

Status of Change forces in Indian Industry: A Survey

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Abstract

In recent years, with the rapid development of new technologies, globalization of market, increase of innovative forms of organizations, and the emergence of competition have demanded an unprecedented level of change and uncertainty in the organizations. As an organization prepares for future uncertainties, it is found that many traditional management concepts that have been helpful for the organization in stable environment do not prove equally effective in dynamic and uncertain conditions. In the worst cases, an organization may focus on optimizing the existing process which may limit its ability to respond to the changing environment. In such inflexible (rigid) posture, management's efforts get wasted, assets grow sterile, and technology gets obsolete. As an alternative approach, organizations need to adopt strategic flexibility to respond to continuous change in various areas like technology, structure, system and market opportunities to become competitive. The process of managing uncertain future is fundamentally an effort to identify and achieve the right "strategic balance" in building new organizational competences. Meeting this challenge requires organizations to manage continuity and change in their organizations. This paper focuses on the aspect of change forces which

are present in the Indian engineering organizations. These change force helps the organization to steer through the rough or turbulent environment. A survey has been conducted to access the status of various aspects/factors of change in Indian engineering industries and the overall change score of the industry has been found.

Introduction

In recent years, with the rapid development of new technologies, globalization of market, increase of innovative forms of organizations, and the emergence of competition have created an unprecedented level of environmental change and uncertainty for the organizations. According to the Volberda (1991), there are three categories of organizations namely 'Administrative unit', 'Production unit' and 'R & D unit'. He states that an administrative unit operates under stable, static and predictable market conditions, while a production unit operates under reasonable turbulent environment and an R & D unit operates under highly turbulent environment. He further states that there are four different types of flexibility and conditions of environment under which the organization operates. These conditions are "rigid, planned, flexible and chaotic". The 'rigid form' possesses negligible flexibility and has less possibility of change due to large

hierarchical layers and narrow-minded culture. 'Planned form' is more steerable and flexible. In 'flexible form' it is possible to manage change conveniently as compared to rigid and planned forms. While there is maximum flexibility in chaotic form and it becomes quite difficult to steer. He concludes that organizational change, structure, culture and operational technology of an organization are a part of organizational flexibility. A strategic framework, which helps the organization to manage continuity and change in their business to achieve competitiveness, has been offered by Sushil (2005). He has come up with four types of strategies, which can be adopted by the different organizations for managing continuity and change. These strategies are "Tree strategy, Mushrooming strategy, Wind strategy and flowing stream strategies", which have been developed by mapping various change forces and continuity forces on C-C matrix. The author states that in 'tree strategy', organizations grow in a continuous manner as a tree grows. It makes various step by step changes in different areas of business to manage continuity and change. On the other hand organizations which encash opportunities available, are considered to be following another strategy called 'mushroom strategy'. These organizations have main objective to earn quick profits. Similarly, 'wind strategy' is adopted by the organizations, which operate under turbulent and quick changing environment. In this strategy, organizations make change and transformation in their existing practices. In 'free flowing strategy', organizations make continuity and change continuously against the changing competitive forces. To keep the organization competitive and keep pace with change in current scenario, change forces needs to be managed. This is nothing but a set of forces which pull the organization to do business in current changing scenario and also help to become competitive. These are

the forces of inertia caused by external environment. In the current business domain, the change force momentum helps the organization to steer through the obstacles and grow over time. Change in one or more area of an organization is helpful to enhance competitiveness of the organization (Garg et al, 2008).

Survey of Indian Engineering Industries

A detailed survey has been conducted in various engineering industries covering whole country with an objective to access the current status of various continuity forces, change forces and competitive forces present in the an engineering industry. Further, it is envisaged to assess the various continuity forces like customer base, infrastructure, technology, core- competence, supply chain and logistics, culture and performances parameters which are present in the industries (Sushil, 2005). Along with this, the impact of various change forces like impact of globalization, new technology, customer needs, competition, environmental factors, merger and acquisition, and impact of government regulations on engineering industries are also studied. In the survey, various competitive forces have been analyzed to access the status of competitiveness in industry.

Methodology

For conducting the survey, the first step has been to design a questionnaire for seeking information about the various continuity forces, change forces and competitive forces present in the industry. The questions have been based on various factors and forces of continuity, change and competitiveness. Before using the questionnaire for survey, it was pretested. The survey has been conducted by mail as well as by undertaking personal visits to various industries. The response has been compiled and analyzed to find out information about various forces of continuity, change and competitiveness. The coefficients of correlation between continuity

forces, change forces and competitiveness have been established.

Design of Questionnaire

A questionnaire comprising of simple and relevant questions related to various forces of continuity, change and competitiveness has been designed. The questionnaire has been divided into two broad sections.

Section A has been designed to obtain general information of the responding organization, e.g. type of company, products manufactured, annual turnover, span of company, type of quality management system used in organization etc.

Section B seeks detailed information related to various forces which are present in the industries. This section of questionnaire has been divided into three segments namely continuity forces, change forces and competitive forces. Further in questions, information based on various forces which have been observed in an organization like effect of customer base, effect of infrastructure, effect of technology, advantage of core- competence, effect of supply chain and logistics, effect of culture and performances parameters, impact of globalization, impact of new technology, changing customer needs, impact of competition, role of environmental factors, merger and acquisition and impact government regulations along with effect of competitiveness have been collected. Mostly close-ended multiple-answer type questions have been framed and five alternatives (choice) have been provided to the Responder for giving responses. Responses were analyzed to find the status of forces of continuity, change and competitiveness in the engineering industry, and correlation amongst them have been established.

Industry Surveyed

Various Engineering companies of India covering the states of Punjab, Haryana, Himachal Pradesh, Uttar Pradesh, Delhi, Union Territory of Chandigarh, Maharashtra,

TamilNadu, Rajasthan, and Jharkhand have been considered for survey. Units covered are manufacturing many types of vehicles like cars, light commercial vehicles (LCVs), tractors, farm machinery, two-wheelers, etc. or are engaged in manufacturing of auto-components, e.g. axles, filters, brake drums, shock absorbers, casting of engine housings, fasteners, sheet metal components. In addition to these industries, industries manufacturing pipe fittings, valves and pumps, hand tools, machine tools, boilers etc. and other manufacturing units have also been covered. A list of industries was prepared by referring to the Directory of PHD Chamber of Commerce and Industry, Directory of CII, Directories of Association of Hand tools Manufacturers of Punjab and Delhi, case study of Business Week, Business Today and through yellow pages. A total of 370 industrial enterprises were identified for survey.

Conducting the Survey and Response

Initially, the questionnaires were mailed to all 370 identified organizations along with a covering letter stating the objective of the study with a request to send an early reply. After about 15 days, reminders were sent to expedite the matter. Information from some of the organizations was received in this way. Personal visits were made to many organizations to collect the response in an interactive manner. A total of 119 (32.16%) firms out of identified 370 responded to the questionnaire.

Scoring and Statistical Analysis

In section A of the questionnaire, most of the questions seek qualitative information. This information has not been used to calculate the score of the company rather it has been used to give some useful qualitative information. Some questions in section A and almost all questions in section B have a scale of 1 to 5. The score of 5 has been assigned to the best choice, 4 to the second best, 3 to the next in order and 1 to the lowest choice. The raw

scores received from filled up questionnaires by various respondents were compiled and analyzed to obtain the useful information.

Status of Various forces of continuity, Change and competitiveness

Section B of the questionnaire contains questions on various forces of change. Status of change forces has been described in the following section.

Change Forces:

Due to globalization and proliferation of world economy, the businesses are continuously changing by the forces which are being generated due from external environments. This has caused a situational change in businesses. This situational change could be both internal and external. The external change forces may arise from changes on political, economic, social and/or technological fronts, whereas the internal change forces may be because of poor performance (low profitability, loss of market share), change in top management, and so on. To assess the status of change forces in Indian engineering industries various change forces like such as impact of globalization, impact of new technology, changing customer needs, impact of competition, impact of outside environmental factors, merger and acquisition and impact government regulations have been identified. These forces are discussed in next sub sections.

Impact of Globalization:

Globalization has an important impact on the business environment. It is an external force which affects the organization. Due to globalization a lot of competition has emerged in Indian market. The level of competition of Indian organizations with MNC's, internal competition in the domestic market and new avenues has been considered to assess the impact of globalization. It is indicated that 16(13.4%) respondents have considered significantly high level of competition from MNC's due to

globalization, whereas 45(38%) respondents have considered it to a large extent, 21(17.6%) respondents have found it to some extent, 28(23.5%) respondents found it to a small extent and 9(7.5%) felt no competition from MNC's due to globalization. In addition there has been competition faced from local manufacturers. It is found that, 12(10%) respondent have faced significantly high level of competition from the local manufacturers, while more than half respondents have faced competition to a large extent, 36(30.2%) to some extent, and 30(25.2%) to a small extent. Only a small no. of respondent 09(7.5%) have faced no competition from local manufacturers. Due to globalization, new market avenues have opened up for the organization. The responses in this regard are indicated at S. no. 1 of Table 1. The value of standard deviation for each aspect of globalization has been calculated and is indicated in last column of Table 1. The overall mean score of globalization has been calculated as 3.21 and standard deviation (r) as 0.77.

Impact of New Technology:

Technology plays an important role in attaining the competitive advantage for an organization. It also acts as a strong change force since the organizations have to keep themselves abreast against the changing technology to stay in competition (Garg et al 2007). To assess the impact of new technology, various aspects like level of technological change/up-gradation/technology transfer in the organization, technology transfer to vendors, expenditure on new technological development and Research and development, reduction in product life cycle and expenditure on development of new technology have been considered. (Refer Table 2). It is revealed that 10(8.4%) respondents have observed a significantly high level of technological change/up-gradation/

technology transfer in their organizations during the last five years, while in 55(46.2%) organizations, level of technological change/ technology transfer/ technology up-gradation has been observed to a large extent, in 35(29.7%) organizations to some extent and in 18(15%) organizations to a small extent. Only one organization has observed a negligible technological change/ technology transfer/ technology up-gradation during the last five years. In today's environment outsourcing has been an important competitive tool. To keep the vendors competitive, the organizations may transfer them the required technological competence. From the response, it is revealed that 04(3.3%) respondents have extended full technological support to their vendors/suppliers. while 53(44.5%) respondents have supported them to a large extent, 35(29.7%) respondents to some extent and 23(19.2%) respondents to a small extent. Only 4(3.3%) respondents are found with no technology transfer to their vendors and suppliers. Investment on new technological development and Research and Development initiatives has been considered as an important aspect in changing scenario to gain an edge in the competition. From the response obtained, it is indicated that, 13(12.9%) respondents have spent more than 20% of their turnover on new technology development and develop indigenous research and development activities, whereas 08(6.7%) respondents with negligible expenditure on the said initiatives. 41 (34.4%) organizations are found to make expenditure on technological development and research and development initiatives to a large extent, 37(31%) organizations to some extent and 20(16.8%) organizations to a small extent. Due to the rapid technological changes, there is a need of reducing product life cycle of a product to meet the challenges of the market. The response indicate that 16 (13.4%) respondents have not made any

effort to change the product-life-cycle of their products, whereas remaining respondents have made significant effort to reduce their product -life- cycle to various extents (refer Table 2 – at s.no.7). The status of overall mean score along with standard deviation (r) of all aspects is indicated in Table 2.

Impact of customer needs:

Due to the cut throat competition and presence of many global players in the domestic market, there is a lot of choice available with the customer. Further, Customers are becoming more aware, quality conscious and demanding due to available choice with them. To assess the impact of customer needs in the changing environment, aspects like knowledge level of existing and potential customers, change in customer requirements/expectations, customer loyalty and extent of meeting customer requirements have been considered. From the response obtained, it is found that the existing and potential customers are quite knowledgeable as far as the level of awareness is concerned. Not even a single response is obtained which indicating the knowledge level of customer at low level, whereas, 08(6.7%) respondents have observed knowledge level of customers to a small extent, 41(34.4%) respondents have observed it to some extent and 51(42.8%) respondents to a large extent. With the remaining 19(15.9%) respondents, the level of knowledge of customers has been quite high. High knowledge level of customers is found to change the requirements/expectations of the customers. 21(17.6%) respondents have shown dynamic behavior towards customer's requirements/expectation, while 47(39.4%) respondents have reported change in customer requirements/expectation to a large extent, 37(31%) respondents to some extent and 10(8.4%) respondents to a small extent. It is revealed from the data that, 04(3.3%)

respondents reported no change in customer requirements/expectations.

In addition to change customer requirement/expectations, the loyalty of the customers towards the manufacturer/brand has also been considered to assess the impact of customer needs. From the response, it is found that in 21(17.6%) responding organizations, customers have been found highly loyal while in 63(52.9%) organizations, the customer has been found loyal to large extent, in 29(24.3%) organizing to some extent and in 04(3.3%) organization to a small extent. Only 2 respondents have indicated an unpredictable behavior of their customers as far as customer loyalty is concerned. Another important aspect of change force is considered to meet customer requirement for their satisfaction. From the response, it is found that most of respondents have indicated the level of customer satisfaction/ requirements from significant level of satisfaction. Not even a single respondent is found not meeting the customer requirements. The overall mean scores and standard deviations of various aspects have been calculated as indicated in the last column of Table 3

Impact of Competition:

One of the important change forces is the level of competition that prevails in the market. To analyze the impact of competition, information related to type of competition, impact of global players on domestic players and use of TQM techniques to face the tough competition has been collected.

From the survey, it is revealed that there is a stiff competition because of dominance of a large number of players than a single player any product range. From the response it is indicated that 25(21%) respondents are facing stiff competition due to existence of too many players. while 57(47.8%) organization, the competition found has been stiff to a large extent, in 26(21.8%) organizations to some

extent and in 11(9.2%) organization to a small extent. Further the impact of global player on domestic players is indicated in Table 4. To survive in competition, the organizations are found to implement TQM and its techniques to uplift the morale of their employees. The responses obtained for this aspect is indicated in Table 4. Further the average score and standard deviation for each aspect has been calculated. The overall average score and standard deviation of various aspects considered have been calculated as 3.64 and 0.67 respectively.

Impact of E-Business:

In the today competitive environment, the whole world seems like a global village. The use of internet and information technology enabled services (ITES) has forced the organizations to go for e- business. To assess the impact of e-business over the change practice in the organization, various aspects like focus on extent of use of e-business/ITES in an organization, level of information sharing and use of IT enabled solutions have been considered.

One of the important aspects of e-business as a change force has been the extent of use of e-business and ITES in an organization. From the response, it is found that 07(5.8%) respondents have been largely conversant with e-business and ITES applications in their business operations. Whereas 49 (41.1%) respondents are using it to a large extent, (29.4%) respondents to some extent and 25(21%) respondents to a small extent. The remaining 03(2.5%) respondents are found with negligible use of e-business and ITES applications in their organizations. Sharing of real time information amongst the suppliers and customers online has been a modern business practice. From the responses obtained, it is revealed that 09(7.5%) organizations have been sharing significant information with their suppliers/customers online. while 47(39.4%) organizations sharing information to a large extent,

40(33.6%) to some extent and 19(16%) to a small extent. As far as, use of new IT enabled solutions in the current scenario is concerned, it is seen that majority of respondents are using latest modules of IT enabled services in their organization. The response in this regard is indicated in Table 5. The overall mean score for this aspect is calculated as 3/25 and standard deviation is calculated as 0.78.

Impact of Environmental Forces:

To assess the global impact of environmental forces, various aspects like impact of overseas markets/ policies, global effect on the organization, adaptation to changing conditions and diversification to new areas have been considered. From the responses obtained, it is indicated that most of the organizations are affected by the overseas markets/ policies. Only 05(4.2%) respondents have shown no impact of overseas market conditions and policies on their performance. Impact of overseas market/policies on the remaining respondents is indicated in Table to various extents.

In current environment, one market is found to have an effect on other due to interdependence of the world market. This has created huge opportunities for the organizations. From the response, it is revealed that 07(5.8%) respondents have been affected significantly by global effect, whereas 30(25.2%) respondents have been effected to a large extent, 46(38.6%) to some extent and 30(25.2%) to a small extent. The external environmental conditions are demanding the organizations to be flexible in their approach and adapting to changing conditions. In this scenario, markets conditions are changing very quickly to adapt the changing market conditions. The responses obtained in this regard indicated in Table 6. The responses to other aspects like diversification to new areas as well as exports to other countries are indicated in Table 6.

Overall mean score and standard deviation for each aspect is also indicated in Table 6.

Impact of Merger and Acquisition:

In the current scenario, mergers (M&A) and acquisitions are recommended as a strategy for increasing efficiency, diversification, market power, control and others. Some of the major organizations like Tata- Jaguar, Mittal – Arsenal, HP- Compaq etc. have under gone through the process of merger and acquisition and achieve great success. To assess the status of M&A in Indian organizations, the aspects like joint ventures/alliances by domestic players/MNC's, effect of existing M & A by domestic players and also international players have been considered. From the response obtained, it is found that 36() respondents have not gone for any JV/alliances with any big player, while 27(22.6%) organizations have done it to a large extent, 27(22.6%) organizations to some extent and 24(20.1%) organizations to a small extent. Only 05(4.2%) respondents have reported to have JV/alliance with major players. The responses regarding the effect of mergers and acquisitions by domestic players as well as international players have been indicated in Table 7 in S.no59. Overall mean value for this change force is calculated as 2.49 and standard deviation as $(r) = 1.02$ as indicated in Table7.

Impact of Government Regulations:

Government regulations are found to play a significant role in the growth of the industries To assess the government regulations in Indian industries, the feedback of govt. rules/taxation, support of government, tax structures, and tax barriers have been considered. From the response obtained, it is found that only 07(5.8%) respondents have indicated government rules and taxation policy as highly favorable, while for remaining the response is indicated in Table 8. As far as support of government is concerned, the response obtained reveals that

109 respondents out of 119 said to have getting government support to various extents as indicated in Table 8, while 10 respondents have not get any support from government. Other impact of government regulations is on tax structure, the responses obtained in this regard are indicated in Table 8. As far as tax structures are concerned, only 3(2.5%) respondents have indicated highly favorable structures, while for the respondents it is varying from favorable to non-favorable as indicated in table 8. The value of standard deviation for each aspects and overall deviation of this change force is indicated in last column of the table.

Overall Status of all respondents Change Forces:

Average of various change forces for individual respondents has been calculated. From these scores of various change forces, overall mean score has also been calculated. Overall means of various change forces (column-wise) have been calculated representing the status of change force in total engineering industry. Fig. 1 indicated the overall values of various change forces calculated from raw data.

Conclusion:

It is concluded from the calculations that overall status of M & A as change force has been low in comparison to other change forces, while status of impact of customer needs has been found to be maximum. From the Table 9, it is found that there is strong co-relation exists between various change forces at significance level of 0.01. The change forces considered in the paper are strongly correlated. It is found that globalization is strongly co-related with all the change forces except government regulations while M & A are not strongly co-related with customer needs as it seems that it has only effect of business operations then on customer needs. Competitiveness have -ve co-relation with government regulations. Most of other forces of change are having strongly co-relation

between them and it shows there interdependence on each other. So, it can be said that change forces are strongly co-related with each other and their relationship is more important for

the success of an organization. By managing these forces an organization can be successfully bring change in them and become competitive and flexible to the current competitive environment.

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Biography

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