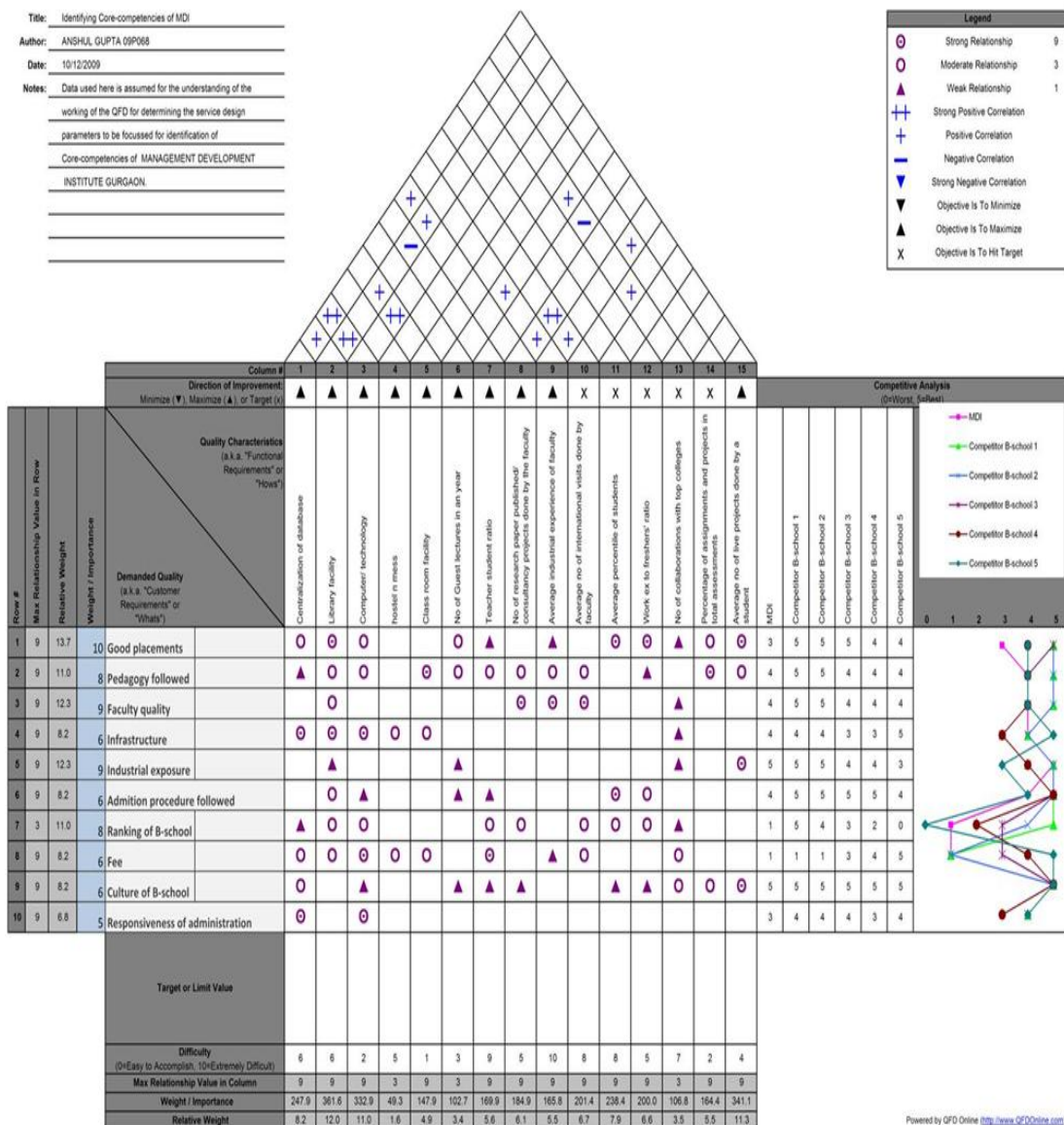
S NO.	CUTOMER REQUIREMENTS	IMPORTANCE 1-10	MDI	OTHER B-SCHOOLS				
				I	II	III	IV	V
1	Good placements	10	3	5	5	5	4	4
2	Pedagogy followed	8	4	5	5	4	4	4
3	Quality of the faculty	9	4	5	5	4	4	4
4	Infrastructure facilities	6	4	4	4	3	3	5
5	Industrial exposure	9	5	5	5	4	4	3
6	Admission procedure followed	6	4	5	5	5	5	4
7	Ranking of B-school	8	1	5	4	3	2	0
8	Fee charged for the course	6	1	1	1	3	4	5
9	Culture of B-school	6	5	5	5	5	5	5
10	Responsiveness of administration	5	3	4	4	4	3	4

In order to change the service design to service requirements, we need to translate those requirements to measurable *design characteristics*. We list such characteristics (centralization of database, faculty experience, library facilities, etc.) across top of the matrix as shown below:

QUALITY CHARACTERISTICS / CUSTOMER REQUIREMENTS	Centralization of database	Library facility	Computer/ technology	hostel n mess	Class room facility	No of Guest lectures in an year	Teacher student ratio	No of research paper published/ consultancy projects done by the faculty	Average industrial experience of faculty	Average no of international visits done by faculty	Average percentile of students	Work ex to fresher's ratio	No of collaborations with top	Percentage of assignments and projects in total assessments	Average no of live projects done by a student
Good placements	○	⊖	○			○	▲		▲		○	○	▲	○	○
Pedagogy followed	▲	○	○		⊖	○	○	○	○	○		▲		⊖	
Quality of the faculty		○						⊖	⊖	⊖			▲		
Infrastructure facilities	⊖	⊖	⊖	○	○								▲		
Industrial exposure		▲				▲							▲		
Admission procedure followed		○	▲			▲	▲				○				
Ranking of B-school	▲	○	○				○	○		○	○	○	▲		
Fee charged for the course	○	○	⊖	○	○		⊖		▲	○			○		
Culture of B-school	○					▲	▲	▲			▲	▲	○	○	⊖
Responsiveness of administration	⊖		⊖												

▲ = Weak relationship ○ = Moderate relationship ⊖ = Strong relationship

The service design characteristics are interrelated too, as shown in the roof of the house in the figure below. For example, greater use of technology will improve the classroom facilities but larger student teacher ratio will impact the existing facilities provided by the library. We need to take all these factors into account when determining final design (see below).



THE COMPLETE HOUSE OF QUALITY FOR MDI

3. Proposed design changes to be focused at MDI

If we study the target changes shown below we find that, not all quality characteristics are to be focused equally. There are a few areas which demands more attention than others and will impact the overall performance of the organization to a greater extent.

	Centralization of database	Library facility	Computer/ technology hostel n mess	Class room facility	No of Guest lectures in an year	Teacher student ratio	No of research paper published	Average industrial experience of faculty	Average no of international by faculty	Average percentile of students	Work ex to freshers' ratio	No of collaborations with top colleges	Percentage of assignments assessments	Average no of live projects by a student	
Difficulty	6	6	2	5	1	3	9	5	10	8	8	5	7	2	4
Max relationship value	9	9	9	3	9	3	9	9	9	9	9	3	9	9	
Weight/importance	248	362	333	49	150	103	170	185	166	201	238	200	107	164	341
Relative weight	8.2	12	11	2	4.9	3.4	5.6	6.1	5.5	6.7	7.9	6.6	3.5	5.5	11
	↑	↑	↑				↑		↑	↑	↑		↑	↑	↑

Listing them priority-wise: (relative weight >6)

1. Library facility ←
2. Computer/Technology ←
3. Average no of live projects done by students ←
4. Centralization of database ←
5. Average percentile of students ←
6. Average no of international visits by faculty ←
7. Work ex. To fresher's ratio ←
8. No of research papers published by faculty ←

Now, as we have identified the most important design parameter to be focused upon, next step is to implement the principles we learned from Toyota. Lets choose computer/technology and then we apply all five strategy on it.

Strategy one: Kaizen –As we learned Kaizen simply means continuous improvements. Use of technology is not going to be cheap initially. We at MDI need:

1. Wi-Fi connectivity in the whole campus
2. Better College website
3. A better e-mail facility
4. Modern printers and copiers
5. Laptops for faculty
6. Modernization of computer lab, etc.

But all of these are going to cost. What we can do is follow step by step up gradation of these facilities and follow the path of continuous improvement, so that we don't spend too much on one thing. Also we will get to learn how to create a coordinated atmosphere in which every activity supports other, thereby giving us overall optimal performance.

Strategy two: *Just-in-Time* – In service industry like education, JIT has a very important role to play, because we can't preserve a service, like a product which can be consumed later. Some of the areas where JIT can be implemented for technological design improvements is JIT students' result declaration. Presently there time lag of 15 days to a month for declaring a result and slows down lot of other activities too. Conducting online exams can be a solution.

Strategy three: The suggestion system –People will either argue that there is student council or they will say that we already have 9-10 suggestion boxes hanging outside academic buildings, so we need a suggestion system. Majority of companies do have similar kind of employee council or customer council and hanging boxes outside their premises, but not all of them are successful!

We need a suggestion system in which people are welcomed to give suggestion on whatever matter they want. I am sure in MDI there will be more than few people who will come out with ideas which if gets implemented can bring out small

improvements and over the time can transform the whole system. And for that technology can play a great part by building an online platform.

Strategy four: *Kanban* – There is dire need of a kanban system in our placement cell. Why? Because during summers I saw that even more that 180 students were finding to handle 40-50 companies in a day! And result of that is –we lost many summer’s offers.

While one student was in a process X, there was a whole group being delayed for the process Y. In between company official picked what they had.

Strategy five: Ask your customer –As I mentioned earlier that many companies considering customers more than the passengers on board. And for service industry where one does not have any quantitative tool to measure the exact quality of the service, customer has a very important role to play.

We can’t expect honest feedback of administration or faculty, just a few hours before the exams from 300 students! We need a system where everybody should be judged JIT.

4. Conclusion

Based on the above study a list of companies is provided below with their respective Core-competencies and strategies adopted by them to achieve them:

Company	Core-competency	Strategy
Manufacturing sector:		
Toyota	Efficient manufacturing	Continuous improvement
Bhart Forge	manufacturing excellence	Kanban, integrated operations
Service sector:		
Infosys	Networking equipment	Integration of global facilities
Google	Harvesting the value from massively scaled, complex human activity	Customer focused
FMCG sector:		
P&G	Product marketing	Asking customers, R&D
HLL	Distribution channel	Integrated marketing channels
Electronic goods:		
Sony	Miniaturization	R&D, continuous improvements
Dell	Cost leadership	Pursuing multi sales channel opportunities
Country	Core-competency	Strategy
China	Low cost manufacturing	Supporting policies

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