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A Road Map to Innovation and Intrapreneurship
For Sustainable Competitive Advantage

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Abstract

This paper describes the lessons learnt by Tata Steel, one of India's largest and most respected companies, to foster innovation and corporate intrapreneurship, as part of its efforts to reinvent the company. The company has been able to leverage the creativity of its workforce and transform its employees into effective co-creators of the reinvented company. The results have been spectacular. The company has emerged as one of the top steel manufacturers in the world. This paper presents the roadmap that the company adopted to create a pervasive innovation culture. It presents the lessons learnt and the future challenges. The paper is based on the actual experience in leading change in the company, and the insights that the company has gained from managing over a hundred teams that have been innovating in different sub-systems in the organisation. Cumulatively, over 5000 people have been involved in the various innovations undertaken by the company during the last about fifteen years. The methodology used is Case Study Research¹. Company-specific proprietary information has been deliberately kept out of the scope of this paper while presenting the results.

Key words: Innovation, Intrapreneurship, Reinvention, and Teamwork

Introduction

In the early 1990's, the Indian economy was liberalized, paving the way for intensification of competition in all sectors. Until then, Tata Steel, a nearly 100-year old fully integrated steel plant was operating in a controlled economy with cost-plus government-determined pricing in a seller's market. Realizing the implications of this change in the environment, the top management rapidly put in place myriad processes for re-inventing the company, to prepare it for global competition.

Some of the significant steps undertaken include: focus on core business, improving the existing operations, right-sizing with a human face, modernization of plant and machinery, modernization of the employees mindset, focus on quality, business excellence initiatives, radical performance improvement through 'Total Operational Performance' (TOP), creating a market-oriented organization, de-bottlenecking facilities, phasing out technologically obsolete plants, adding new facilities for manufacturing value-added products, capacity expansion (the capacity was enhanced from 2.3 million tons per annum (tpa) to about 4 million tpa. This will further go up to 7.5 million tpa over the next five years), and many more.

All these initiatives have resulted in the company being rated among the top five steel producers in the world for the last three years by the World Steel Dynamics, a US-based independent agency that monitors and ranks the performance of global steel manufacturers. For a company that was considered by many as uncompetitive even in the Indian market as recently as in the early 1990s, to achieve this spectacular resurgence has been made possible by a visionary leadership that energized the organization.

This has resulted in enabling the company to harness the innovation potential of its workforce and in the process systematically create several extraordinary corporate entrepreneurs (intrapreneurs). This paper describes the processes that the top management deployed to activate the innovative engine in the company

Methodology

The methodology used is based on case research of over one hundred innovative teams in the company. The authors have had the opportunity to interact with large number of innovative teams in the company and study them closely. In fact, two of the authors (TM and BJ) are responsible as the Principal Sponsor and Program Manager respectively for a major change initiative called ASPIRE (Aspirational Initiatives to Retain Excellence). ASPIRE program deals with these teams as an instrument and source of innovation in the company. The insights presented in the paper are a result of these interactions.

Significance of the research

Many scholars have highlighted the importance of pervasive innovation as one of the important strategies for long-term marketplace success, especially in large organizations. However, most large organizations experience a severe gap between intent and reality in this regard. These have been extensively discussed in the literature [2-5].

This paper presents the success story of a large organization viz., Tata Steel, in mobilizing large numbers of its employees to innovate on an on-going basis, as a way of life. This has yielded extraordinary performance over the years, and resulted in the company becoming one of the benchmark companies in the global steel industry in terms of practices and processes. It is expected that this experience sharing will be of considerable utility to other large companies seeking to similarly create innovative teams in their organizations.

There is a strong relationship between innovation and employees taking on psychological ownership of company's growth, thereby manifesting entrepreneurial behaviour. Since this is being done within the framework of a large organisation, rather than as an autonomous entrepreneur, it is more appropriate to look at these innovators as

corporate entrepreneurs or intrapreneurs [4]. This paper provides some fresh perspectives based on extensive practice, regarding ways to increase the breed of corporate entrepreneurs and thereby innovation in an organisation.

Results

A lot has been written in management literature about innovation in general and specifically about corporate entrepreneurship in organisations, to deliver innovation [3,4]. Innovation can happen through an incremental approach or it could be radical innovation. The arena for the innovation can be the existing business or it could result in a totally new business being created within the organisation.

The distinguishing feature of the innovation process at Tata Steel is that all of the innovation has happened in the context of its core business, viz., steel, rather than the innovation creating spin-off businesses in other industries. It has resulted in the company becoming fighting-fit to take on global competition. It has created spectacular business results. Finally it has made many ordinary people in the organisation into extraordinary performers through innovation, as can be seen by both scale and scope of the innovation.

Although all of the surge in business results is not attributable to the twin themes of this paper, viz., innovation and corporate entrepreneurship, the company's revenues have steadily increased to about US dollar 3 billion in 2003-2004, compared to US dollars 800 million in 1990-91. Likewise the profit after tax was about US dollars 400 million for 2003-2004, against a figure of US dollars 50 million in 1990-91. It would be accurate to conclude that this significant improvement in the financial performance would not have been possible in the absence of widespread innovation and intrapreneurship that was fostered in the company.

The following are examples of significant innovation and intrapreneurship in the company:

- The new cold rolling mill with a capacity of 1 million tpa was completed in a world record time of 28 months and a world record lowest cost of Rs. 16 billion, beating the previous record held by Posco, Korea.
- The total revamp of the Blast Furnace-F was completed in a record time of 105 days and a cost of Rs. 2.1 billion, against best offers from foreign contractors for 210 days implementation and Rs. 5 billion cost.
- A run-down mill to make reinforced bars (Merchant Mill), which foreign consultants recommended to sell off has consistently been a star performer in the company, significantly exceeding design capacity, and generating record profits, with little additional investment.
- Raw material consumption in terms of tons per ton of saleable steel has dropped from 4.52 tons in 1994 to 3.20 tons in 2003.
- Sinter plant productivity has increased from 21 tons/m²/day in 1989 to 36 tons/m²/day in 2003, with no significant additional investment, exceeding the benchmark set by Nippon Steel of 35 tons/m²/day.
- Sharp drop in specific refractory consumption from 20.6 kg/tcs in 1996 to 7.9 Kg/tcs in 2003.
- Across the board drastic improvement in quality of various products and processes.
- Reinventing retail distribution in steel and branding initiatives. Achieved significant increase in the price premium of the company's products in the retail markets.

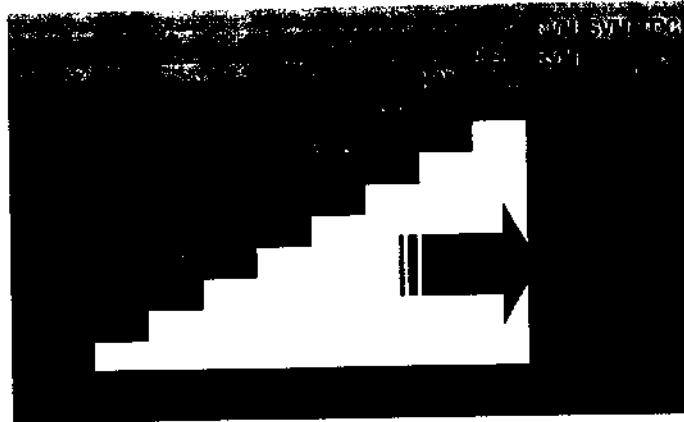


Figure 3

Thereafter, the choice is left to the individuals to practice the techniques as individuals and in temporary or permanent teams. An intense focus on execution ensures that the thought process is converted into ground-level implementation. The infrastructure for training, learning & sharing, reviews, rewards & recognition is created to enhance participation and quality of output without prejudice to the improvement technique used. This has resulted in translating innovation potential into innovation performance.

Architecting change is half the battle, managing the change process is another challenge.

As the change process unfolds, top management has a very important role:

- Get rid of obstacles to change
- Manufacture quick wins (Win small, win early, win often³)
- Consolidate improvements
- Institutionalise new approaches
- Get ready for another round: let inertia not set in

Tata Steel has a clear strategy for managing change, as depicted in Fig.4. All people in the organisation who could be impacted by the change fall into one of the four quadrants. The figure shows the sequence in which the change is taken on in the system.

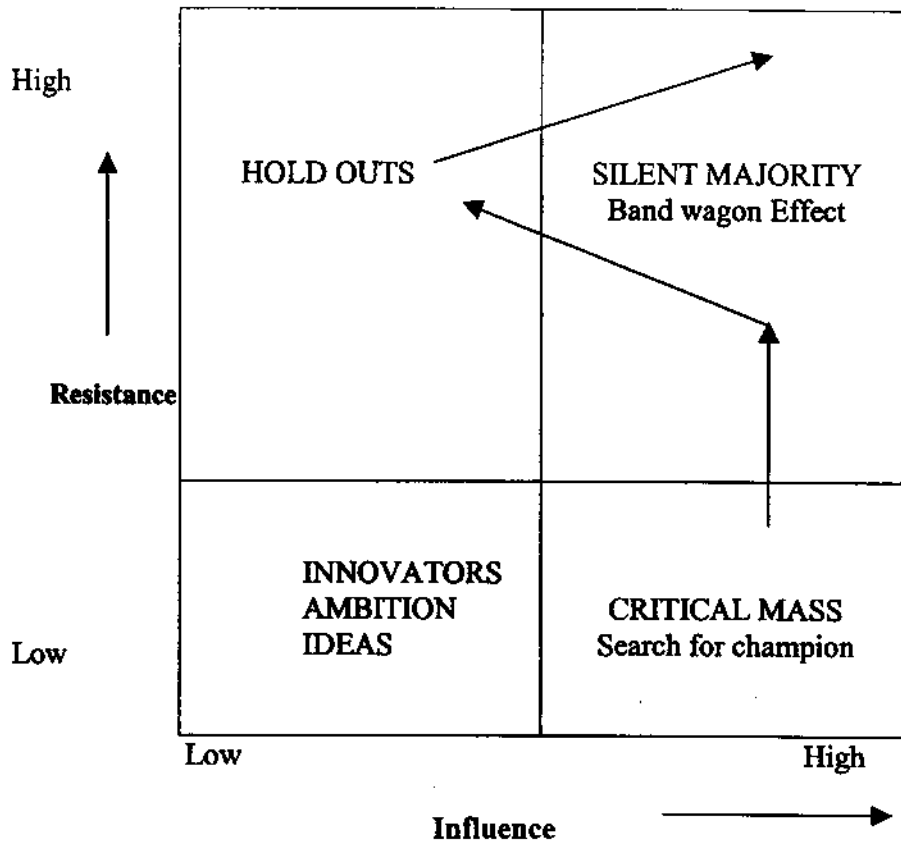


Figure 4: Tata Steel's Strategy for Managing Change

Managing change: Centrality of teamwork

At Tata Steel, while room for individual creativity exists, teamwork is a virtue actively pursued to drive innovation and to develop leaders at all levels. Often the teams are assembled through a process of self-selection. The team building process requires five essential ingredients: a shared destiny, an audacious goal, a sense of urgency, commitment to the cause, and interdependence.

The top management has significant role in ensuring that each of the above is strengthened continually to foster extra-ordinary team working. At the level of the team members, the essential ingredients for the teams to succeed are:

- Trust
- De-linking credit
- Loyalty to the organisation
- Conviction
- Moving from 'I' to 'We'.

Tata Steel has understood the essential difference between working groups and teams (Table-I). Working groups fall short in fostering innovation, and effective, powerful, vision-driven teams can indeed make innovation a reality.

Table-I: Contrasting working groups and effective teams

Working Group	Team
Strong clearly focused leader Individual accountability Individual work products Group purpose in line with organization mission Discuss, decide and delegate Run efficient meetings	Shared leadership roles Individual & mutual accountability Collective work products Specific team purpose which the team delivers Discuss, decide and do real work Open-ended discussion and active problem solving

Teamwork is central to innovation and can be great fun if nurtured properly by the top management, as Tata Steel has found. It creates an amalgamation of complementary skills. Joint development of goals facilitates real-time problem solving. Mutual trust and confidence ensures collective performance. Collective commitment ensures flexibility and responsiveness. This enables an environment of innovation. The top management of

the company has a very important role in creating and strengthening teamwork through mutual dependency, strong accountability, transparent reward and recognition systems, fact-based management and extensive empowerment.

Teamwork alone is inadequate to foster innovation. The team's imagination must be fired by aspiration, usually involving considerable stretch. For pervasive innovation across the organisation to take place, leadership at all levels is essential, which is an art Tata Steel has perfected through a process of diffusion of leadership across various levels.

Leveraging pride for team effectiveness

In Tata Steel there are many entrepreneurial teams, usually comprising of 20 to 50 people, who deliver extra-ordinary results through innovation. The process by which this happens starts with stringent standards of recruitment, where the person being inducted is thoroughly assessed for fit with the company's strong value system. Such a person intrinsically manifests excellent emotional intelligence, which is a key starting point for effective performance in a team. These linkages between emotional intelligence, pride, willingness to cooperate and business results are shown in Fig-V.

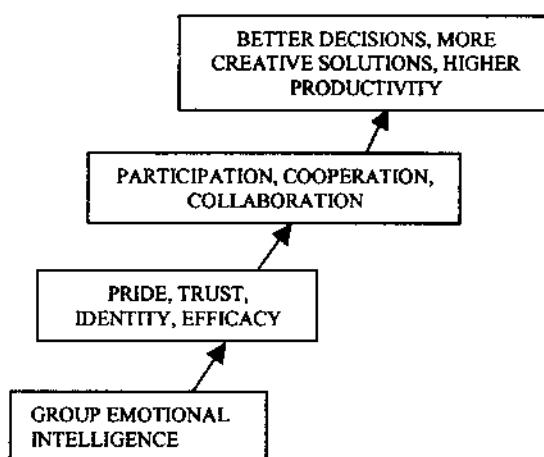


Figure 5: Relationship between positive pride and team effectiveness

Conclusions

Large companies worldwide are all on the journey of creating organisation cultures, conditions and processes that facilitate innovation and enable large numbers of employees to move from an 'employee mindset' to 'entrepreneur mindset.' However, very few companies have actually succeeded in making this transition.

The task is clearly non-trivial, and the roadblocks are many, resulting in considerable gap between intent and reality in making this happen. Tata Steel has embarked on this journey over a decade ago and the results in terms of a highly charged and inspired workforce are clearly visible in terms of business results.

The company has been amongst the only three companies in India to win the Business Excellence award instituted by CII-EXIM Bank on the basis of European Foundation for Quality Management (EFQM) Excellence Model. It has been the recipient of Prime Minister's trophy for the Best Integrated Steel Plant in India on several occasions.

While many factors have contributed to this, there is no denying that innovation and intrapreneurship have been potent tools for continual reinvention of the company. Although all companies are different in terms of their culture, product/market scope, product/service orientation, differences in terms of profit/non-profit/government, size, language, education levels, skill levels, tradition/heritage, etc., lessons learnt by Tata Steel may be relevant in their own attempt to create an innovative organisation that enthuses people to take on entrepreneurial roles.

Tata Steel recognises that the path to excellence is never-ending. Hence the company recognises that the steps it has taken to create an innovative and entrepreneurial organisation are the first of a long journey that the company must continue. It also recognises that the journey will continue to accelerate in the future, as the forces from change, competition and customer continue to further intensify.

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