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Continuity and Change Forces in Small Scale Industry: A Case Study

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Abstract

In the era of globalization and liberalization, there has been a tough competition among all segments including Engineering and service etc. In recent years, with the rapid development of new technologies, globalization of markets, increase of innovative forms of organizations and the emergence of competition have created an unprecedented level of environmental change and uncertainty for the organizations. Further, With the entry of global players through joint ventures, collaboration etc. the industry has put forward a highly competitive and challenging scenario for the Indian engineering companies. In this competitive scenario, engineering organizations have to balance the continuity and change forces present in the themselves. In this paper, various continuity and change forces present in a small scale industry has been discussed and dynamic mapping of continuity and change forces(Year -wise mapping) on C-C matrix (Continuity-Change) has been presented.

Keywords: *C-C matrix, Continuity Forces, Change Force*

Introduction

In recent years, with the rapid development of new technologies, globalization of markets, increase of innovative forms of organizations and the emergence of competition have created an unprecedented level of environmental change and uncertainty for the organizations. As organizations prepare 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. As an alternative approach, organizations need to adopt strategic flexibility to respond to continuous change in various areas of change like technological, structural, system and market opportunities to become competitive (Stoll, 2007). Many companies do not accept the reality that their organizations are facing a crisis or their strategies are not correct. As an example a product line in an assembly shop is no longer profitable or a foreign competitor has slowed down the growth of a company, or technological changes have left an organization

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behind its competitors. In such inflexible (rigid) posture, management's efforts get wasted, assets grow sterile, and technology gets obsolete. The process of managing uncertain future is fundamentally an effort to identify and achieve the right "strategic balance" in building new organizational competences (Van de ven et al, 1995). Meeting this challenge requires organizations to manage continuity forces and change forces simultaneously.

There has been a strong belief among the various researchers and academicians that there are few forces present in an organization that keep pulling it in the changing business conditions for its survival. These forces help the organization in building the momentum to steer through obstacles/change (Sushil, 2005).

There are three major areas in which research in continuity management has been carried out by various researchers. One area of research has been continuity management, which is related with business continuity while the other deals with the recovery of the organization from crisis and its preparedness to respond to the risks associated with customers, suppliers and other stakeholders. The third area of continuity management is deals with organizational inertia. The bigger the organization, bigger the inertia would be. "Continuity aspect deals with the functions of supporting the organization in disruption, prevention, preparedness, response and recovery by managing risk, crisis management, emergency response, and business resumption and its recovery with its relevant environment and the risks within that environment" has been said by Aberdeen Group in one of their research project (2004). Harrald and John (1998) have advocated that, for long term success and survival in the current business domain, organizations need to be managed internally using methods that integrate various functions within and across the boundaries of the overall business enterprise. Continuity management in the organizational paradox is the management of the forces that are present with in the organization. A set of these forces keep on pulling the organization to steer in turbulent environment to grow over the time (Sushil, 2005; 2012). As stated by Sushil (2005), continuity forces are linked with SAP (Situation-Actor-Process) of SAP -LAP analysis. Continuity forces are linked with actors (A) and processes (P) while change forces are resulted from the situation(S). Continuity forces are those forces that may add to the inertia of the organization. From the literature, some of the continuity forces are indentified as customer base, infrastructure, technology, core competence, culture, existing high performance etc., which are continued by default and need not be managed consciously but may come in the way of constructive change in the wake of environmental changes (Sushil, 2005; Nasim *et al*., 2008).

Management of change represents the processes, tools and techniques to manage people-side of business change to achieve the required business outcomes, and also to realize that business changes can be met effectively within the infrastructure of the workplace (Prosci, 2000). Change management includes two perspectives; one is organizational change and the other is individual change used for managing the change effectively. It is continuously changing the business situation due to globalization and liberalization that strive an organization for change. Management literature is full of thoughts, theories, and models on organizational change and its management, with hundreds of articles contributing to change across different disciplines given by various researchers (Van de Ven and Poole, 1995; Sturdy and Grey, 2003).

Further, Management of both continuity and change forces have helped the automobile company to improve not only the competitiveness but also operation effectiveness (Gupta, 2011). Nasim (2011) have said that, the management of continuity and change concurrently is the key for business excellence and there is a need for a framework to managing both continuity and change. Continuity and change forces have impacted the firm's innovations capabilities. It is concluded that, harmonizing the forces of continuity and change lead to innovation performance

by the company (Bhat, 2011). In this paper, a case study of a small scale manufacturer is presented. Various continuity and change forces in the case organization have been presented based on these forces; a C-C matrix has been formed to depict the status of continuity and change forces over the period of last five years.

Research Methodology

In this case study, both primary data, based on the response of ZIM's management and officials working at higher level and secondary data (based on surveys, reports and company web site) used to find the status of various continuity and change forces. Based on the status of various continuity and change forces in the company, the case company has been analyzed with respect to the presence of various continuity and change forces in the company year wise. The quantitative data has been used to find the values of various continuity and change forces. Further, the status has been plotted on C-C matrix to get the status of strategy formulation of the company.

About the Case Organization

'M/s Zim Udyog (ZIM)' has been manufacturing pipe fittings since 1995. ZIM works is located at focal point, Jalandhar. The company has been established by Mr. B.B. Sharda, who served a leading pipe fittings manufacturing company for a long time as marketing manager. He conceived the idea of starting his own company. Started with small investment ZIM at present is not only manufacturing pipe fittings but also manufacturing scaffoldings accessories made as castings.

ZIM has been manufacturing pipe fittings which include unions, tees, sockets, flanges, elbows etc. with sizes ranging from 9mm to 50mm in various materials like cast iron, brass, bronze etc. All the products manufactured have been following ISI standards under the brand name 'ZIM'. Further, the company has started manufacturing a low cost pipe fitting under the name 'ECO' to cater to the demand of its customers. The company is equipped with infrastructure needed for manufacturing pipe fittings and scaffolding accessories. Over the years, ZIM has installed casting furnaces, lathe machine, blast furnace and special purpose machines (SPM's). ZIM has been supplying pipe fittings to various customers spread all over India. It has developed its dealers network in various states like Jammu & Kashmir, Mumbai, Rajasthan, Kerala, Madhya Pradesh etc and at present it has more than 60 dealers across the country. More than 50 employees have been working at ZIM at various positions. Pipe fitting sector witnessing a very tough phase, as it has been receiving continuous threats from other materials especially plastics. In the current times, plastic fittings are getting popular in metro cities and it has posed challenge for the pipe fittings manufacturers. Keeping the threat into consideration, ZIM started looking for diversification and manufacturing scaffolding accessories, which are made as castings. Further, the company has been looking for opportunities to enter in auto-component manufacturing market since the infrastructure is well suited to manufacture auto components also.

Continuity and Change Forces at ZIM

The small scale industries of India contribute maximum to employment after agriculture and contribute more than 40% of overall exports to other countries. Keeping the above parameters into consideration, the study of ZIM is very important in the small scale segment to assess the status of the company in terms of continuity and change forces. To study the continuity and change forces at ZIM, the data has been collected through various sources. Various continuity and change forces have been identified and discussed at length in the next sections:

4.1 Continuity Forces at ZIM

Effect of customer base, infrastructure, technology, core- competence, supply chain and logistics,

culture and performances parameters (Sushil, 2005) have been identified as vital continuity forces at ZIM. These forces have been discussed at length in following sections:

i) Effect of Customer Base

In spite of cut throat competition and constant threat from plastics, ZIM has not only been able to survive rather it has established itself in the market. It is realized that its turnover has been constantly increasing during the last five years. It has witnessed an increase from ₹ 1.8 Cr in the year 2006 to ₹ 3.2 Cr in the year 2010 as indicated in Figure 1. To meet the growing demand, ZIM has developed its new dealers in the market of Jammu and Kashmir, Kerala and Punjab for the sale of pipe fittings of different sizes.

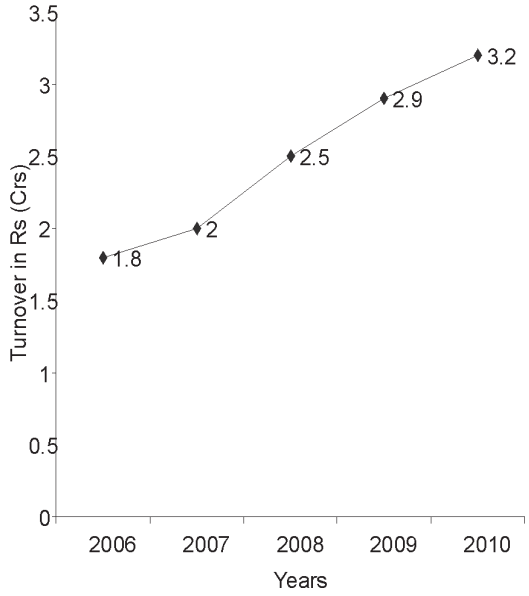

Figure 1: Turnover of ZIM (in Crs)

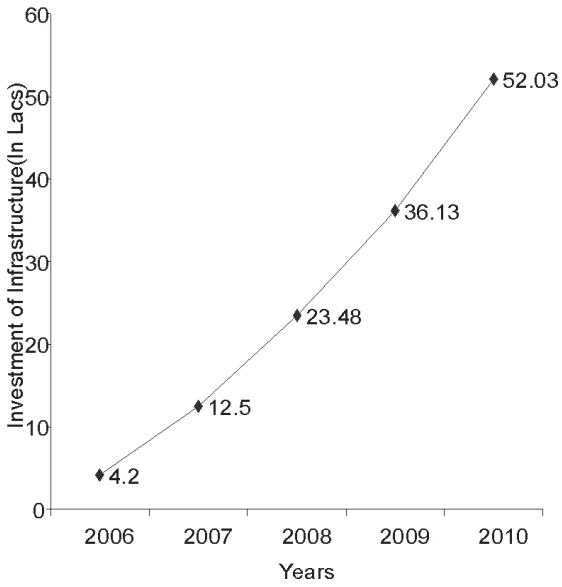

Figure 2: Investment on Infrastructure (in Lacs)

ii) Effect of Infrastructure

It is observed that ZIM has been investing steadily to develop its infrastructure to increase the production levels. Only recently, ZIM has installed a new oil furnace, shot blast machine and few special purpose machines (SPM's) that have helped ZIM to manufacture scaffolding accessories. In Figure 2, investment over infrastructure by ZIM has been indicated. The trend has been continuously increasing in nature.

iii) Effect of Technology

As far as technology is concerned, ZIM has continuously upgraded its technology during the last five years. It has started manufacturing two types of fittings meeting ISI and non-ISI standards. One type of fittings are sold under the name 'ZIM' and other under the name of 'ECO'. Further, ZIM has developed a large variety of patterns using indigenous technology which are needed for these fittings. Further, the scaffolding accessories made by ZIM contribute a major share in the turnover of the company. Investment in technology up-gradation made by ZIM during the last five years has been indicated in Figure 3.

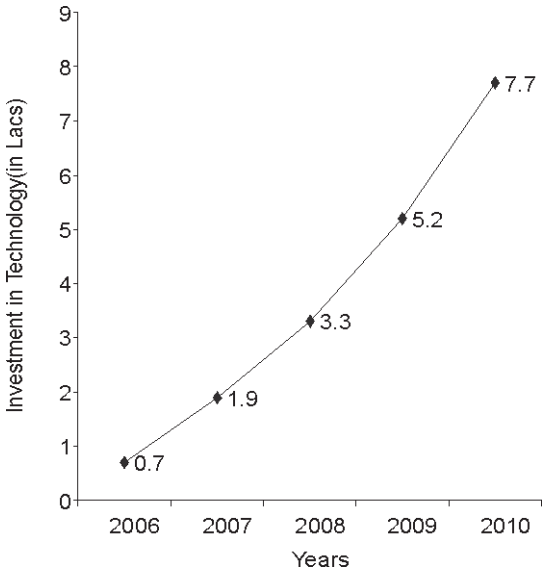

Figure 3: Investment on Technology (In Lacs)

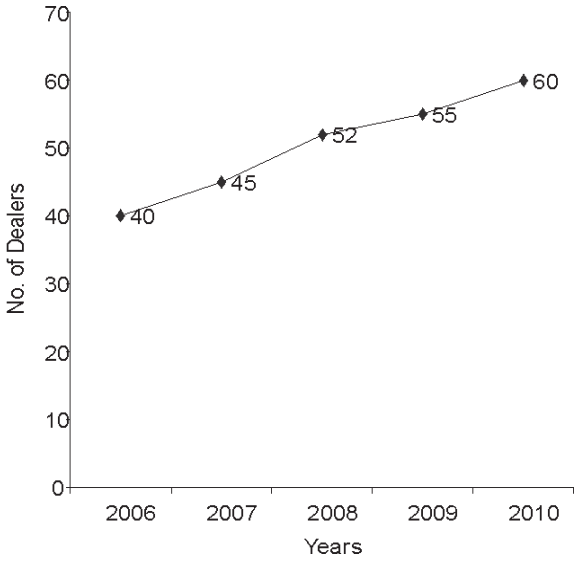

Figure 4: No. of Dealers

iv) Effect of Core Competence

In the current business environment, core-competence is very important for organization continuity. The case company is having the core competence of manufacturing different varieties of fittings. 'ZIM' brand (ISI mark) has been made for the customers who demand heavy duty pipe fittings, while 'ECO' brand for the customers who need light weight fittings. Further, the company has also diversified in other areas by using its core competence. In the business of pipe fittings, customer demands are found to vary at a faster rate i.e. some customers need a particular type of size in various products while others demand the same product in different sizes, so high inventory has been preferred to meet the fluctuating demands.

v) Effect of Supply Chain and Logistics Network

Supply chain and logistics play a crucial role in the growth of a company. ZIM is having a well established network of dealers across the country. As shown in Figure 4 the no. of dealers has been increasing continuously over the last five years that reflects the growth of ZIM in the domestic market. The case company has increased its no. of dealers from 40 in the year 2006 to 60 in the year 2010 as indicated in Figure 4.

vi) Effect of Culture

The work force of ZIM comprises of seasonal labourers from various states of India. Not much attention is given on cultural aspect although the needs of labours like advance payments, leave etc. have been considered towards motivational initiatives for the welfare of its employees. The company has facilitated ESI and provident fund schemes.

vii) Effect of Performance Parameters

As far as performance parameters of ZIM like profit and rejection rate are concerned, the company is performing very well. The profit of ZIM is found to grow continuously while rejection rate has been reducing as indicated in Figure 5 and 6 respectively. The profit of ZIM has almost doubled during the last five years, i.e. ¹ 7.2 lac in the year 2006 to ¹ 14.5 Lac the year 2010. Rejection rate at ZIM has observed a decline from 9% in the year 2006 to 6.5 % in the year 2010, Figure 6.

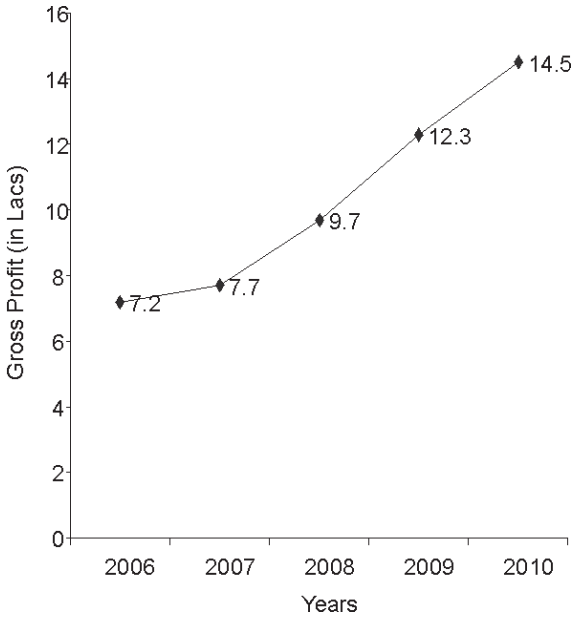

Figure 5: Profit of ZIM (In ▯ Lacs)

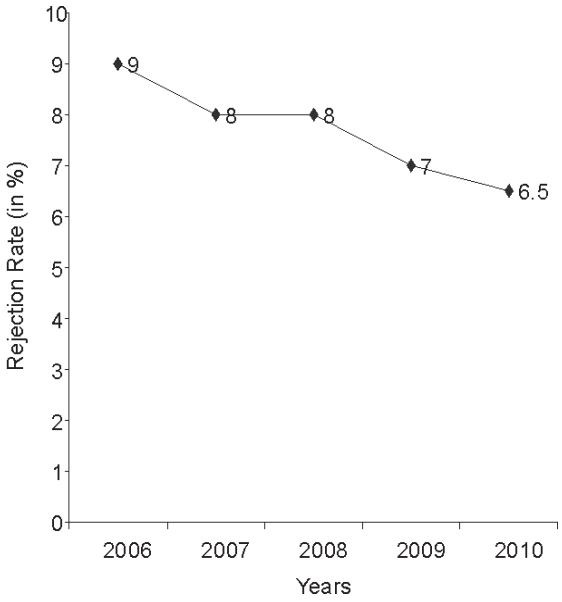

Figure 6: Rejection Rate of ZIM

The trend of inventory turnover ratio (I/T) has been indicated in Figure 7. It is found that the inventory turnover ratio had reduced from 0.21 in the year 2006 to 0.1 in the year 2007 and then there is gradual increase to 0.15 in the year 2010. (Figure 7)

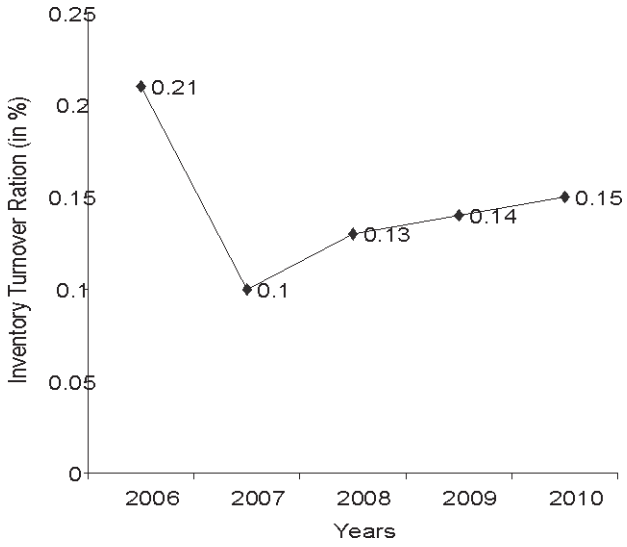

Figure 7 : Inventory Turnover Ratio at ZIM

viii) Summary of Continuity Forces

Overall status of various continuity forces at ZIM has been summarized in terms of their average scores corresponding to various continuity forces, Table 1. The average values have been calculated using raw data. Figure 8 shows the intensity of these continuity forces.

Table 1: Continuity Forces of ZIM

Continuity Force	Customer base	Infrastructure	Technology	Core competence	Supply chain and Logistics	Culture	Performance	Mean Score
Average Score	2.50	2.20	2.33	2.00	2.80	2.20	2.89	2.38

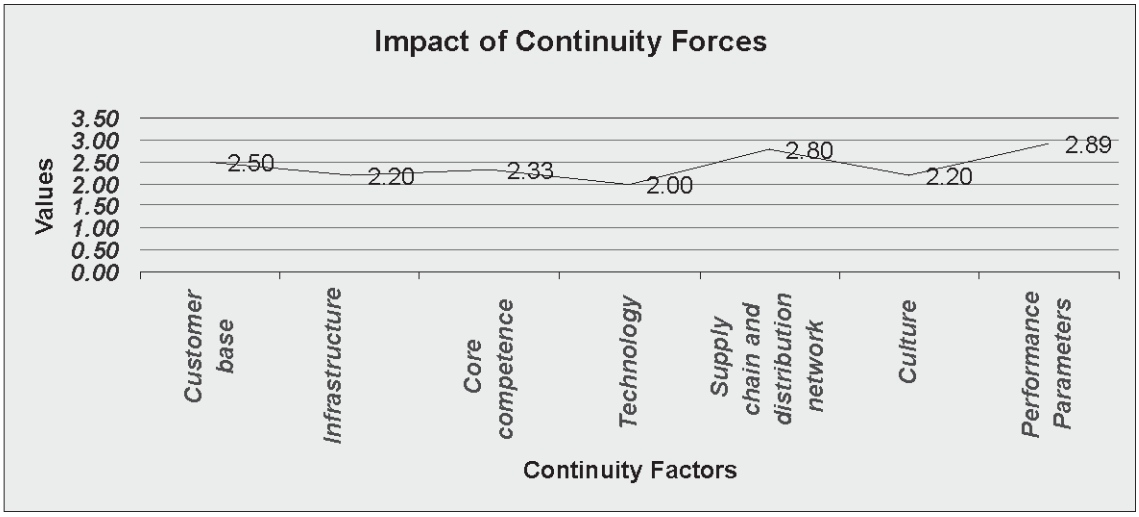

Figure 8: Intensity of Continuity Forces at ZIM

4.2 Change Forces at ZIM

Impact of globalization, new technology, changing customer needs, competition, role of environmental factors, merger and acquisition, and government regulations have been found as the key change forces at ZIM. These forces have been discussed in the following sections:

i) Impact of Globalization

The small scale industry like ZIM, has been greatly influenced by globalization and liberalization of Indian economy. Although there are not many foreign players in the market but the pipe fittings industry has been greatly influenced by the policies of globalization. In the current scenario, the company is facing a threat from plastic fittings due to low manufacturing cost. The raw material which is required for the manufacturing of plastic fittings is mostly imported from USA by a few manufacturers only. Due to limited supply and cost of manufacturing, companies like ZIM cannot think of manufacturing plastic fittings. As a part of diversification plan, ZIM is planning to enter into auto component manufacturing line. For this, it has initiated the process of necessary approval from the respective departments.

ii) Impact of New Technology

The pipe fitting industry is observing a crisis of survival in the wake of plastic fittings which are getting popular due to their low cost. Under this threat, the pipe fitting companies need to upgrade their technology.

iii) Impact of Customer Needs

In this business scenario, customers demands and expectations are increasing at a faster pace. In the market, there is the availability of different types of fittings like heavy duty, light

duty and ISI mark fittings. To survive in the market, ZIM has developed its products in all ranges (Sizes). To meet the need of customers in all segments, ZIM has launched various products during the last five years. As shown in Figure 9, ZIM has introduced 15 different sizes of pipe- fittings in the year 2010 in comparison to 06 in the year 2006. The variants introduced in the year 2007, 2008 and 2009 have also been indicated in Figure

iv) Impact of Competition

With the increased competition in the market, profit margins are found to shrink attributed to increase in raw material prices and manufacturing overheads. Keeping the current scenario in mind, ZIM has diversified into manufacturing of scaffolding accessories and planning to enter into auto components manufacturing in near future.

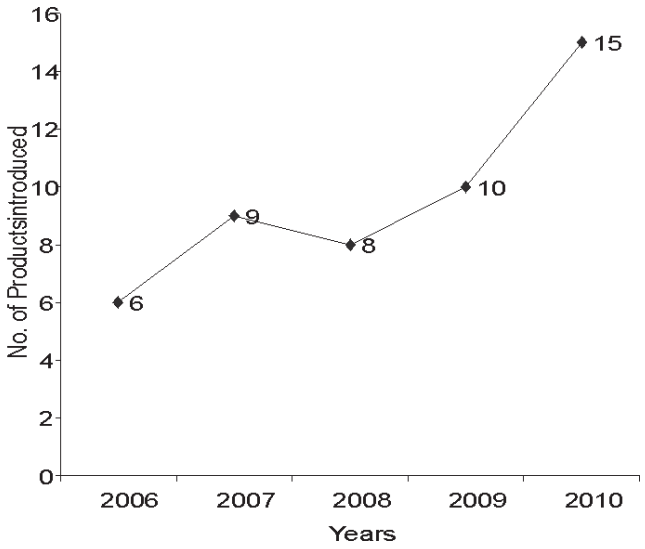

Figure 8: No. of Product Introduced

v) Impact of E-Business

ZIM has not been able to use e-business in its business domain. Its vision is not that far sightened and most of the time things are not planned. To improve information sharing, ZIM has increased the use of internet with its dealers and suppliers.

vi) Impact of Environmental Forces

ZIM has been focussing on controlling the various pollutants coming out of plant. It has installed electric furnaces to reduce air pollution and hazard gases coming out from cupola and other furnaces. It has been using various devices for controlling air pollution.

vii) Impact of Merger and Acquisition

The pipe fittings industry has been mainly an unorganized sector with more than 500 small scale industries mainly established at Jalandhar, Meerut and Raipur. There is no major threat of merger and acquisition in this segment in the current scenario.

viii) Impact of Government Regulation

The government policies are very encouraging for small scale industry in India. It has helped the pipe fitting industry by providing loans at low interest rate and subsides under various projects. Taxation and other policies are also favourable to some extent.

viii) Summary of Change Forces

In Table 2, the overall status of the change forces has been summarized. The average score of each change force has been calculated from the raw data. Figure 10 indicates the average scores of these change forces graphically.

Table 2: Change Forces of ZIM

Change Forces	Globalization	New Technology	Customer Needs	Competition	e-Business	Environmental Forces	Mergers and Acquisitions	Government Policy and Legislation	Overall Score
Mean Score	2.55	1.80	3.25	2.5	2.33	2.20	1.67	2.50	2.35

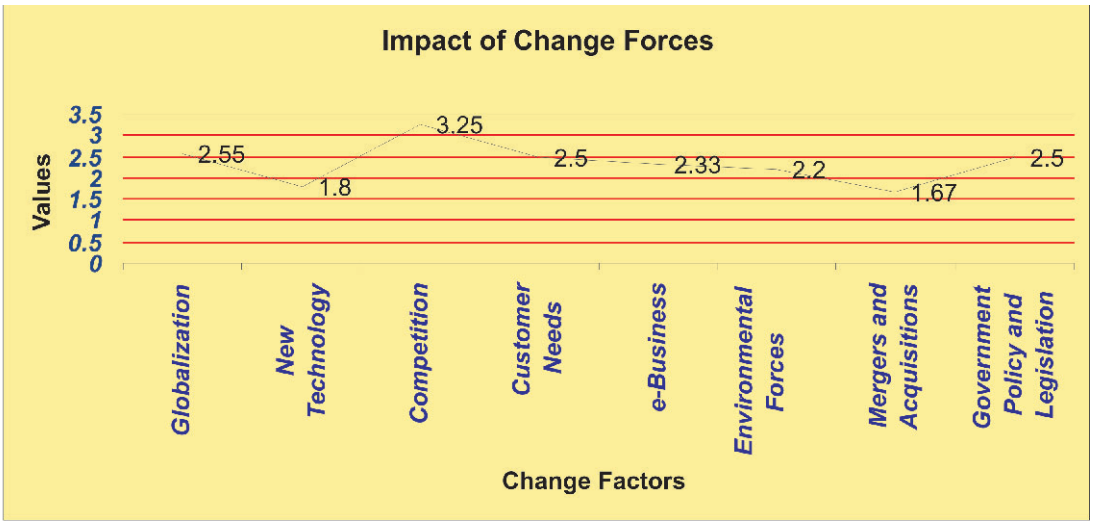

Figure 10: Intensity of Change Forces at ZIM

Mapping ZIM on Continuity - Change Matrix

For the mapping of Continuity and change on C-C matrix, 'Low continuity and low change forces' have been found at ZIM udyog. The status of these forces is represented in Figure. 11. Continuity forces on C-C matrix have been taken along X-axis and change forces along Y-axis. A scale of 0-5 has been taken on both axes. Average arithmetic mean has been taken for all the forces present in ZIM and the status is depicted in Figure. 11. As per C-C matrix 'Mushroom strategy' has been recommended for ZIM (Sushil, 2005).

Status of continuity forces during the last five years has been depicted in Figure 12. Score of continuity forces has been found to be 1.41 in the year 2006 and 3.07 in the year 2010, while change force has been increasing continuously from the year 2006 to the year 2010 except the year 2008 where it fell to the score of 1.99 as indicated in Figure 12. On the basis of scores of continuity and change forces, status is mapped on C-C matrix (Figure 13) to recommend the suitable strategy for the case company. Table 3 indicates the values of continuity forces and change forces along with the potential strategy implementation as per C-C matrix.

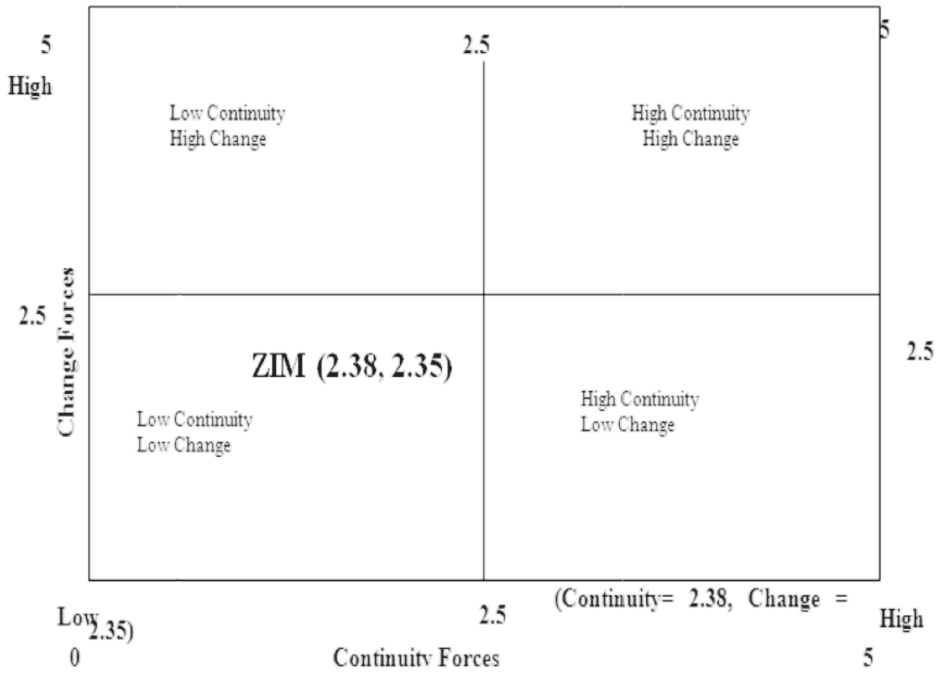

Figure 11: Mapping of ZIM on C-C Matrix

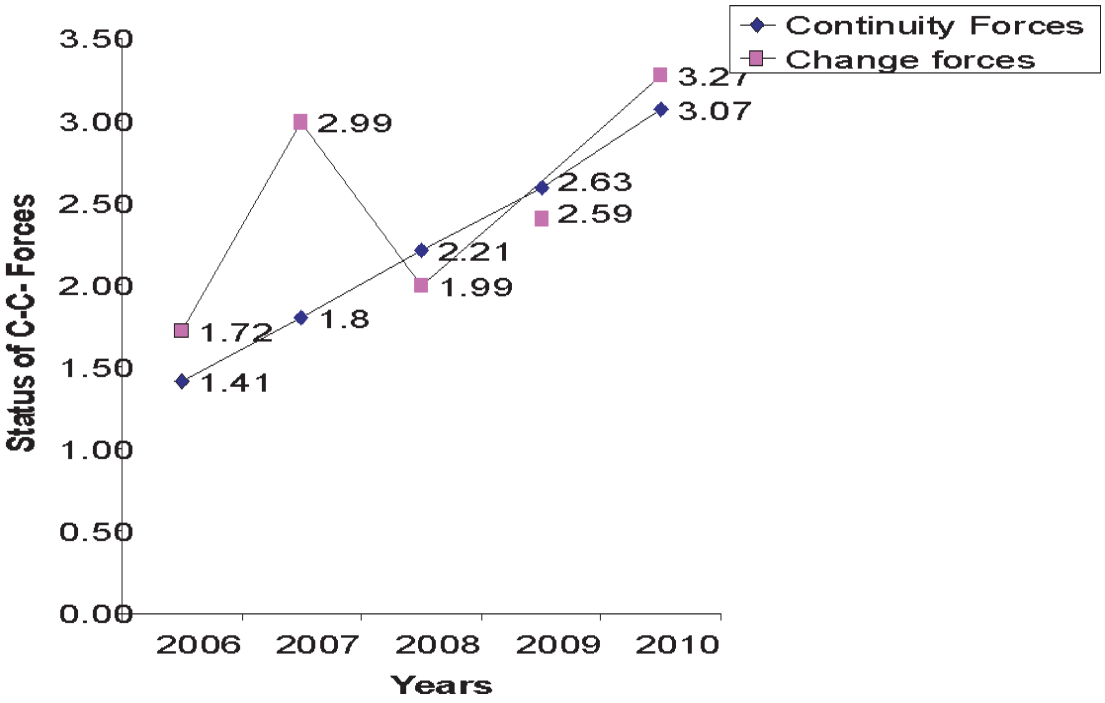

Figure: 12 Continuity and Change Forces of ZIM Year Wise

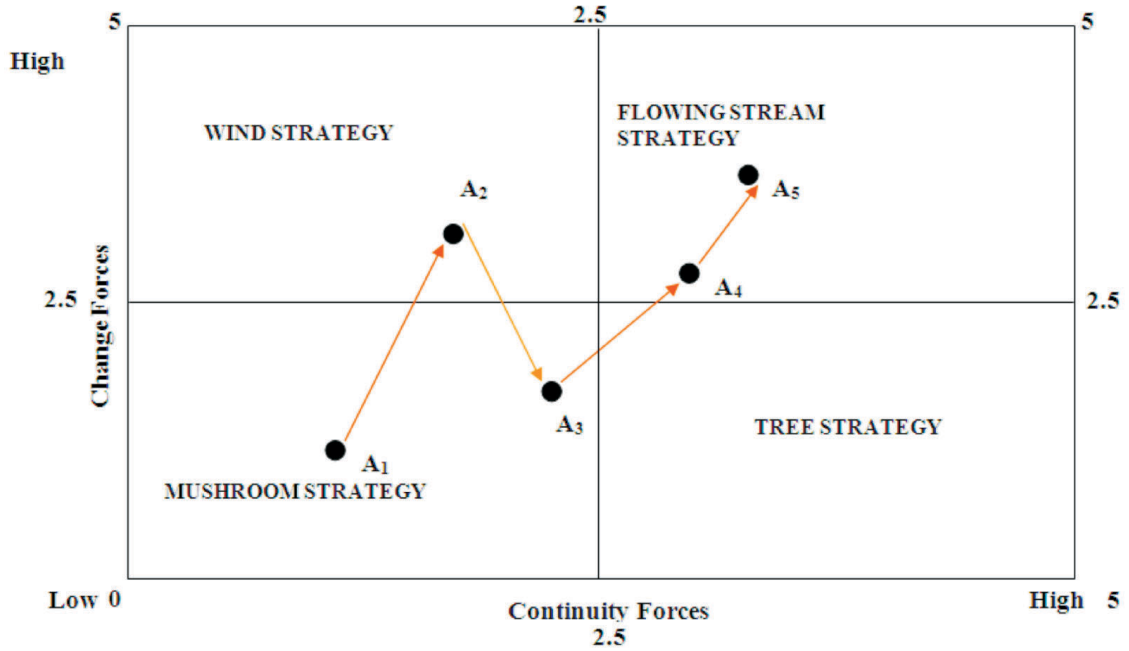

Figure 13: Mapping of Continuity and Change Forces at ZIM (Last 5 Years)

Table 3: Continuity and Change Forces (Last 5 Years)

Year	Continuity Forces	Change Forces	Strategy as per C-C Matrix
2006(A_1)	1.41	1.72	Mushroom Strategy
2007(A_2)	1.80	2.99	Wind Strategy
2008(A_3)	2.21	1.99	Mushroom Strategy
2009(A_4)	2.58	2.69	Flowing Stream Strategy
2010(A_5)	3.07	3.27	Flowing Stream Strategy

The values of these forces have been calculated from the data which is available pertaining to these continuity and change forces in the case company. Further, in Figure 13, it is found that, ZIM had been recommended 'mushroom strategy' in the year 2006 and 2008 when it has low continuity and low change forces. Afterwards, 'wind strategy', and 'flowing stream strategy' were been recommended for the remaining years as indicated in Table 3. Further, it has been found from the survey that ZIM is having low continuity and low change forces (Figure 11), while from calculation of various forces present in the case organization have depicted the presence of high continuity and change forces (Figure 12). It has been summed up that ZIM has been trying hard to improve its performance and wants to establish itself in flowing stream channel (high continuity and high change) in last few years.

Concluding Remarks

Continuity and change forces indicate the internal and external forces of an organization for its survival and growth. Mapping of these forces on C-C matrix gives the recommended strategy of the organization. ZIM has been found as synthesizers and the recommended strategy as 'Flowing Stream Strategy' on C-C matrix. The similar approach can be adopted for the same or different organization on continuous basis to review the strategy. The study is based on the opinion

survey and response obtained from the various levels in the case company. Further, the study can be extended to other engineering industry like automobile and other SME's to know the recommended strategies for managing of the continuity and change forces.

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