Result of an attitude

Call it the fall of a giant or the result of an attitude; in the closure of the present form of General Motors there are many lessons to be learnt. Both stakeholders and customers expect such large corporations to be eternal and ever-improving. So, why did the big giant fall? Was it lack of enthusiasm, reluctance or inability to change, or was it simply a cultural defect? Read on to find out…

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Some lessons are learnt very slowly, and yet some never learnt at all. This is the story of many organisations. Automobile production first started in machine tool companies in Europe, and Panhard et Levassor (P & L) was one such leading car maker in 1894 AD when car making was a craftsman's job. Every component was individually fitted. There were no dealerships; one simply went to one of these car craftsmen and discussed his specifications - the type of carriage required, number of seats, luggage, cargo space, etc; they then made sketches to these specifications and hand-crafted the automobile.

Every car and every part was unique. Interchangeability was absent from the manufacturing vocabulary. Until after the World War I (WWI), both Henry Ford of Ford Motor Company and Alfred Sloan of General Motors (GM) moved the automobile manufacturing from crafted production - then led by European companies - into the age of mass production which the US came to dominate for a long time.

The rise of GM

In the initial stage of the automobile history, there were many thousands of carmakers whose volumes varied from one to many. William Durant was a financier who bought a dozen car companies in the early part of 1900, as each made similar product (they competed rather than complemented one another). Before WWI, he inducted Alfred Sloan to sort out the mess. The concept of mass production of both GM and Ford did create problems of overproduction, as the world went into the great depression of 1929, and, Durant was pressured by his bankers to bring in professional management. It was then that Pierre du Pont became the chairman of General Motors who in turn made Alfred Sloan its president.

From 1903 till some time in 1930s, Ford led the bandwagon. Sloan devised a strategy to lead GM to become the world's biggest car maker, which as he put it, "We will make cars for every purse and purpose." At this time, Ford produced only one product, and Sloan developed a five-product philosophy in support of his strategy – from *Chevrolet*

to *Cadillac*. Sloan, thus, resolved the various problems faced by GM, and created decentralised divisions (Delco, Saginaw, & Rochester) managed objectively by the numbers from the corporate headquarters.

A lacuna that remained

Ford and GM had huge facilities, used excellent machine tools, sported large inventory warehouses and enjoyed a large portion of the marketshare. Although they succeeded with their concept of mass manufacturing, they could never devise the organisation and management system (philosophy, culture and strategy) they needed to manage effectively the total system of marketing, customer service, product development, engineering, production, procurement, development of suppliers, and quality that mass manufacturing called for.

European response

In 1955, when Sloan retired from GM, it was the first year when more than seven million automobiles were sold in the US. While Ford, GM and Chrysler had become 'the big three' and accounted for more than 95 per cent of the sale, six of their models accounted for over 80 per cent of this share, and GM had become the biggest auto maker in the world – the giant. By then people in other countries and continents (Andre' Citroen, Louis Renault, Giovanni Agnelli, Herbert Austin and William Morris) had caught on to their idea and started to bite into their share. In Europe Fiat, Renault and Volkswagen were producing vehicles at rates comparable to those in Detroit. Even Daimler Benz saw a transition from craft production to volume manufacturing.

The rising sun

The dominance of the US and the emerging Europe would have continued had it not been for Toyota in Japan; that had borrowed its learning from America, and instead of stereotyping, was developing a revolutionary approach that would drive out all the inefficiencies (wastes) in the American production concept, making the very concept of mass production redundant, and deliver an evolutionary way of how to produce automobiles or different products with a completely new thinking; the one that we today call as 'lean manufacturing'!

Although Toyota opened its first dealership in California during late 50s or early 60s, it focussed on the American market after the 1973 oil crisis; slowly but steadily the share of Japanese vehicles began to increase, and those of the big three began to reduce. GM's slide started in the late 1970s. In the early 1980s, Toyota offered GM to jointly set up a plant in America. Toyota wanted to test its production methods in the American setting; and for GM, it provided a way to learn how to build cars more efficiently using Toyota's 'lean' production system. Since GM also wanted to manufacture a small, high-quality car, Toyota seemed like the perfect partner. Thus, in 1984, after overcoming legal battles with Ford and Chrysler on the formation of the joint venture, the experiment called NUMMI (National United Motor Manufacturing Incorporated) started delivering *Chevrolet Nova*.

GM's Freemont facility in California that had closed in 1982 became GM's equity into the joint venture. GM's employees were among those picked and trained in Toyota's Takaoka plant in Japan on the Toyota Production System. Compared to the plants run by the big three, NUMMI's efficiencies can be summed up as in the Table.

The IMVP world assembly plant survey and J D Power's quality survey were done in 1987 when NUMMI was only three years old.

Production efficiency at NUMMI		
Characteristics	**GM US plants**	**NUMMI**
Assembly hours per car	31	19
Assembly defects per 100 cars	135	45
Assembly space per car	8.1	7.0
Performance		
Productivity (hrs/vehicle)	25.1	21.2
Quality (assembly defects/ 100 vehicles)	82.3	65.0
Layout		
Space (sq ft/vehicle/year)	9.1	7.8
Size of repair area (as percentage of assembly space)	12.9	4.9
Inventories in days (for 8 sample parts)	2.9	1.6
Work force		
Percentage of workforce in teams	17.3	71.3
Job rotation (0 = none, 4 = frequent)	0.9	2.7
Suggestions/employee	0.4	1.4
Number of job classes	67.1	8.7
Training of new production workers (hr)	46.4	370.0
Absenteeism	11.7	4.8
Automation		
Welding (percentage of direct steps)	76.2	85
Painting (percentage of direct steps)	33.6	40.7
Assembly (percentage of direct steps)	1.2	1.1

It shows that even in those initial days when GM was exposed to the concepts of lean manufacturing, and when properly applied, produced cars more efficiently than with mass production. NUMMI has an impressive record from then on; having won various awards for quality and human relations.

Change the mindset

This June in 2009, when GM came crashing down, it brought to an end not only an era but also a harsh reality to depict as to how things will not work. Did GM take the learnings from this joint venture and apply it across its plants in an effort to reduce costs, improve productivity and become a more efficient operation? Even if they say they tried or did, the results speak that efforts fell short. Why is it that in one company where GM is a partner produces *Corolla, Tacoma* and *Pontiac Vibe* so efficiently but cannot replicate it in other plants? And, twenty five years gone by since when they had direct access to learning about lean manufacturing; most people achieve all their learning degrees in this time!

It may not be that they did not try, for there must have been pressure owing to their performance characteristics and results. Were they willing to adapt it correctly and completely? Or did they tinker with the idea and try it with their own modifications? There are two distinct elements that need to be applied together – building the lean culture and applying the strategy (tools). It is the leadership that applies the heart and builds the culture, and so it is important that they focus completely on it. It cannot be left to a diktat or a wish to be fulfilled. Lip speak will not work here; it needs to be demonstrated using the leadership's body language. Focussing on culture is focussing on permanency; looking for long-term gains rather than short-term. This is where most fall short, and end up way too short on their potential results.

Everyone who stays the course and goes the distance comes out a winner in transforming to become a lean manufacturer. When the leadership cannot alter its thinking, cannot change its behaviour and demonstrate it through their body language, the change will not stick. This change is about everyone changing his daily habits, doing things differently, learning everyday and improvising. While all companies and managements want lean results, and want to belong to that elite club of lean manufacturers, few are willing to change themselves, hence, little success with the lean attempt. So, what do they do then?

Pitfalls of templated thinking

They try to form and format the JIT tools applying them without a philosophy, and like to believe that they have become lean. Some even try to evolve their own production system (nothing wrong if done properly) and name it after their own group or company – as GM evolved the Global Manufacturing System, and there are others too in America, Europe, and India! These managements institute a periodic review on measurements, but loose enthusiasm and sheen over time and remain there to be done only because the corner room or the ivory tower wants it. This approach is piggybacking the American B-School type of thinking, which finds it is easy to teach people 'what to think' rather than 'how to think'. And, on the journey of lean it is knowing 'how to think' that will get one forward.

Over the years, GM has hired some of the most brilliant people and also clocked numerous training hours. But, this intellect has tried to fix broken down processes and

control them rather than developing excellent ones that are fool-proofed and can be run by ordinary people, resulting in creation of enormous wastes. These brilliant individuals may have demonstrated their ability to manage by results, may have had a deep understanding of the financial aspects or every credit one wants to give them, but it keeps bringing back the question – if they had everything, yet why did they fail? Even Chrysler that was turned around by Lee Iacocca during the 1980s came under the hammer.

Attitude is everything

Lean is culmination of good attitudes as it works with the right ones. The success of NUMMI demonstrated the capability of the American people's ability to adapt to the lean culture. So, the think-tank at GM, the strategists and the leadership at the top could have got inquisitive from 1984, shedding the attitude of 'do not bring that NUMMI stuff here'. The right attitude would have been to give a better proven manufacturing system that is capable of finding end-to-end solutions a proper embrace. American manufacturing has displayed an attitude of unwillingness to acknowledge something superior to their own thinking. Instead of learning and getting adept at it they have wasted time and effort in pursuit of ambits that do not work as replacements to lean. The hype behind Six Sigma and Lean Six Sigma as an alternative to lean is one such example.

The global installed capacity for vehicle manufacture is estimated at 82 million vehicles annually, against which the demand in 2009 has been forecast at 52 million. The biggest challenge for GM's management will be to think through and correctly re-engineer the company. Reducing bureaucracy considering decentralisation & better autonomy making individual plants accountable for their performance and results will help. They may have to find a new Sloan or an Iacocca or an Ohno, the right leader who can chart the new course and steer the ship with full freedom. The product philosophy must purely be driven by customer demand and product portfolio matrix.

Over these past decades, GM steadily declined as Toyota steadily advanced. This narration is now over. Managements worldover need to wake up. GM and all large manufacturers have now accepted lean as a management philosophy that can be applied to any business, although many struggle to practise it. Looking at Toyota's recent results, some say that this is because they shifted their primary focus from solving customer's problems to becoming the world's largest vehicle manufacturer during the middle of the last decade. Smaller players in a less affected market will sail through such economic crisis as compared to the bigger players with a global foot print who in the short term will be more affected. In case of Toyota, it is present in almost 170 countries and manufacturing out of 30. One has got to just wait and watch what results Toyota will produce at the end of 2009 and 2010, and in there lies a tell-tale story of the resurgent lean thinking. At this stage it will be premature to read it as a setback to lean.

Every once in a while, large companies trip over themselves and fall. The lessons from GM and Chrysler must serve as a reason for the leaders and top managements of discrete manufacturing companies to reflect on their own business philosophies and processes, learn to internalise kaizen, because the result of an attitude (at the top) that is unwilling to change or whose response to change is either cosmetic or without the heart will end up at destinations their companies and stake holders neither desire nor deserve. MMT

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