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“To be a leader in the knowledge led productivity movement”

Mission
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IN THIS ISSUE…

1. Identification of Factors Affecting the Choice of Automobile in 1200 cc Passenger Car Segment - An Empirical Study of Central India

Stiff competition is being witnessed in the Indian automobile market in the last decade, during which many variants of the 1200 cc passenger cars have been launched. This competition has left broadly two options: innovation and cost reduction for the car manufacturers, for survival. Identification of variables and factors influencing the customer in such a competitive market becomes important for a manufacturer to select an appropriate path. This study attempts to find out the variables and factors which are important for the choice of an automobile in the 1200 cc passenger car segment, along with understanding the magnitude of contribution, these variables and factors have in selection of such a car. The present work considers 20 variables selected through understanding developed by review of previous work and a snap study of the customer decision making in selection of a car. These variables first, are individually studied and subsequently, factor reduction has been carried out on the relevant variables to understand the customer’s perception. The research uses primary data, which is collected by means of a questionnaire developed for the study. It is administered on the customers of central India. These customers either wish to purchase or already own a 1200 cc passenger car. It is envisaged that the contribution of these variables and their reduction to factors shall help in understanding the customer’s perception and buying behavior to formulate appropriate innovation strategies. Using t-test and factor analysis, the paper tests the variables and identifies four factors labeled as luxury and safety; value delivery; ownership satisfaction; and performance assurance.

2. Precincts of Lean Six Sigma: An Academic Perspective

Lean Six Sigma as a quality improvement methodology has been gaining considerable attention in recent years. Understanding the key features, obstacles, precincts and shortcomings of the Lean Six Sigma methodologies allows organizations to better support their strategic directions, and increasing needs for coaching, mentoring, and training. It also provides opportunities to better implement Lean Six Sigma projects. In this paper, an academic perspective on the subject is presented that highlighting the potential and possible limitations of Lean Six Sigma applications. Without intermingling into the mechanics of the subject in detail, the points raised could be useful to those who are thinking on the appropriateness of Lean Six Sigma to their respective organizations. This paper also examines the evolution, benefits, and challenges of Lean Six Sigma practices, eleven parameters that are to be taken care to avoid failure of Six Sigma or Lean Six Sigma and identified the key factors influencing successful six sigma project implementations. It combines the lessons learned from successful six sigma projects and considers further improvements to the six sigma approach.

3. Role of H.R.D.in Enhancing Organisational Performance: Empirical Evidence from Indian Manufacturing Sector

This research study sets out to investigate the Holy Grail of establishing a causal link between HRD and Organisational Performance which in turn ensure sustainable competitive advantage. In the last 20 years, research has shown that the strategic use of HR is likely to be one of the most important determinants of organisational performance. It is believed that HRD climate helps the employees to acquire required competencies that would enable them to execute their present or future expected roles and aids in developing their capabilities for better Organizational Performance. Literature review suggests that measures of OP are circumscribed in broadly two set of categories i.e. subjective/perceptual and objective/operational, but the researcher has attempted to study it from perceptual
measures perspective only. For the same, framework developed by Delaney & Huselid (1996) was used, highlighting two major variables i.e Perceptions of Organisational Performance (POP) and Perceptions of Market Performance (POM). The present study is an empirical study. The field data collected with the help of questionnaires developed by Rao & Abraham (HRD Climate Survey) and Delaney & Huselid (Perceived Organisational Performance and Perceived Market Performance) both has been adapted to suit the purpose of the study. The sampling units/subjects are taken to be the managers/executives of the organisations sampled irrespective of their functional areas & hierarchical levels. In all, 240 managers from four tractor manufacturing organisations have served as a sample for study. The tools used for statistical analysis were: Mean, Standard Deviation, Percentages, Pearson Product Moment Correlation, Simple Linear Regression, Multiple Regression using Backward Method and Analysis of Variance (ANOVA). The results suggested that there exist a positive association of HRD Climate with both Perceived Organisational Performance and Perceived Market Performance. Researcher has established that HRD Climate, if perceived appropriate, influence and impact the level of Organisational Performance. The study implicates that there is a strategic importance of HRD in enhancing OP, which necessitates an enhanced focus on HRD Mechanisms for increased OP, further study also points out that multiple measures of organisational performance should be used.

4. Antecedents affecting Career Plateauing: Identification and exploration of Gaps through Literature

Career plateauing has emerged as one of the most critical managerial and systemic issues in the context of present day of organizations. The growing uncertainties in business environment, realignments among organizations, innovations in technology information revolution, and demographic shift have added various dimensions to career plateauing concerns. Career plateauing being one of the major predictors of job dissatisfaction and turnover intentions, there is more likelihood to have an adverse impact on organizational competitive advantage. This paper tries to identify and explore the antecedents of career plateauing through literature with an intent of broadening the scope for research on structural and systemic issues in organizations.


Literature in the field of intercultural management has been dominated by research on traditional expatriation based assignments. However, recent developments in information and communication technology imply that there are many instances of work being conducted across geographical and cultural boundaries without physical relocation. This paper argues that this kind of ‘virtual’ intercultural assignment needs to be assessed differently from conventional expatriation. We review the current literature in the area, and draw from theory to build a conceptual framework which provides an exhaustive classification of different types of intercultural work. Our framework introduces two new independent variables i.e. workplace location and medium of interaction, into the intercultural management literature. We also illustrate that our framework can be used to build testable hypotheses about the relationship between preparation for intercultural interaction and workplace performance, and how it will be mediated by the context of intercultural interaction.
Identification of Factors Affecting the Choice of Automobile in 1200 cc Passenger Car Segment - An Empirical Study of Central India

Dr. G. D. Thakar *
Dr. Neeraj Kumar Jain **
Mayank Dev Singh ***

Abstract

Stiff competition is being witnessed in the Indian automobile market in the last decade, during which many variants of the 1200 cc passenger cars have been launched. This competition has left broadly two options: innovation and cost reduction for the car manufacturers, for survival. Identification of variables and factors influencing the customer in such a competitive market becomes important for a manufacturer to select an appropriate path. This study attempts to find out the variables and factors which are important for the choice of an automobile in the 1200 cc passenger car segment, along with understanding the magnitude of contribution, these variables and factors have in selection of such a car. The present work considers 20 variables selected through understanding developed by review of previous work and a snap study of the customer decision making in selection of a car. These variables first, are individually studied and subsequently, factor reduction has been carried out on the relevant variables to understand the customer’s perception. The research uses primary data, which is collected by means of a questionnaire developed for the study. It is administered on the customers of central India. These customers either wish to purchase or already own a 1200 cc passenger car. It is envisaged that the contribution of these variables and their reduction to factors shall help in understanding the customer’s perception and buying behavior to formulate appropriate innovation strategies. Using t-test and factor analysis, the paper tests the variables and identifies four factors labeled as luxury and safety; value delivery; ownership satisfaction; and performance assurance.

1. Introduction:

Last decade witnessed a fast growth in Indian automobile market. According to the Indian automobile manufacturers (SIAM, 2008) the Indian automobile industry has maintained a steady growth of 20% till 2005. The automobile industry contributes to about 5% of the GDP of Indian economy and it is targeted to grow fivefold by the year 2016.

The development of automobile sector has changed the Indian consumer’s attitude and his perception. Today, consumers carry out enormous information search through market survey before acquiring any automobile. They compare all the automobiles within the range of their interest based on the criterion of their interest. Purchasing a car is an important and expensive proposition. The 1200 cc /compact car market has changed rapidly, due to very high competition and emergence of advanced technology. The variables affecting selection of a car within a given segment are difficult to predict. Identification of factors that determine the selection of a car is of utmost importance for manufacturers to understand the consumer buying behavior.

Almost all the 1200cc cars offer nearly the same configuration (displacement, cylinders, power, gears, layout) and features (power windows, leather seats, tachometer, climate control, remote locking, mp3/usb, sunroof, steering control, fog lamps, wash wipe) in their product offering. But, no brand can incorporate all the attributes desired by the customers in a single model in this segment. For example: one brand may be good in styling and comfort another may be good in power and fuel economy. This situation makes car market oligopolistically competitive with non-collusive behaviour. The feature differentiations lie
not only among the manufacturers but also within the variants of a particular manufacturer. It is therefore, essential for the manufacturers to understand the factors that motivate a consumer to choose one brand over other brand. What are those factors which drive his decision? Is it just the price? Or something else! What is it that compels a consumer to choose one brand over the other, when a customer is comparing with the above mentioned parameters side by side? Are any brands intriguing enough to make the consumers to buy their product? Does any brand offer the facility of customization?

The motivation for this particular study is therefore to understand the customer preferences in the fast changing 1200cc compact car segment. The authors have tried to understand the customer buying behavior, with respect to the brand choice or product selection criterion. Further, the authors have also studied those factors which influence the customer’s purchase decision in 1200 cc car segment.

1.1 Segmentation of passenger vehicle market share

Indian passenger vehicle market today is shared by many of the companies (Fig. 1) namely, Tata Motors, Maruti Suzuki, Hyundai, Mahindra, General Motors, Toyota, Honda and Ford. Maruti Suzuki ranks first with a market share of (43.6%), while Hyundai occupies the second position (15.9%), subsequently, Tata Motors (14.2%), Mahindra (9.7%), General Motors (5.7%), Toyota (3.1%), Honda (3.2%) figure in this market (White, 2010)

![Passenger Vehicles Market Share - Feb 2010](image)

Figure 1: Passenger vehicle market share-Feb 2010.

1.2 The 1200 cc passenger car segment

There are many car companies which provide the 1200 cc car variants in to the market. Maruti Suzuki dominates in this segment; Tata Motors is at the second place, while Hyundai and many other car companies provide their 1200 cc car variants in the market, the details of which are as given below:

3. Hyundai: i10, i20.
5. Fiat: Grande Punto.
6. Honda: Jazz.

2. Literature Review

The automotive industry in India has come a long way from its nascent state at the time of India’s independence in 1947 to its present dynamic form. As compared to the production of mere 4,000 vehicles in 1950, the production of the industry crossed the historic landmark of 10 million vehicles in 2006.

The automotive industry in India was heavily regulated until the 1970s. The automotive firms were obliged to obtain licenses from the Indian government for various firm activities. The 1980s witnessed some relaxation in the regulations which allowed the entry of Japanese firms. In early 1990s, India undertook historic economic reforms under which the automotive industry was liberalized. Various government interventions in the form of policies, existing at various points of time, have influenced the development of India’s automotive industry over these phases (Ranawat and Tiwari, 2009).

The evolution of India’s automotive industry is identified to have occurred in four phases. In the first (1947-1965) and second phase (1966-1979), the important policies identified were related to protection,
indigenization and regulation of the industry. On the one hand, these policies helped India to build an indigenous automotive industry, while on the other, it led to unsatisfactory industry performance. In the third phase (1980-1990), the single most important policy identified was the one with regard to relaxation in the means of technology acquisition. The three different policy regimes (Licensing 1980-81 to 1984-85, De-regulation 1985-86 to 1990-91 and Liberalization 1991-92 to 1995-96), in the automobile industry can be distinctly seen. The foreign competition inducted into the industry transformed its dynamics. Lastly, in the fourth phase (1991 onwards) the liberalization with regard to foreign investment had a significant influence on the Indian automotive industry as it is seen today (Ranawat and Tiwari, 2009).

Bikash et al (Bikash et al. 2010) have studied the factors, which are important for choosing the revolutionary car ‘Nano’ launched by one of the leading Indian automobile industry called ‘Tata Motors’. A total of 22 variables have been identified in this study. In this work Grey relational analysis is used to rank the factors. The finding of the study shows that price of the car is most important variable for selecting Nano. The colour variant, style, fuel efficiency and financing option offered by the company are other important variables which attract the customers towards the car. Power, safety feature, prestige involved, resale value of the car etc. are some of the features which rank low in the priority of the consumers. The authors have studied the variables which influence the purchase of Nano and their importance to the consumer.

A study published in Anonymous (Anonymous, 2008a) found that, for as many as 71% of customers price was the most important variable, followed by fuel economy, running costs, fuel type and Vehicle Excise Duty (VED) costs. Similarly, another article published in Anonymous (Anonymous, 2008b) quoted reliability as the second important variable for buyers after price. The car buyers rate reliability over fuel efficiency as a variable. Further, fuel efficiency and safety rank third and fourth variables in terms of importance according to this study. Performance is not at the top priority for most car buyers. Charlton et al (Charlton et al., 2005) have studied the quality criterion for the safety assessment of cars based on real world crashes. The finding of this research indicates that vehicle safety is at the highest priority in the new vehicle purchase process. This study was done in particularly area of Sweden and Spain. A number of variables were found to influence purchasing decisions, including country of residence, age, driving distance, gender and education, reason for purchasing the new vehicle and use of EuroNCAP ratings. The findings of this study indicate that vehicle safety is the primary consideration in the purchase process for private new vehicle consumers in both Sweden and Spain. The findings also highlighted the need to target particular consumer groups (such as younger consumer groups) in order to increase their knowledge regarding vehicle safety and to encourage them to place highest priority on safety in the new vehicle purchase process.

The literature review presented above, reveals variables which are influencing the customer decision process. It can also be seen that, there are lots of contributions regarding the study of purchase decision of consumer. It is also evident from the reviewed literature that little attempt has been made to identify the variables which influence or affect the choice of a specific brand in the 1200 cc passenger car segment in the Indian scenario. The proposed work therefore shall attempt to identify these variables and perception of customers and their relative importance in the consumer decision making process in the Indian context, especially in central India.

3. Objective of Research

The objective of the study is to find out the variables and factors which influence the consumer purchase decision and the contribution they have, for the purchase of a 1200 cc car in central India. These objectives are illustrated as under:

1. To find out the major variables of consumer’s purchase decision.
2. To determine the contribution of these variables in the consumer’s purchase decision.
3. To carry out a factor analysis of the variables to understand the perception of the customers.
4. Conceptual Framework

The development of understanding of the problem, interlinkages of variables and identification of hypotheses are discussed as given below.

4.1 Understanding of problem & inter-linkages of various variables

While consumer takes the purchase decision for an automobile, several factors contribute to the selection of a particular vehicle in the 1200 cc car segment. From the literature survey, it can be seen that consumers mainly focus on reliability, fuel economy, price, safety features, warranty and service facility. But, any addition in these features may create significant utility in a specific car variant among consumers. This is because of non-collusive behavior in an oligopolistic market situation. Therefore the authors have tried to cover all possible variables discussed in the literature review. However, looking to the complexity to deal with large number of variables, their reduction in the form of few factors shall follow the analysis for data summation. These factors may carry different weightages indicating customer perception for acquiring the automobile. Twenty variables have been considered for determining these factors. The variables considered for conducting the proposed study are Styling and appearance, Price and discounting policy, Passenger comfort, Driving pleasure and ride quality, Reliability (Car/model specific), Manufacturer’s reputation (brand specific), Engine performance and it’s stability at higher speed, Fuel efficiency, Boot space, Vehicle durability, Presence of safety features, Warranty period, Resale value, Additional features, Previous experience, Opinion of opinion leaders, Opinion of family members, Availability of spare parts and economy of maintenance of car, Impact of advertising and Environmental friendliness.

4.2 Development of hypotheses

The various bases influencing the purchase decision for formation of different hypotheses are as under:

1. Economic issues (like price and discounting policy, fuel efficiency, vehicle durability, warranty period, resale value and availability of spare parts and economy of maintenance of car).

2. Comfort issues (like passenger comfort, driving pleasure and ride quality, reliability, engine performance and stability at higher speed, boot space).

3. Safety and additional features issues (like presence of safety features, additional features, styling and appearance).

4. Advertising and manufacturer’s reputation.

5. Environmental friendliness.

6. Self assessment issues (like previous experience, opinion of family member, opinion of opinion leader).

5. Data & Data collection Method

The survey covers two major cities of Madhya Pradesh Indore and Gwalior. Primary data has been collected from the customers, using the questionnaire developed for this purpose. 400 respondents, 200 respondents in each city, have been randomly selected for administering the questionnaire covering 28 questions.

5.1 Sample profile

The sample of 400 respondents cover different fractal groups e.g. age, income, occupation and car ownership. Half of the sample people are of the age under 35 years and other half is 35 onwards (Fig. 2 (a)). The income of about 72 percent of the sample respondents is less than 5 lacs Per Annum and the remaining 28 percent are earning 5 lacs onwards (Fig.2 (b)). About 37 percent sample people are employed and 63 percent
are self-employed (Fig. 2 (c)). 76 percent sample people already own car while, 24 do not have any four wheeler but looking for it (Fig. 2 (d)).

Figure 2: Sample distribution on the basis of age, occupation, income and ownership.

5.2 Sampling adequacy

It is found that the sample is adequate for 95% confidence level and 5% level of significance. The power of the test is more than 80% for an effect size of 0.35. The survey is completely qualitative in nature. The first 5 questions are about the demographic features of the survey participants. The last 20 questions are related to the quantitative aspect of the research problem. The next 3 question are related to the personal information of the survey participants. The last 20 questions are related to the quantitative aspect of the research problem. The next 3 question are related to the personal information of the survey participants. Likart scale (5 point scale) is adopted to quantify the responses of the consumers towards various variables. For the analysis work, SPSS software is used.

The internal consistency of the questionnaire has been checked, the value of Cronbach’s Alpha is found to be 0.630. It is more than 0.6; hence the questionnaire can be used for the purpose of analysis, as the research is an exploratory one (Hair et al., 2005).

6. Research Findings

The hypotheses developed as mentioned earlier are now phrased and tested. Subsequently, factor analysis is also conducted, the results of which are also discussed.

6.1 Testing of hypotheses for validating the conceptual framework

The proposed hypotheses are tested on a sample size of 400 and by applying two tailed tests. The two tailed tests are applied since all the hypotheses are directional ones.

Hypothesis 1:

H₁ (null hypothesis): The customers have a neutral opinion towards the economic issues related to the 1200 cc passenger car (i.e. μ₁ = 3).

H₁ (first alternative hypothesis): The customers have a negative opinion towards the economic issues related to the 1200 cc passenger car (i.e. μ > = 3).

H₂ (second alternative hypothesis): The customers have a positive opinion towards the economic issues related to the 1200 cc passenger car (i.e. μ < = 3).

Table 1: Result for hypothesis 1.

<table>
<thead>
<tr>
<th>Variables</th>
<th>T-value¹</th>
<th>P-value²</th>
<th>Mean Difference w. r. to test value³</th>
<th>Remark³</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price and discounting policy</td>
<td>-26.030</td>
<td>.000</td>
<td>-1.263</td>
<td>Agree</td>
</tr>
<tr>
<td>Fuel efficiency</td>
<td>-37.649</td>
<td>.000</td>
<td>-1.478</td>
<td>Agree</td>
</tr>
<tr>
<td>Vehicle durability</td>
<td>-102.404</td>
<td>.000</td>
<td>-1.898</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>Warranty period</td>
<td>-20.165</td>
<td>.000</td>
<td>-.953</td>
<td>Agree</td>
</tr>
<tr>
<td>Resale value</td>
<td>-9.233</td>
<td>.000</td>
<td>-.650</td>
<td>Agree</td>
</tr>
<tr>
<td>Availability of spare parts and</td>
<td>-112.401</td>
<td>.000</td>
<td>-1.933</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>maintenance of car</td>
<td></td>
<td></td>
<td></td>
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¹ = calculated value of t- statistics.
² = minimum level of significance level at which null hypothesis is rejected.
³ = the responses are categorized as: Disagree if mean difference (M.D.) is negative; Agree if M.D. ranges from 0 to -1.5; and Strongly agree if M.D. < -1.5.

The hypothesis incorporates six variables namely – price and discounting policy, fuel efficiency, vehicle durability, warranty period, resale value, and availability of spare parts and economy of maintenance of car. One sample t – test has been applied to these variables. It is designed to test whether the mean of a distribution differs significantly from our assumed test value (i.e. a test value of 3, which is the mid value of the five point scale used in the questionnaire used in the study). Table- 1 presented above shows the results of this test.

¹ = test value
The null hypothesis \( (H_0) \) is rejected and the alternative hypothesis \( (H_a) \) is accepted for all the variables namely, price and discounting policy, fuel efficiency, vehicle durability, warranty period, resale value, and availability of spare parts and economy of maintenance of car. For the vehicle durability and availability of spare parts and maintenance of car, the customers show strong agreement for their influence to make choice among various cars.

**Hypothesis 2:**

- **H_0 (null hypothesis):** The customers have a neutral opinion towards the comfort while selecting a 1200 cc passenger car (i.e. \( \mu = 3 \)).
- **H_1 (first alternative hypothesis):** The customers have a negative opinion towards the comfort while selecting a 1200 cc passenger car (i.e. \( \mu \geq 3 \)).
- **H_2 (second alternative hypothesis):** The customers have a positive opinion towards the comfort while selecting a 1200 cc passenger car (i.e. \( \mu \leq 3 \)).

The hypothesis incorporates five variables namely – passenger comfort, driving pleasure and ride quality, reliability, engine performance and its stability at higher speed and boot space. One sample t – test has been applied to these variables. Table 2 below is showing the results of this test.

**Table 2: Result for hypothesis 2.**

<table>
<thead>
<tr>
<th>Variables</th>
<th>T-value</th>
<th>P-value</th>
<th>Mean Difference w.r. to test value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>passenger comfort</td>
<td>-79.376</td>
<td>.000</td>
<td>-1.818</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>driving pleasure and ride quality</td>
<td>-80.676</td>
<td>.000</td>
<td>-1.848</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>Reliability (car/model specific)</td>
<td>-73.418</td>
<td>.000</td>
<td>-1.783</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>engine performance and it’s stability at higher speed</td>
<td>-96.649</td>
<td>.000</td>
<td>-1.885</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>boot space</td>
<td>-25.663</td>
<td>.000</td>
<td>-1.113</td>
<td>Agree</td>
</tr>
</tbody>
</table>

From Table 2 it can be seen that the null hypothesis \( (H_0) \) is rejected and the alternative hypothesis \( (H_a) \) is accepted for all the variables – passenger comfort, driving pleasure and ride quality, reliability, engine performance and its stability at higher speed, boot space. The table also indicates that customers show strong agreement towards passenger comfort, driving pleasure and ride quality, reliability, engine performance and its stability at higher speed, as a selection criterion.

**Hypothesis 3:**

- **H_0 (null hypothesis):** The customers have a neutral opinion towards the safety and additional features while selecting a 1200 cc passenger car (i.e. \( \mu = 3 \)).
- **H_1 (first alternative hypothesis):** The customers have a negative opinion towards the safety and additional features while selecting a 1200 cc passenger car (i.e. \( \mu \geq 3 \)).
- **H_2 (second alternative hypothesis):** The customers have a positive opinion towards the safety and additional features while selecting a 1200 cc passenger car (i.e. \( \mu \leq 3 \)).

The hypothesis incorporates three variables namely – presence of safety features, additional features, styling and appearance. One sample t – test has been applied to these variables. Table 3 below shows the results of this test.

**Table 3: Result for hypothesis 3.**

<table>
<thead>
<tr>
<th>Variables</th>
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<th>P-value</th>
<th>Mean Difference w.r. to test value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>presence of safety features</td>
<td>-52.817</td>
<td>.000</td>
<td>-1.583</td>
<td>Strongly agree</td>
</tr>
<tr>
<td>additional features</td>
<td>-20.008</td>
<td>.000</td>
<td>-0.878</td>
<td>Agree</td>
</tr>
<tr>
<td>Styling and appearance</td>
<td>-42.473</td>
<td>.000</td>
<td>-1.525</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

It is clear from this table that the null hypothesis \( (H_0) \) is rejected and the alternative hypothesis \( (H_a) \) is accepted for all the variables – presence of safety feature, additional features, styling and appearance. It also indicates that customers show strong agreement towards presence of safety features and styling and appearance as a selection criterion.
Hypothesis 4:

**H₀ (null hypothesis):** The customers have a neutral opinion to the influence of advertising and manufacturer’s reputation in selecting a 1200 cc passenger car (i.e. \( \mu = 3 \)).

**H₁ (first alternative hypothesis):** The customers have a negative opinion to influence of advertising and manufacturer’s reputation in selecting a 1200 cc passenger car (i.e. \( \mu > = 3 \)).

**H₂ (second alternative hypothesis):** The customers have a positive opinion to influence of advertising and manufacturer’s reputation in selecting a 1200 cc passenger car (i.e. \( \mu < = 3 \)).

The hypothesis incorporates two variables namely, advertising and manufacturer’s reputation. One sample t – test has been applied to these variables. Table 4 below shows the results of this test.

<table>
<thead>
<tr>
<th>Variables</th>
<th>T-value</th>
<th>P-value</th>
<th>Mean Difference w. r. to test value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising</td>
<td>10.347</td>
<td>.000</td>
<td>.723</td>
<td>Disagree</td>
</tr>
<tr>
<td>Manufacturer’s reputation</td>
<td>-24.85</td>
<td>.000</td>
<td>-1.303</td>
<td>Agree</td>
</tr>
</tbody>
</table>

It can be seen that the null hypothesis (H₀) is rejected for both the variables – advertising and manufacturer’s reputation. The alternative hypothesis (H₁) is accepted for advertising and the alternative hypothesis (H₂) is accepted for manufacturer’s reputation. It indicates that customers show disagreement to advertising as a selection criterion. On other hand, the customers show agreement that manufacturer’s reputation influences their choice among the various brands.

Hypothesis 5:

**H₀ (null hypothesis):** The customers have a neutral opinion to the environment friendliness of the vehicle (i.e. \( \mu = 3 \)).

**H₁ (first alternative hypothesis):** The customers have a negative opinion to the environment friendliness of the vehicle (i.e. \( \mu > = 3 \)).

**H₂ (second alternative hypothesis):** The customers have a positive opinion to the environment friendliness of the vehicle (i.e. \( \mu < = 3 \)).

This hypothesis incorporates only one variable i.e. environment friendliness. One sample t – test has been applied to this variable. Table 5 below is showing the results of this test.

<table>
<thead>
<tr>
<th>Variables</th>
<th>T-value</th>
<th>P-value</th>
<th>Mean Difference w. r. to test value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment friendliness</td>
<td>-55.756</td>
<td>.000</td>
<td>-1.775</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>

The null hypothesis (H₀) is rejected and the alternative hypothesis (H₁) is accepted for the variable – environment friendliness. It indicates that customers show strong agreement that the environment friendliness matters as a selection criterion.

Hypothesis 6:

**H₀ (null hypothesis):** The customers have a neutral opinion towards the self assessment as an attribute while selecting a 1200 cc passenger car (i.e. \( \mu = 3 \)).

**H₁ (first alternative hypothesis):** The customers have a negative opinion towards self assessment while selecting a 1200 cc passenger car (i.e. \( \mu > = 3 \)).

**H₂ (second alternative hypothesis):** The customers have a positive opinion towards self assessment while selecting a 1200 cc passenger car (i.e. \( \mu < = 3 \)).

The hypothesis incorporates three variables namely – previous experience, opinion of opinion leader and opinion of family member. One sample t – test has been applied to these variables. Table 6 is showing the results of this test.

<table>
<thead>
<tr>
<th>Variables</th>
<th>T-value</th>
<th>P-value</th>
<th>Mean Difference w. r. to test value</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous experience</td>
<td>-26.455</td>
<td>.000</td>
<td>-1.268</td>
<td>Agree</td>
</tr>
<tr>
<td>Opinion of opinion leader</td>
<td>4.344</td>
<td>.000</td>
<td>.317</td>
<td>Disagree</td>
</tr>
<tr>
<td>Opinion of family member</td>
<td>-43.559</td>
<td>.000</td>
<td>-1.650</td>
<td>Strongly agree</td>
</tr>
</tbody>
</table>
Table 6 indicates that the null hypothesis (H0) is rejected and the alternative hypothesis (H1) is accepted for the two variables – previous experience and opinion of family member. The null hypothesis (H0) is rejected and the alternative hypothesis (H2) is accepted for the variable opinion of opinion leader. It means that customers show disagreement to ‘opinion of opinion leader’ as a selection criterion. However, they show strong agreement that opinion of family member influences their decision to choose a car.

7.2 Factor analysis

The above discussion explores detailed behavior regarding the choice of a car by the consumers on the basis of the variables taken into consideration in the conceptual framework. Out of 20 variables, 18 are found to be the determinants of consumer’s decision making, on the basis of the analysis already presented. Considering that these make a large number to analyze consumer behavior, factor analysis is conducted for reducing these variables to a manageable level for analytical conclusion and interpretation.

A factor analysis is conducted with 18 variables out of 20 survey variables. Two variables are removed from the analysis on account of their rejection by the respondents as a selection criterion. During the factor analysis, a cross loading of 4 variables is found in the rotated component matrix. Hence, these 4 variables are removed from the analysis (Hair et al, 2007). The factor analysis is, then, conducted on remaining 14 variables. The results of which are presented below.

In the factor analysis, the correlation matrix of the selected 14 variables was obtained. The value of the determinant of correlation matrix is 0.145, so there is no multicollinearity of data. The KMO and Bartlett’s test for examining the sampling adequacy was conducted, as shown in Table 7, to check the sampling adequacy, value of which is found to be 0.712 which is more than 0.5. This value therefore falls into the range of being good. It gives the confidence that the data set is appropriate to conduct the factor analysis.

<table>
<thead>
<tr>
<th>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</th>
<th>0.712</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bartlett’s Test of Sphericity</td>
<td></td>
</tr>
<tr>
<td>Approx. Chi-Square</td>
<td>758.703</td>
</tr>
<tr>
<td>df</td>
<td>91</td>
</tr>
<tr>
<td>Sig.</td>
<td>0.000</td>
</tr>
</tbody>
</table>

It is now necessary to inspect the diagonal values of anti-image correlation matrix obtained from SPSS, for assessing the sampling adequacy status of the variables. Looking at the diagonal elements, all the 14 variables are found to possess the value higher than the required value of 0.5. For these variables, the diagonal values (in parentheses) are as follows:

1. Styling and appearance (0.669),
2. Passenger comfort (0.759),
3. Driving pleasure and ride quality (0.805),
4. Reliability(car/model specific) (0.680),
5. Manufacturer’s reputation (brand specific) (0.685),
6. Engine performance and it’s stability at higher speed (0.762),
7. Boot space (0.594),
8. Presence of safety features (0.823),
9. Warranty period (0.642),
10. Resale value (0.641),
11. Previous experience (0.527),
12. Opinion of family member (0.740),
13. Availability of spare parts and economy of maintenance of car (0.609),
14. Environment friendliness (0.654).

Looking at the above indicators, it can be said that the dataset is now ready for factor extraction. The factors are now extracted by using the principal components analysis. The results of the factor extraction are presented as Table 8. This table shows that there
are five factors which explain 57.955% of the total variance. Factors can also be easily extracted by scree plot as presented below (Fig. 3). The factor, which has an eigenvalue of equal or more than 1, will be extracted for the analysis. The factor, which has an eigenvalue of less than 1, will be removed from the analysis. From the scree plot also, it can be said that there are 5 factors whose eigenvalue is more than 1, and remaining 9 factors can be excluded.

![Scree Plot](image)

**Figure 3: Scree plot.**

Table 8: Total variance explained by principal components analysis with 14 variables.

<table>
<thead>
<tr>
<th>Component</th>
<th>Initial Eigenvalues</th>
<th>Extraction Sums of Squared Loadings</th>
<th>Rotation Sums of Squared Loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of Variance</td>
<td>Cumulative %</td>
</tr>
<tr>
<td>1</td>
<td>2.758</td>
<td>19.701</td>
<td>19.701</td>
</tr>
<tr>
<td>2</td>
<td>1.719</td>
<td>12.276</td>
<td>31.977</td>
</tr>
<tr>
<td>3</td>
<td>1.482</td>
<td>10.588</td>
<td>42.564</td>
</tr>
<tr>
<td>4</td>
<td>1.149</td>
<td>8.209</td>
<td>50.773</td>
</tr>
<tr>
<td>5</td>
<td>1.005</td>
<td>7.182</td>
<td>57.955</td>
</tr>
<tr>
<td>6</td>
<td>.861</td>
<td>6.348</td>
<td>64.103</td>
</tr>
<tr>
<td>7</td>
<td>.811</td>
<td>5.791</td>
<td>60.894</td>
</tr>
<tr>
<td>8</td>
<td>.790</td>
<td>5.639</td>
<td>75.533</td>
</tr>
<tr>
<td>9</td>
<td>.671</td>
<td>4.792</td>
<td>80.325</td>
</tr>
<tr>
<td>10</td>
<td>.651</td>
<td>4.651</td>
<td>84.976</td>
</tr>
<tr>
<td>11</td>
<td>.618</td>
<td>4.413</td>
<td>89.389</td>
</tr>
<tr>
<td>12</td>
<td>.525</td>
<td>3.734</td>
<td>93.123</td>
</tr>
<tr>
<td>13</td>
<td>.517</td>
<td>3.694</td>
<td>96.817</td>
</tr>
<tr>
<td>14</td>
<td>.446</td>
<td>3.183</td>
<td>100.000</td>
</tr>
</tbody>
</table>

The next step is to rotate the factors. However, before rotation it is necessary to assess the model fit or explanatory power of the model constructed by SPSS. There are about 45% non redundant residuals. This means that the explanatory power of the model is 55%, which is fairly good; hence the next step of factor rotation is now undertaken. It is pertinent to mention here that the explanatory power of the model has been improved from 48% (initial solution with 18 variables) to 55% (final solution with 14 variables). Table 9 shows the rotated factor matrix.

Table 9: Rotated component matrix with 14 variables.

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>Styling and appearance</td>
<td>.826</td>
</tr>
<tr>
<td>Passenger comfort</td>
<td>.755</td>
</tr>
<tr>
<td>Driving pleasure and ride quality</td>
<td>.638</td>
</tr>
<tr>
<td>Presence of safety features</td>
<td>.608</td>
</tr>
<tr>
<td>Boot space</td>
<td>.706</td>
</tr>
<tr>
<td>Resale value</td>
<td>.683</td>
</tr>
<tr>
<td>Warranty period</td>
<td>.636</td>
</tr>
<tr>
<td>Manufacturer’s reputation(brand specific)</td>
<td>.551</td>
</tr>
<tr>
<td>Availability of spare parts and maintenance of car</td>
<td>.782</td>
</tr>
<tr>
<td>Environment friendliness</td>
<td>.756</td>
</tr>
<tr>
<td>Opinion of family member</td>
<td>.630</td>
</tr>
<tr>
<td>Reliability(car/model specific)</td>
<td>.808</td>
</tr>
<tr>
<td>Engine performance and its stability at higher speed</td>
<td>.730</td>
</tr>
<tr>
<td>Previous experience</td>
<td>.920</td>
</tr>
</tbody>
</table>

The factor labels are now given to the factors on the basis of variables associated with them. The percentage of variance explained by each factor as obtained from Table 8 is mentioned in the bracket as shown below, next to the factor label. The loadings of the variables on respective factors are shown in the bracket, next to the variable name, which is obtained from Table 9.

**FACTOR 1: “Luxury and safety (15.5 %)”**

**Associated variables:**

1. Styling and appearance (0.826).
2. Passenger comfort (0.755).
3. Driving pleasure and ride quality (0.638).
4. Presence of safety features (0.608).
FACTOR 2: “Value delivery (12.5 %)”

Associated variables:

9. Boot space (0.706).
13. Resale value (0.683).
12. Warranty period (0.636)
6. Manufacturer’s reputation (0.551).

FACTOR 3: “Ownership satisfaction (11.9 %)”

Associated variables:

18. Availability of spares parts & economy of maintenance of car (0.782).
20. Environment friendliness (0.756)
17. Opinion of family member (0.630).

FACTOR 4: “Performance assurance (10.5%)”

Associated variables:

5. Reliability of model (0.808).
7. Engine performance and stability at higher speed (0.730).

FACTOR 5: “Previous experience (7.6 %)”

Associated variables:

15. Previous experience (0.920)

7. Conclusion of the Study

The suggestions and the major findings of the study are presented as under:

7.1 Major findings

1. Significant disagreement has been observed towards two variables namely, ‘advertising and opinion of opinion leader’ as the determining variables influencing the choice of customer.

2. Respondents show significant agreement towards remaining 18 of the study variables. Out of these 18 variables, the respondents show strong agreement on 10 variables namely, availability of spares parts and economy of maintenance of car, vehicle durability, engine performance and stability at higher speed, driving pleasure and ride quality, passenger comfort, reliability, environment friendliness, presence of safety features, opinion of family members, and styling and appearance. If these attributes are available in a 1200 cc passenger car, the customers may compromise little bit on other features for their selection of car.

3. After factor analysis, the extracted 14 variables have been reduced to 4 major factors. The first factor labeled Luxury and Safety explains a total variance of 15.5 %, which is the maximum, and is therefore the most important factor. The associated variables to this factor are styling and appearance, passenger comfort, driving pleasure and ride quality and presence of safety features. The second factor is labeled as “Value Delivery”. It is the next important factor, as it explains 12.5 % of the total variance. The associated variables to the second factor are resale value, boot space, warranty period and manufacturer reputation. The third important factor is labeled as “Ownership Satisfaction”, it explains 11.9 % of the total variance. The associated variables to the third factor are availability of spare parts and economy of maintenance of car, environment friendliness and opinion of family member. The fourth factor is labeled as “Performance Assurance”. It explains 10.5 % of the total variance. The associated variables to the fourth factor are reliability and engine performance and stability at higher speed.

7.2 Suggestions

1. The empirical results identify four factors with their relative importance related to the customer’s behavior for selecting a car. The manufacturers should prioritize the luxury and comfort to attract the customers as this factor explains the largest variance. To understand the customers’ perception about this factor, they should give highest relative importance2 to the variables under this factor, namely – styling and appearance, passenger comfort, driving pleasure and ride quality & presence of safety features.

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2 The relative importance can be given on the basis of degree of importance of individual variable as discussed in t-test results.
2. The other three factors i.e. Value Delivery, Ownership Satisfaction and Performance Assurance should be given second, third and fourth preference respectively as selection criteria in car section process. To understand the perception regarding the factors, the individual variables associated with respective factors must be considered according to their relative importance. The fifth factor, Previous Experience should also be given adequate importance, as this factor is found with a single variable explaining 7.6 percent total variance in the model.

3. The analysis recommends that the car companies should not bother much about advertising and opinion of opinion leader. Rather, they should believe in quality products targeting at the customer’s need.

It has been observed that customers have more faith on previous experience and advice of family member than opinion of opinion leader & advertisement. However, advertising can be seen as a compulsion for being heard in the clutter and noise of the media space. The advice of family member and previous experience may be time extended to advice & experience of relatives and friends and acquaintances.

References


Abstract

Lean Six Sigma as a quality improvement methodology has been gaining considerable attention in recent years. Understanding the key features, obstacles, precincts and shortcomings of the Lean Six Sigma methodologies allows organizations to better support their strategic directions, and increasing needs for coaching, mentoring, and training. It also provides opportunities to better implement Lean Six Sigma projects. In this paper, an academic perspective on the subject is presented that highlighting the potential and possible limitations of Lean Six Sigma applications. Without intermingling into the mechanics of the subject in detail, the points raised could be useful to those who are thinking on the appropriateness of Lean Six Sigma to their respective organizations. This paper also examines the evolution, benefits, and challenges of Lean Six Sigma practices, eleven parameters that are to be taken care to avoid failure of Six Sigma or Lea Six Sigma and identified the key factors influencing successful six sigma project implementations. It combines the lessons learned from successful six sigma projects and considers further improvements to the six sigma approach.

Key words: Lean Manufacturing, Six Sigma, Precincts of Lean Six Sigma

1. Introduction

Many Lean Manufacturing or Six Sigma projects begins with much fanfare. However, most of them fizzle out within the first six months. The current trend suggests that most businesses have not been able to capture or sustain the benefits of a lean transformation. Lean manufacturing represents a fundamental change and most businesses have pursued change in a tactical manner. They must adopt effective strategies to pursue this change. Since Jack Welch, the former chief executive officer of GE, popularized Six Sigma in the late 1990s, the business-management methodology has had a profound impact [1]. Yet, amazingly, the majority of all corporate Six Sigma initiatives, approximately 60 percent, fail to yield the desired results, according to Praveen Gupta, a noted author who has been involved with the methodology since its origin in the 1980s. Amid rising concern regarding these failures, more corporations across multiple industry sectors are now pulling back on their Six Sigma initiatives, realizing that the methodology by itself is not the cure-all for corporate ills. At Home Depot, for example, former CEO Robert Nardelli was ousted after his strict focus on Six Sigma negatively affected worker morale and consumer sentiment. In the American Customer Satisfaction Index rankings, the company dropped from a top mark among major retailers to the bottom in 2005. Profitability soared, but the stock price plummeted. Examples shows that companies cannot focus on implementing Six Sigma in isolation (Cristopher Del Angel, Joe Froelich, 2008). There are ways to avoid all this. However many people who introduce these initiatives, are less willing to do what is really required to ensure success, which is highlighted in this paper.
2. Major Reasons of Failure

The proceeds from a well-deployed Six Sigma initiative can be richly rewarding. The results of many business organizations stand in evidence to that. But the opposite also is true. Many organizations have started Six Sigma initiatives with much fanfare only to have the deployment eventually fizzle out miserably. So what goes wrong? Why are there conflicting experiences with Six Sigma initiatives? The answer lies in the basics of deployment. Major reasons which are critical to the failure of a Six Sigma deployment are outlined as the eleven ways as shown in figure 1. The parameters influencing Lean Six Sigma project.

2.1. Lack of Commitment from the Top

Commitment to Six Sigma from top leadership means 100 percent commitment or in other words walk-the-talk. Paying lip service or expressing support to the methodology. A deployment leader who himself does not know much about the methodology would then be an uphill task. There should be a sound governance mechanism to ensure that the projects get reviewed regularly and the projects progress in a timely manner [4]. Review committees should include senior management.

2.2. Lack of Devotion from Middle Level Management

Martin C., Senior Quality Manager at BASF Fuel Cell, believes the biggest change has to be in middle management. For all the programs of TQM, ISO, Six Sigma and others, they have the attitude to ride the wave until it passes. According to him, no problems could be solved if middle managers gave information as freely and timely as people networking do to grow their networks. In short, it is not only the program or commitment by the CEOs, but it is also the middle management manager’s play and duties.

2.3. Part-time Black Belts

Many of the organizations that fail to realize the true impact of Six Sigma treat Black Belt positions as part-time jobs. It is essential that Black Belts be full-time positions. Black Belts require a lot of skill, both technical as well as behavioral. The position needs to concentrate full-time on improving the performances in areas that are linked to strategic objectives of the organization. A typical return expected from each Black Belt project is several times that person’s annual salary, and a number of projects can be completed each year. A part-time Black Belt is really only the equivalent of a Green Belt. A business should select the best of its people to undergo training and certification as Black Belts. Black Belt positions should be used as a step in the grooming of the organization’s future leaders [3].

2.4. Projects Not Linked to Organizational Objectives

For Six Sigma to yield the benefits desired, projects undertaken must be aligned to the strategic objectives of the company. A democratic approach does not work here. Project selection must use a balance of top-down and bottom-up approaches. Localized improvements that are disconnected from the strategic objectives could be more harmful than beneficial to the organization.

2.5. Focusing on Quantity Instead of Quality

Although a wider participation in a Six Sigma initiative, especially at the start of the initiative is desirable, this should not lead to the quality of projects being sacrificed for quantity of projects. A large number of projects completed might look good, but the impact of the projects undertaken is much more important [2].

2.6. No Review Mechanism

Projects and the progress of the improvement initiative if not reviewed regularly will lead to the momentum of the initiative fizzling out. Getting starting again would then be an uphill task. There should be a sound governance mechanism to ensure that the projects get reviewed regularly and the projects progress in a timely manner [4]. Review committees should include senior management.
2.7. No Visible Reward and Recognition Mechanism

There needs to be a visible reward and recognition mechanism to the initiative[8]. Rewards can be monetary as well as non-monetary like public recognition, certification, etc. Some organizations link incentives to the initiative.

2.8. No Infrastructural Support to Teams Working on Projects

Teams working on projects require a lot of support in driving their projects. This means infrastructural support like statistical software, mentoring supports, etc. Availability of these reduces a lot of difficulties that teams face during the life of their project [6]. Organizations with deployment leadership that expect project teams will manage on their own are doomed to failure.

2.9. Copy-and-Paste Deployment

Deployment of any initiative requires a lot of sensitivity toward an organization’s prevalent environment. Just a copy-and-paste kind of approach, wherein one reads a book and tries to deploy, does not work. One needs to be cognizant of the specific needs of the organization and customize the deployment accordingly while keeping the basics intact. Six Sigma is quite different from other methodologies like Kaizen, TQM, Quality Circles, etc., hence requires a different approach. What worked with these methodologies may not work for a Six Sigma deployment.

2.10. Too Much Insistence on Statistics and Tools

Although Six Sigma as a methodology boasts a multitude of robust statistical tools, one needs to be wary of getting trapped by these tools. The practitioner needs to use these tools to drive improvement and not the other way round. In fact, according to one survey, 60 to 70 percent of improvement projects do not require advanced statistical tools. While driving projects, the larger goal of improvement and the essence of the methodology should be kept intact. Using tools just for the sake of using them because they are part of the Six Sigma toolkit is not smart or efficient in terms of time [8]. Flexibility is important.

2.11. Expecting Too Much and Too Soon

While Six Sigma deserves the positive reputation it gets from the larger returns it provides to the bottom-line, it is not wise to expect too much from the very start of the initiative [9]. Like all major initiatives, it requires a good amount of investment. This investment typically starts giving significant returns about the third year. A business organization should not be discouraged if returns are slow initially. Since Six Sigma is focused on reducing variation and improving performance and is a system-oriented methodology, it takes time for the returns to grow and stabilize. Expecting phenomenal results too soon may discourage top leadership and result in those driving the initiative become defensive. These are the major pitfalls that one needs to avoid while deploying Six Sigma in an organization. If those deploying Six Sigma keep wary of these, the initiative is likely to be much smoother and more successful.

![Figure 1. The parameters affecting Lean Six Sigma projects](image)

3. Failure Mechanism of Lean Six Sigma Project

Many companies have embraced Six Sigma, a quality-control system designed to tackle problems such as production defects, and lean manufacturing, which aims to remove all processes that don’t add value to
the final product. But many of those companies have come across, less than the full satisfaction [7]. After studying process-improvement programs at large companies over a five-year period to gain insight into how and why so many of them fail, it is found that when confronted with increasing stress over time, these programs react in much the same way a metal spring does when it is pulled with increasing force, that is they progress through “stretching” and “yielding” phases before failing entirely. In engineering, this is known as the “stress-strain curve,” and the length of each stage varies widely by material, as sketched in Figure 2, stress strain curve of a MC structural steel.

Experimentally, a metal specimen be placed in tension-compression-testing machine (just like green, black belts and others employed in LSS projects); as the axial load is gradually increased in increments, the total elongation over the gauge length is measured at each increment of the load (similar to physical and mental condition of belts) and this is continued until failure of the specimen takes place. Knowing the original cross-sectional area and length of the specimen, the normal stress $\sigma$ (priority, numbers and duration of LSS projects) and the strain $\varepsilon$ (giving up tendency of people in LSS projects) can be obtained. The graph of these quantities with the stress $\sigma$ along the y-axis and the strain $\varepsilon$ along the x-axis is called the stress-strain diagram or curve.

![Stress-Strain Curve](image)

**Figure 2 - Stress-Strain Curve of a medium-carbon structural steel (To illustrate analogy with LSS projects)**

Normal Stress ($\sigma$) = Priority, numbers and duration of LSS projects

Strain ($\varepsilon$) = Giving up tendency of people in LSS projects.


A closer look at the characteristics of improvement projects at each of the three stages of the stress-strain curve, stretching, yielding and failing, offers lessons for executives seeking to avoid Six Sigma failures (Figure 3). The discussion that follows is based on what happened at one aerospace company that implemented more than 100 improvement projects, only to determine less than two years later that more than half had failed to generate lasting gains (Source: Satya S. Chakravorty, Caraustar professor of operations management at Kennesaw State University in Kennesaw, Ga. reports@wsj.com.)

### 3.1 Stretching Phase

When a metal spring is pulled initially, the material stretches to accommodate the increase in force between points O to E shown in figure 2. In much the same way, the people involved in a process-improvement project generally find themselves stretching and willing to tackle all necessary tasks in the early going. At the aerospace company, an improvement project typically began with the formation of a team consisting of 10 to 18 members from various departments. A Six Sigma or other improvement expert was assigned to the team to guide and train them. At this stage, teams were excited to learn and apply what they were being taught.

Team members collected data on their current working environment and, with the help of the Six Sigma expert, identified the changes they most needed to make to achieve their stated goal, say a reduction in the rate of defects in manufactured parts or fewer mistakes in order writing and billing. The expert developed a “to do” list that included action items, responsibilities and deadlines and made sure needed resources were available.

Because top executives were paying close attention to the project at this stage, managers made clear to employees that the improvement initiative was their top priority. For example, producing error-free bills
became more important than processing a certain quantity of bills each day. While daily production slipped initially when the team transitioned to the new way of working, it improved when the group grew accustomed to the new process. When the team reached its goal, say it reduced billing errors by a certain percentage; the improvement project was declared a success.

The director who was spearheading the company’s Six Sigma initiatives shared the teams’ achievements with others in the company. Team members were given rewards such as gift certificates to restaurants, and their pictures appeared in the company newsletter. The division vice president reported on the team’s success to the company’s other vice presidents and to its top executives.

3.2 Yielding Phase

Unfortunately, the story doesn’t end there. If a metal spring continues to be pulled, there will come a point when the material yields as it struggles to support the increase in pressure, beyond point Y shown in figure 2. Though still intact, the spring becomes permanently deformed, stretched out as the bonds between atoms are broken and new ones formed.

Similarly, in the middle stage of an improvement project, when the Six Sigma expert moves on to another project and top management turns its focus to another group of workers, implementation starts to wobble, and teams may find themselves struggling to maintain the gains they achieved early on.

With the departure of the Six Sigma expert, the teams at the aerospace company lost their objective voice and the person who performed the sophisticated statistical analysis that allowed them to prioritize the tasks that most affected performance, thus needed fixing the most. Without the expert to rein them in, some team members began pushing agendas that benefited themselves and their departments, making it harder for the team to agree on new goals.

While teams at this stage continued to look for the flaws in their current working environments, they got bogged down trying to perform the statistical analysis previously handled by the expert. Some teams started spending too much time on the improvement project, which affected their ability to meet production quotas and other daily responsibilities. Amid the confusion and facing pressure from managers to keep up with day-to-day duties, some team members started reverting to old habits. The team’s performance stopped improving and, in some cases, started to regress.

When reporting on the status of their projects, teams tried to make themselves look better by highlighting what they hoped to accomplish in the future, instead of what they were accomplishing now. Some team members became discouraged and started to doubt the benefits of the improvement strategies. The improvement director, whose salary and bonus depended on the success of the company’s Six Sigma initiatives, highlighted projects that were showing great progress and ignored those that weren’t. As a result, company executives were unaware that some improvement teams were slowly starting to crack under the pressure.

![Figure 3: Stress Strain Curve.](image-url)
3.3 Failing Stage

Over time, pulling will cause the material in one area of the metal spring to narrow, creating a neck that becomes smaller and smaller until it is unable to sustain any pressure at all. At that point, it breaks into pieces. Similarly, at the final stage of a process-improvement project, team members find themselves unable or reluctant to cope up improvement steps, and the effort ultimately fails. With the improvement expert not available further and no additional training in Six Sigma or other improvement strategies provided by the aerospace company, team members became increasingly discouraged by their failure to build on earlier success. They ultimately stopped caring about the improvement project, partly because it wasn’t tied to their performance reviews.

As morale sagged, no one stepped forward to bear leadership of the improvement project, so the team lost interest in looking for ways to improve their current work environment. The company allowed newly formed improvement teams to simmer people and resources from older teams, so the only improvements that were made were those related to safety, and even then, only the bare minimum was done. Members steadily regress to their old ways of working, and the group’s performance returned to what it had been before the project began. With projects failing despondently, many teams reported their achievements incorrectly, giving a false sense of success. Since the director continued to communicate only about projects that were yielding excellent results, it took several months for the division vice president to become aware of the widespread failures and reluctantly inform the company’s top executives.

4. Lessons Learned

Even though risk of failures is always present in complex lean manufacturing or six sigma projects, a few of the lessons can definitely be learnt.

The involvement of a Lean Six Sigma or other improvement expert is required if teams are to remain motivated, continue learning and maintain gains. If the cost of providing an improvement expert to each team on a full-time basis is too expensive, one improvement expert could be assigned on a part-time basis to several teams for an extended period of one to two years. Later, managers could be trained to take over that role. Performance appraisals need to be to successful implementation of improvement projects. Studies point out that raises, even in small amounts, can motivate team members to embrace new, better work practices. Without such incentives, employees often regress to their old ways of working once the initial enthusiasm for Six Sigma dies down.

Improvement teams should have no more than six to nine members, and the timeline for launching a project should be no longer than six to eight weeks. The bigger the team, the greater the chance members will have competing interests and the harder it will be for them to agree on goals, especially after the improvement expert has moved on to a new project. And the longer it takes to implement improvements, the greater the chance people and resources will be diverted to other efforts. Executives are required to directly participate in improvement projects, not just “support” them. Because it was in his best interests, the director in charge of the improvement projects at the aerospace company created the illusion that everything was great by communicating only about projects that were yielding excellent results. By observing the successes and failures of improvement programs, rather than relying on someone else’s interpretation, executives can make more accurate assessments as to which ones are worth continuing. Some of the major factors affecting Lean Six Sigma projects are mentioned as given in table 1.

5. Conclusion

If Lean Manufacturing and Six Sigma fail, this is due to the lack of true senior management commitment, either top or middle, and understanding of the change process. Consequently the ultimate responsibility of the success or failure of any change program falls on shoulders of the most senior leadership on the site. Eleven parameters that are to be taken care to avoid failure of Six Sigma or Lean Six Sigma and Key factors affecting Lean Six Sigma project are mentioned here are helpful for overall performance improvement.
6. Acknowledgement

The authors are grateful to all the resources cited in this paper.

7. References


9. Anne Hudson, “Why Six Sigma Projects Fail & How to Prevent It”, CEO of Grouputer Solutions, anne.hudson@grouputer.com


Table 1: Key factors influencing successful Lean Six Sigma project

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Factor</th>
<th>Question</th>
<th>Failure Mode</th>
<th>Lesson to Learn / Characteristic of successful organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Visible Senior leader.</td>
<td>Do leaders in your organization stay involved after an important initiative is launched?</td>
<td>When leaders do not consistently demonstrate their sponsorship and commitment, Six Sigma can fall short of expectations.</td>
<td>As with any critical organizational change effort, Six Sigma requires leaders to stay engaged in the effort. For Six Sigma initiatives to succeed, leaders must reinforce the importance of Six Sigma to their organization in their regular communications and in the ways that they manage their business and people.</td>
</tr>
<tr>
<td>2</td>
<td>Alignment to a clear organization strategy</td>
<td>Does your organization have a clearly defined strategy?</td>
<td>Experience shows that Six Sigma is likely to fail if it is not directly linked to the organizational strategy.</td>
<td>Utilizing a Balanced Scorecard is a best practice associated with Six Sigma implementation. The Scorecard helps to identify and prioritize the Six Sigma improvement projects that will have the greatest impact on strategic objectives and desired business results. Organizations should avoid initiating a “collection of projects” that is disconnected from the organizational strategy.</td>
</tr>
<tr>
<td>3</td>
<td>Performance tracking and accountability</td>
<td>Are people in your organization held accountable for critical projects and results?</td>
<td>Six Sigma efforts will fail if projects are not managed and tracked aggressively, and the people involved are not held accountable for results.</td>
<td>Six Sigma is most successful when organizations implement a process for ongoing, regular reviews of projects. These organizations maintain line of sight to the progress, track overall performance, and hold Champions and Teams accountable for timely execution.</td>
</tr>
<tr>
<td>4</td>
<td>To link projects to bottom line impact</td>
<td>How well does your organization quantify the expected results for an improvement project?</td>
<td>Six Sigma is hailed for its bottom-line impact, so if Six Sigma projects are executed without clear financial results, leaders will be disappointed with the efforts.</td>
<td>The secret to avoiding this problem is to quantify anticipated results before initiating projects, and to ensure they are tightly linked to business unit budgets and the bottom line. It’s wise to involve a Finance representative to establish rules and guidelines, and to stay involved in the quantification effort.</td>
</tr>
<tr>
<td>5</td>
<td>Allocation of human resources</td>
<td>Does your organization have a process for allocating resources for critical projects?</td>
<td>When organizations do not take a structured approach to how they allocate resources to support their Six Sigma efforts, Six Sigma will probably fail.</td>
<td>Successful Six Sigma teams select Black Belt and Green Belt candidates who are process-oriented, have a penchant for data-driven decision-making, and possess a willingness to learn and apply statistical tools. To help assure success, effective Six Sigma teams agree on a team structure, realistic resources, and key skill requirements prior to commencing Six Sigma projects.</td>
</tr>
<tr>
<td>6</td>
<td>Emphasis on rigid approach and technical tools</td>
<td>Does your organization adopt or adapt?</td>
<td>Six Sigma can fail if an organization places too much emphasis on the mechanics and technical aspects of the methodology.</td>
<td>Six Sigma is a framework, not a recipe. Paying more attention to the steps than the desired outcome can result in too much bureaucracy and delayed impact. It’s better to view the approach as a framework with a robust tool set, and then apply the relevant tools to the improvement opportunity.</td>
</tr>
</tbody>
</table>

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Role of H.R.D.in Enhancing Organisational Performance: Empirical Evidence from Indian Manufacturing Sector

Ajay Solkhe *
Dr. (Mrs) Nirmala Chaudhary **

Abstract

This research study sets out to investigate the Holy Grail of establishing a causal link between HRD and Organisational Performance which in turn ensure sustainable competitive advantage. In the last 20 years, research has shown that the strategic use of HR is likely to be one of the most important determinants of organisational performance. It is believed that HRD climate helps the employees to acquire required competencies that would enable them to execute their present or future expected roles and aids in developing their capabilities for better Organizational Performance. Literature review suggests that measures of OP are circumscribed in broadly two set of categories i.e. subjective/perceptual and objective/operational, but the researcher has attempted to study it from perceptual measures perspective only. For the same, framework developed by Delaney & Huselid (1996) was used, highlighting two major variables i.e Perceptions of Organisational Performance (POP) and Perceptions of Market Performance (POP). The present study is an empirical study. The field data collected with the help of questionnaires developed by Rao & Abraham (HRD Climate Survey) and Delaney & Huselid (Perceived Organisational Performance and Perceived Market Performance) both has been adapted to suit the purpose of the study. The sampling units/subjects

Introduction:

It is a well recognised fact that Tractor industry plays an important part as agriculture sector has a major contribution to India’s GDP. Indian tractor industry, comparatively young by world standards have expanded at a spectacular pace during last four decades. Consequently it now occupies a place of ride in India’s automobile industry. U.S.A., U.S.S.R. and only a few Western European countries exceed the current production of tractors in India, but in terms of growth India’s growth is unmatched even with countries of long history of tractor manufacturing. In India tractor industry has played a vital role in the development. In terms of overall volumes, India is one of the largest tractor markets in the world, besides China and the USA. The Indian tractor industry has 14 national players and a few regional players. The industry is dominated by Mahindra and Mahindra (M&M) during 2010-11, followed by Tractors and Farm Equipments (TAFE), Escorts, L&T-John Deere and International Tractors Limited. The strong recovery witnessed in the tractor market during 2009-10, after a period of cyclical downturn, has continued in the current fiscal with a growth of 25.2% over the corresponding previous year. Although agriculture contributes only 15.7% to India’s GDP, its role remains critical in Indian economy as it provides employment to 58.2% of the workforce, which is why this sector remains a strong focus area for the Government. In this context, to intensify, enhance and maintain their competitiveness, tractor manufacturers have to work on each functional area like production, services, marketing, human resources, I.T., finance etc. However to create competitiveness and achieve organisational excellence, no factor is more influential than human resources, which has a wakeless impact on tractor manufacturing organisations. Consciously,
are taken to be the managers/executives of the organisations sampled irrespective of their functional areas & hierarchical levels. In all, 240 managers from four tractor manufacturing organisations have served as a sample for study. The tools used for statistical analysis were: Mean, Standard Deviation, Percentages, Pearson Product Moment Correlation, Simple Linear Regression, Multiple Regression using Backward Method and Analysis of Variance (ANOVA). The results suggested that there exist a positive association of HRD Climate with both Perceived Organisational Performance and Perceived Market Performance. Researcher has established that HRD Climate, if perceived appropriate, influence and impact the level of Organisational Performance. The study implicates that there is a strategic importance of HRD in enhancing OP, which necessitates an enhanced focus on HRD Mechanisms for increased OP. Further study also points out that multiple measures of organisational performance should be used.

**Keywords:** Human Resource Development Climate (HRDC), General Climate (GC), OCTAPAC Culture, HRD Mechanisms (HRDM), Organizational Performance (OP), Perceived Organisational Performance (POP), Perceptions of Market Performance (POP)

the top management of these organisations needs to acknowledge the importance of development-oriented progressive HR practices i.e. HRD in positively influencing as well as making a profound impact on the organisational performance and consequently will help them to reap greater benefits in the long run.

Researchers have built adequate evidence that link HR practices with organisational performance (Schuler and Macmillan 1984; Schuler and Jackson 1987,2005; Storey, 1992; Arthur, 1994; Dyers and Reeves, 1995; Huselid, 1995; Purcell, 1995; Delaney and Huselid, 1996; Huselid and Becker, 1996; Ichniowski, Shaw and Prennushi, 1997; Delery, 1998; Pfeffer, 1998; Wright and Snell, 1998; Gratton, Hope and Hailey, Stiles and Truss, 1999; Truss, 2001; Guest, Michie, Conway and Sheehan, 2003; Paauwe, 2004; Paauwe and Boselie, 2005; Wright, Snell and Dyer, 2005). Therefore, the researcher has attempted to unearth this Holy Grail by examining the dynamics of HRD Climate in the Indian Tractor Industry and subsequently inspect whether it has any relationship with the selected operational measure of Organisational Performance. In light of this discussion, research problem is quite rightly framed.

**Conceptual Foundations**

HRD Climate is an integral part of Organisational Climate. HRD Climate is the perceptions that the employees hold about the policies, procedures, practices and conditions which exist in the working environment. It is emphasized here that construct of HRD Climate is not significantly different from the well-researched construct of Organisational Climate, except that HRD Climate is more development-oriented. It has three components/factors i.e. General Climate, HRD Mechanisms and OCTAPAC Culture. Here, General Climate deal with the importance given to HRD in general by the top management and line managers, top management style and philosophy, personnel policies. OCTAPAC Culture factor deals with the extent to which values of Openness, Confrontation, Trust, Autonomy, Pro-activity, Authenticity, and Collaboration are pursued and promoted in the organisation. HRD mechanisms deals with performance appraisal, potential appraisal,
career planning, performance rewards, feedback and counseling, training, employee welfare, quality of work life, job rotation, self-renewal and institution building, personal growth laboratories etc.

**Organisational Performance**

Organisational performance comprises the actual output or results of an organisation as measured against its intended outputs (or goals and objectives). It can best be explained by the following equations as illustrated:

\[
\text{Performance} \times \text{Resources} = \text{Organisational Performance}
\]

**Figure I: General Determinants of Organisational Performance**

<table>
<thead>
<tr>
<th>Knowledge X Skill</th>
<th>= Ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude X Situation</td>
<td>= Motivation</td>
</tr>
<tr>
<td>Ability X Motivation</td>
<td>= Human Performance</td>
</tr>
<tr>
<td>Human Performance X Resources</td>
<td>= Organisational Performance</td>
</tr>
</tbody>
</table>

Source: Davis (1986).

In a nutshell, the organisational performance outcomes in context of HR can be captured in a variety of ways. The following are most commonly preferred organisational performance outcomes and also are the favoured variables in the most of past empirical studies adapted from Dyers and Reeves (1995):

- **Financial Outcomes** (e.g. Profits; sales; market share; Tobin q; GRATE)
- **Organisational Outcomes** (e.g. Output measures such as productivity; quality; efficiencies)
- **HR Related Outcomes** (e.g. attitudinal and behavioural impacts among employees, such as Job satisfaction, Commitment and intention to quit, accidents and absenteeism)

**Review of Literature**

Presently, human resource management has emerged as an essential factor for sustained competitive advantage. Research highlights that organisations develop sustained competitive advantage through management of scare and valuable resources (Barney, 1991). The human resource enables organisations to achieve optimization of resource, effectiveness, and continuous improvement consistently (Wernerfelt, 1984). An organisation take time to nurture and develop human capital in the form of knowledge, skills, abilities, motivation, attitude, and interpersonal relationship, and makes it difficult for competitors to imitate (Becker & Gerhart, 1996). Pfeiffer (1994) stressed that human resource has been vital for firm sustained performance. In knowledge economy, the human resource has been recognized as a strategic tool, essential to organisational profitability and sustainability. This realization has led to the new role of human resource managers as strategic partners in formulation and implementing organisational strategy (Myloni et al., 2004). Organisations are pursing proactively human resource management (HRM) practices and systems to capitalize on strength of this vital asset for sustained competitive advantage in knowledge economy (Jackson & Schuler, 2000; Mac Duffie, 1995)

Review of literature indicated essential HR practices heavily researched as workforce planning (Matthiis & Jackson, 2004); job analysis (Cascio, 2006; Dessler, 2003); training and development (Kundu, 2003); recruitment and selection (Kulik, 2004); compensation and reward (Milkovich & Newmen, 1999); performance appraisal (Bernardin & Russell, 1993); career management (Schein, 1996); human resource information system (Wolfie, 1998); quality of work life, personnel diversity, employees attitude surveys (Armstrong, 2005; Bracken, 2000; Hayes, 1999). In meta-analysis of 104 articles, Boselie et al., (2005) concluded that the top four HR practices are efficient recruitment and selection, training and development, contingency and reward system, and performance management that have been extensively used by different researchers.

In recent years, the focus of research on HRM has shifted from study and relationship of individual HRM practices on business performance to entire HRM system and its influence on organisational performance. The researchers have different views about this new paradigm. Some researchers claim that
the system view of HRM is appropriate, but others contend “that to arbitrarily combine multiple HRM sub-dimensions into one measure creates unnecessary reliability problems” (Becker & Huselid, 1998). In addition, comprehensive examination of individual HRM practices highlights the significant predictor of business performance (Bjorkman & Budhwar, 2007).

Divergent views exist to measure the organisational performance based on financial as well as non-financial measures. Hoskisson et al., (2000) identified the problems related to measurement of financial dimensions in emerging economies. It has been argued that lack of market based financial reporting, inadequate regulatory mechanism and enforcement about financial reporting, lack of transparency in financial reporting, and provision of fictitious financial information are important issues facing emerging economies (Baes & Lawler, 2000; Hoskisson et al., 2000).

A subjective measure facilitates managers to take into account organisational goals when evaluating its performance. Researchers argue that though perceptual measure may introduce limitations, the benefits are far greater than the risks. Several researchers have “raised persuasive doubts about the causal distance between an HR input and such output based on financial performance. Put simply, so many other variables and events, both internal and external, affect organisations that this direct relationship rather strains credibility (cited in Boselie et al., 2005).” The researchers argued that more proximal measures over which employees exert influence are theoretically more plausible and methodically easier to link. These include productivity (Chang & Chen, 2002; Huselid, 1995; Katou & Morishima, 2002), quality of product and service (MacDuffie, 1995; Jayaram et al., 1999), job satisfaction (Guest, 1999; Hoque, 1999), employees turnover intentions (Batt, 2002; Shaw et al., 1998), absenteeism (Lowe et al., 1997), trust in management (Whitener, 2001), and commitment (Tsui et al., 1997). Researchers also examined the negative impact of HRM practices on firm performance that include employees’ stress level (Ramsay et al., 2000); job-home spill over (White et al., 2003). In literature, primacy exists with regard to the use of subjective measures in earlier studies (Delaney & Huselid, 1996; Younkat et al., 1996). Strong evidence exist in prior studies that subjective measurement associate well with objective measures of organisation’s performance (Geringer & Hebert, 1991; Powell, 1992). Wall et al. (2004) found that self-reported data is related to limited biases.

The researchers have investigated empirically the effects of HRM practices on organisational performance (Becker & Huselid, 1998; Boselie, 2002; Guest, 1997). Recent studies reflect an impressive influence of HRM practices on organisational performance. Researchers have divergent views about impact of HRM practices and firms’ performance. They argue that HRM practices and performance research have common attributes as well as contradictions (Boselie et al., 2005; Katou & Budhwar, 2006; Wall & Wood, 2005, Wright & Boswell, 2002).

The initial studies focused on establishing a link of single HRM practices to firm’s performance (Cutcher-Gershenfeld, 1991). Subsequently group of HRM practices were identified as High Performance Work Systems (HPWS), and researchers established link of HPWP with excellent performance of organisations (Appelbaum, 2000; Huselid, 1995). Cappelli and Neumark (2001) found negative outcome of these practices with regard to firm’s performance. Godard (2004) argued that poor employee relationship limits the effectiveness of these HPWP.

Strong evidence exists in literature about different HRM practices and their effects on superior firms’ performance. Researchers found a positive relationship between effective recruitment and selection practices and top-class performance (Harel & Tzafrir, 1996; Delaney & Huselid, 1996); training and development (Bartel, 1994; Fey et al., 2000); compensation and reward (Chie et al., 2002; Batt, 2002); performance appraisal (Boselie et al., 2001, Bjorkman & Xiucheng, 2002); employee relations (Kuo, 2004).

Prior studies have validated the link between HRM practices and superior business performance in United States and Europe (Boselie et al., 2001; Hoque, 1999); Asia (Bjorkman & Xiucheng, 2002; Ngo
et al., 1998) and Africa (Chebregiorgis & Karsten, 2007). Empirical studies indicate a strong and positive association between HRM practices and performance of organisations. (Katou & Budhwar, 2007; Kuo, 2004; Huselid et al., 1997; Youndt et al., 1996).

**Research Objectives:**

The researcher pursued the present study with following objectives in mind:

1. To study and compare the employee perceptions regarding HRD Climate prevailing in selected organisations of Indian Tractor Industry.

2. To measure the impact of HRD Climate and its components on Perceived Organisational Performance (POP) as a subjective measure of OP in selected organisations

3. To measure the impact of HRD Climate and its components on Perceived Market Performance (PMP) as a subjective measure of OP in selected organisations

4. To offer some viable and practicable suggestions, result oriented guidelines to the selected organisations for improvement of their Human Resource Development Climate and Organisational Performance.

**Hypotheses:**

Corresponding to the objectives above, following set of null hypotheses is developed.

$H_01$ The Employee perceptions towards HRD Climate prevailing in the selected organisations do not differ significantly.

$H_02$ There is no significant relationship between HRD Climate & its Components (i.e. GC, HRDM & OC) and Perceived Organisational Performance (POP)

$H_03$ There is no significant relationship between HRD Climate & its Components (i.e. GC, HRDM & OC) and Perceived Market Performance (PMP)

$H_04$ There is no significant impact of HRD Climate on the level of Organisational Performance.

**Research Methodology**

This is an empirical study. The researcher has made use of both field and documentary data to arrive at necessary conclusions. The field data has been collected with the help of Rao & Abraham’s HRD Climate Survey and Delaney & Huselid’s scale on Perceived Organisational Performance and Perceived Market Performance all three have been adapted to suit the purpose of the study. The reliability coefficient (Cronbach α) for HRD Climate survey, POP and PMP is 0.952 and .588 respectively (See Table No.1) The present study adopts two-stage sampling for the selection of the sample. In the first stage, the technique of purposive and convenient sampling is used in selecting the four organisations i.e. all four are from tractor industry and having their manufacturing operations located in northern region. In the second stage, the sampling units/subjects are taken to be the managers/executives of the organisations sampled irrespective of their functional areas & hierarchical levels. In all, 80 managers from Org. A, 60 of Org. B, 60 of Org. C, and 40 of Org. D, have constituted the total sample of 240 managers. The tools, which are employed to test the drafted hypothesis and for analyzing the results included; Mean, Standard Deviation, Percentages, Pearson Product Moment Correlation, Simple Linear Regression, Multiple Regression using Backward Method and Analysis of Variance (ANOVA). Dependent Variable of OP understudy includes two major variables: first Perceived Organisational Performance (which includes Quality of Products, Services or Programs (PQ) , Development of New Products, Services or Programs (ND), Ability to attract essential employees (ATTRACT) ,Ability to retain essential employees (RETENTION), Relations between management and other employees (RELME), Relations among employees in general (RELE)) and secondly Perceived Market Performance (which includes Marketing of Goods & Services (MKTGS), Customer Satisfaction (CUSTSAT), Market Share (MKTSHARE), and Growth in Sales (GRSALES))

**Regression line of Organisational Performance on the three components of HRD Climate as perceived by the managerial employees is:**
Climate, HRD Mechanisms and OCTAPAC Culture.

focusing on its three components/factors i.e. General organisations. HRD Climate has been inspected by researcher examined the HRD Climate in the selected /g44/g81/g3 /g79/g76/g81/g72/g3 /g82/g73/g3 /g68/g70/g75/g76/g72/g89/g76/g81/g74/g3 /g87/g75/g72/g3 /g89/g72/g85/g92/g3 /g191/g85/g86/g87/g3 /g82/g69/g77/g72/g70/g87/g76/g89/g72/g15/g3 /g87/g75/g72/g3

Table 1.2) Analysis of HRD Climate & its Components (See Analysis and Discussion

Where Y is Organisational Performance and \(x_1\), \(x_2\), \(x_3\) are the three elements of HRDC (i.e. \(x_1\) is General Climate, \(x_2\) is HRD Mechanisms and \(x_3\) is OCTAPAC Culture) as perceived by the managerial employees in the tractor manufacturing units understudy.

Analysis and Discussion

Analysis of HRD Climate & its Components (See Table 1.2)

In line of achieving the very first objective, the researcher examined the HRD Climate in the selected organisations. HRD Climate has been inspected by focusing on its three components/factors i.e. General Climate, HRD Mechanisms and OCTAPAC Culture.

- On investigation it is found that HRD Climate in the selected organisations understudy is significantly different collectively as well as factor-wise/ component-wise, more specifically the managerial perceptions of Org. B is more positive as compared to other three organisations i.e.Org. C, Org. D and Org. A. A further examination revealed that the HRD Climate of the three private sector organisations (Org. B, Org. C and Org. D) was significantly better than the PSU (Org. A.). The findings equate with Banerjee, (2001) who also found significant differences between respondents from public and private sector organisations on all the three dimensions of HRD climate as well as overall HRD Climate.

- Analysis of General Climate helped the researcher in concluding that organisations were found to be statistically significantly different specifically on account of top management orientation towards employees; top management philosophy/ ideology towards human resources; HR policies facilitation of employee development; top management’s attitude towards earmarking resources for employee development; seniors interest in developing juniors and help in learning job; attitude towards people lacking competence in doing their job; employees’ attitude towards each other; seniors attitude towards juniors and their professional growth; and, top management attitude towards identifying and utilizing potential of employees. It is pertinent to mention here that managerial staff of Org. B and Org. C was found highly satisfied with importance given to the human resources development in general by the top management and line managers than Org. D and Org. A.

- It was evident from the Analysis of HRD Mechanisms that managers of Org. A. were dissatisfied with the guidance for career growth and advancement provided by superiors and basis for promotion decisions. Managers of Org. C were found satisfied with the way they are sponsored for training programs; basis of performance appraisal; appreciation given to them by superiors; communicating their weaknesses to them; basis of promotion decisions; and, various rewards and recognition programs respectively. In case of Org. B it was observed that employees are strongly satisfied with appreciation for good work; job rotation activities; attitude towards training & development programs; reward mechanisms; sponsoring for training programs; organisation’s attitude towards employee welfare; basis for performance appraisal reports. It is further inferred that employees of Org. D are found satisfied from their organisation’s attitude towards employee welfare; mistakes committed being allowed by superiors; conveyance of their weaknesses to them; job rotation mechanisms. It is further analysed from ANOVA results that on all the HRD mechanisms organisations were significantly different.

- Analysis of OCTAPAC culture revealed that in Org. A. organisational values of Interpersonal trust , openness with subordinates, and encouragement for initiative and self-direction was found higher and it was least observed in case of disclosure of organisation’s future plans to employees. In case of Org. C values of team
spirit/collaboration, openness with subordinates as well as with superiors and interpersonal trust among employees was evidently higher. The researcher also witnessed in case of Org. B that it was collaboration, delegation of work for juniors development, trust between employees as well as openness in sharing company’s future plans to staff which were the sources of higher satisfaction of employees. Employees at Org. D were quite satisfied with the openness provided in discussion of problems, entrustment of work is taken as an opportunity of development by juniors, openness in discussion with superiors and proactive attitude of organisation in disclosing their future plans to employees. In nutshell, the researcher is of the view that in all the organisations understudy two organisational values which were being the greatest drivers of employees’ satisfaction were interpersonal trust and collaboration/team spirit. It is also observed from ANOVA results that the organisations were significantly different on all the items of OCTAPAC Culture.

On the basis of findings null hypothesis $H_{11}$ stands rejected as the researcher inferred from the results that the averages of the perception of the managerial employees, for the HRD Climate and its components in the entire four tractor manufacturing organisations understudy are significantly different & this difference is not by sampling or by chance.

The findings of the study are parallel to the previous researches (Amba-Rao et al., 2000; Bordia and Blau, 1998; Mathur et al., 1996; Sharma, 1992). An important reason for this is that in the public sector organisations the HR Practices and policies guiding the organisations have been there for a long time. These have not changed in accordance with liberalisation and globalisation in the economy. In the case of private sector organisations changes have been made in the systems to deal with this changing environment. The same has not happened in the public sector organisations, which are still run by bureaucratic and red-tape activities (Virmani and Guptan, 1991). Employees in the public sector enterprises encounter obsession with rules and procedures, which frequently makes them feel restricted. Simultaneously private sector organisations are more flexible in comparison to the public sector (Virmani and Guptan, 1991). Rules and procedures are present in these organisations as well; yet there is greater accent on targets and goals rather than on simply following the procedures. The findings of the study also indicated that the HRD Climate of the PSU (Org. A.) is above average indicating a reasonably fair HRD Climate. Researchers have built sufficient evidence through various studies that HRD Climate in public sector organisations is positive or above average but the authors also felt that there was a tremendous scope for improving the HRD climate for development of individuals and the organisations as well (Dayal et.al, 1996; Gani and Rainyee, 1996; Jain Singhal and Singh, 1997; Krishna and Rao, 1997; Venkateshwaran, 1997; Pattayak and Mishra, 1997; Sharma and Purang, 2000; Purang 2006; Mahajan, 1996) Here it is also asserted that public sector organisations can improve their HRD Climate by modifying their existing HRD sub-systems and integrating them with the HRD programme. Dandekar, Karnik and Sathye (1994) during their study on the Maharashtra State Electricity Board stressed that the most important requirement for improvement in the performance of the PSUs is the development of human resources available in the organisations. The present study findings in case of private sector organisations also follows the previous researches (Bharadwaj and Mishra, 2002; Srimannarayan 2007; Sr. Alphonsa, 2000) as the HRD Climate appears to be good in all the three selected units.

**Analysis of Organisational Performance (See Table 1.3 & 1.4)**

The analysis of selected measures of OP is discussed in the following paras:

- Analysis of Perceived Organisational Performance suggested that employees of the entire four organisations understudy believe and perceive that there were two components out of six which appeared strong predictors of organisational performance i.e. Quality of Products, Services and Programs (PQ); and Relations among employees in general or Interpersonal Relationships (RELE). It
was also recognized from the ANOVA results that the organisations were statistically significantly different on all the items of POP excluding only one i.e. quality of product, services and program. *(See Table 1.3)*

- Analysis of Perceived Market Performance indicated that employees of the entire four organisations understudy believe and perceive that there was one component out of four which appeared strong predictor of organisation’s market performance i.e. Customer Satisfaction.

It was also predictable from the ANOVA results that the organisations were significantly different on all the components of PMP. *(See Table 1.4)*

**Impact & Influence of HRD Climate on Perceived Organisational Performance (POP) and Perceived Market Performance (PMP). (See Table 1.5 to 1.8)**

In the light of the third and fourth objective, the researcher has made an effort to analyse the relationship and subsequently the impact of HRD Climate and its components on Perceived Organisational Performance (POP) and Perceived Market Performance (PMP). In lieu of the same, Statistical techniques of Pearson Product Moment method of Correlation, Simple Linear Regression and Multiple Regression Analysis using backward method has been applied to derive inferences. On performing Correlation *(See Correlation Matrix: Table 1.5)* it is found that HRD Climate is positively correlated with both POP \( (r = 0.337) \) as well as PMP \( (r = 0.364) \) in a statistically significant manner. Simple Linear Regression *(See Table 1.6)* is performed to further examine the impact of HRD Climate on Perceived Organisational Performance and Perceived Market Performance, it is found that coefficient of determination \( (r^2) \) is 11.4% in POP and 13.2% in PMP respectively, which is not significantly higher in both the cases, but this fact cannot be denied also that variation to the extent of 14 percent in subjective measures can be considered a substantial figure in the light of past studies and researches *(See Reviews of Arthur, 1994; Huselid, 1995; Purcell, 1995; Delaney and Huselid, 1996; Huselid and Becker, 1996; Pfeffer, 1998; Wright and Snell, 1998; Guest, Michie, Conway and Sheehan, 2003; Paauwe, 2004; Paauwe and Boselie, 2005; Wright, Snell and Dyer, 2005). Consequently, it is interpreted that HRD Climate is not the sole factor for producing significant variations in Organisational Performance, but there might be other factors also. So, HRD Climate should be combined with some other significant variables for generating increased organisational performance. Multiple Regression using backward method *(See Table 1.7 & 1.8)* is also performed to analyse the impact of three factors/components of HRD Climate on POP and PMP respectively. It is detected from the various models/steps of regression analysis, that one factor/component which is perceived to have a maximum impact in both the cases of POP and PMP is HRD Mechanisms (HRDM). It is explaining variation to the extent of 14.3% in POP and 16.5% in PMP as apparent from the following regression equations:

\[
Y_{(\text{Perceived Organisational Performance})} = 3.022 + .220 (\text{HRD Mechanisms})
\]

\[
Y_{(\text{Perceived Market Performance})} = 2.399 + .382 (\text{HRD Mechanisms})
\]

Thus it is concluded that if organisations’ improves operation and functioning of various HRD Mechanisms such as performance appraisal, potential appraisal, career planning, performance rewards, feedback and counseling, training, employee welfare, quality of work life, job rotation, self-renewal and institution building, personal growth laboratories then the perceptions of managerial employees with respect to perceived organisational performance as well as perceived market performance will become more positive.

The findings of the present investigation are consistent with the prior work of Delaney and Huselid (1995). Here also, alike them, the results of regression coefficients is found positive in both the cases when collective effect of HRD Climate on POP and PMP was seen, as well as when effect of factors/components of HRD Climate on POP and PMP is executed, but it is pertinent to mention here that maximum impact is seen in the case of one factor of HRD Climate i.e. HRD Mechanisms. The results of the present study suggest that use of various HRD Mechanisms like training, potential appraisal, performance management, career planning
and development, employee participation, and quality of work life, self-renewal mechanisms, management/executive development, and compensation are positively related to perceived measures of firm performance. (See reviews of Dyer and Reeves 1995; Huselid 1995; Becker and Gerhart 1996; Guest 1997; Cully et al. 1999; Harel and Tzafrir 1999; Appelbaum et al. 2000; Guest et al. 2000a, 2000b, 2000.). Although many studies have reported a positive association between various HRM practices and objective and perceptual measures of firm performance, some authors (Levine & Tyson, 1990; Wagner, 1994) have expressed concern that results may be biased because of methodological problems. There is plenty of literature which highlights the importance of HRD mechanisms in producing positive firm performance. Indeed, research indicates that selectivity in staffing is positively related to firm performance (Becker & Huselid, 1992; Schimdt, Hunter, Mckenzie & Muldrow, 1979). Organisations can improve the quality of current employees by providing comprehensive training & development activities after selection. Considerable evidence suggests that investment in training produce beneficial organisational outcomes (Bartel, 1994; Knoke & Kalleberg, 1994; Russell, Terborg & Powers, 1985). There is a significant impact of incentive compensation and performance management systems on firm performance (Gerhart & Milkovich, 1992). Employee participation system (Wagner, 1994) provide an opportunity for employees to advance within a firm, and team-based production system, self-managed teams are all forms of work organisation that have been argued to positively affect firm performance.

The assumptions formulated in the form of null hypotheses H1 & H3 has been rejected and it is established that HRD Climate and its components had a statistically significant relationship with both, i.e. Perceived Organisational Performance and Perceived Market Performance.

In nutshell, on the basis of above analysis, the researcher leads to suggest that in all the situations above while measuring the relationship as well as impact of HRD Climate and its components on OP and its measures, it is strongly evidenced that both share a positive relationship in such a manner that change in one will bring simultaneous changes in other. It is also proved from the various regression results that HRD Climate quite convincingly influence and impact Organisational Performance to the various extents/levels in different settings. Therefore, Hypothesis H4 stands accepted and it is established that there is a significant impact of HRD Climate, on the level of Organisational Performance.

Conclusions

The study has been undertaken with an intention to demonstrate empirically linkages between HR practices and organisational performance in the Indian context in order to extend the current line of research in the HR area. To date, only a few other studies have made attempts to establish this link. For example, studies undertaken by Arthur (1994) and Huselid (1995) in the western context have shown that HR practices can have a significant impact on firm-level relevant performance measures. Like these studies, the present study also indicates that some HR practices which are progressive in nature i.e HRD mechanisms always have a significant positive effect on organisational performance. The findings of the current study endorse the same through various stages of analysis. However, results must be interpreted with caution because the inclusion of other determinants of both the HR practices and measures of firm performance may reduce the variation explained by the HR practices alone.

Implications

The study has certain implications for managers, decision makers, researchers and academicians. The findings of the study provide Indian HR managers evidence that investment in human resources of a firm for developing desired knowledge base, skills, attitudes and other behaviors results in higher performance of the firm. It is also noticed that top management Commitment is important prerequisite for better HRD Climate. The organisations, HR managers, decision makers should realise the strategic pay-off of the investment made in HRD mechanisms.
in the longer runs. It is recommended that while studying organisational performance, researchers should use multiple measures of OP such as financial performance, productivity, sales turnover, employee turnover, absenteeism, profitability, market share, Market value of the company, Increase in sales, Product/service quality, Customer satisfaction, Development of products/services, Future investments as the multiplicity helps the researcher to understand the inter-dynamics between them and its relationship with HR practices. The present study also implies that management should be aware of the use of various HR/HRD/HRM practices in an integrated manner to realise the organisational objectives.

It has now become a widely accepted assertion that ‘human resources’ is the pre-eminent organisational resource and the key to achieving outstanding performance (Pfeffer, 1994). The results of the present study add to the available empirical evidence and suggest that such assertions are not just faith they have some credibility too (Arthur 1994; Huselid and Becker 1995; MacDuffie 1995; Huselid and Becker 1996; Youndt et al. 1996; Ichniowski, Shaw and Prenunshi 1997; Appelbaum et al. 2000). The present study adds to the dearth of literature available on the vital HR-OP link and that too in context of emerging economies like India.

References


### Tables and Figures

#### Table No. 1.1

**Reliability of the Instruments Used**

<table>
<thead>
<tr>
<th>Number of items</th>
<th>HRD Climate Survey</th>
<th>Perceived Org. Performance &amp; Perceived Mkt. Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>0.952</td>
<td>0.588</td>
</tr>
</tbody>
</table>

*Note:* * Values of 0.60 and closer to 0.90 testify strong reliability of the scale.

#### Table No. 1.2

**Mean, S.D. and ANOVA of HRD Climate and Its Components**

<table>
<thead>
<tr>
<th>Organisations Understudy</th>
<th>General Climate</th>
<th>HRD Mechanisms</th>
<th>OCTAPAC Culture</th>
<th>Overall HRD Climate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Sonalika (ITL)</td>
<td>3.467</td>
<td>.153</td>
<td>3.441</td>
<td>.141</td>
</tr>
</tbody>
</table>

| F  | 19.728* | 43.491* | 24.573* | 35.359* |
| Sig. | .000 | .000 | .000 | .000 |

N 240 240 240 240

*p<.05,* **p<.01

*Source: HRD Climate Survey*

#### Table No. 1.3

**Mean, S.D. and ANOVA of Perceived Organisational Performance**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>1 Quality of Products, Services or Programs (PQ)</td>
<td>4.212</td>
<td>.790</td>
<td>4.266</td>
<td>.709</td>
<td>4.400</td>
</tr>
<tr>
<td>2 Development of New Products, Services or Programs (ND)</td>
<td>3.437</td>
<td>.854</td>
<td>3.916</td>
<td>.765</td>
<td>4.250</td>
</tr>
<tr>
<td>3 Ability to attract essential employees (ATTRACT)</td>
<td>3.337</td>
<td>.810</td>
<td>3.433</td>
<td>.830</td>
<td>4.150</td>
</tr>
<tr>
<td>4 Ability to retain essential employees (RETENTION)</td>
<td>3.600</td>
<td>.820</td>
<td>3.783</td>
<td>1.026</td>
<td>4.116</td>
</tr>
<tr>
<td>5 Relations between management and other employees (RELME)</td>
<td>2.937</td>
<td>.945</td>
<td>3.283</td>
<td>.783</td>
<td>4.016</td>
</tr>
<tr>
<td>6 Relations among employees in general (RELE)</td>
<td>4.000</td>
<td>.795</td>
<td>3.966</td>
<td>.862</td>
<td>4.433</td>
</tr>
</tbody>
</table>

*Source: Questionnaire*
### Table No. 1.4
Mean, S.D. and ANOVA of Perceived Market Performance

<table>
<thead>
<tr>
<th>Organisations Understudy</th>
<th>Org. A.</th>
<th>Org. C.</th>
<th>Org. B.</th>
<th>Sonalika</th>
<th>ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statistics</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>2. Customer Satisfaction (CUSTSAT)</td>
<td>3.712</td>
<td>.766</td>
<td>3.983</td>
<td>.791</td>
<td>4.553</td>
</tr>
<tr>
<td>3. Market Share (MKTSHARE)</td>
<td>2.312</td>
<td>.772</td>
<td>2.626</td>
<td>.820</td>
<td>4.616</td>
</tr>
<tr>
<td>4. Growth in Sales (GRSALES)</td>
<td>2.975</td>
<td>.762</td>
<td>2.966</td>
<td>.758</td>
<td>4.450</td>
</tr>
</tbody>
</table>

Source: Questionnaire

### Table No. 1.3
Correlation Matrix of Variables understudy

<table>
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<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
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<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
<th>15</th>
<th>16</th>
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<tbody>
<tr>
<td>1. HRD Climate</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2. General Climate</td>
<td>0.905**</td>
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<td></td>
<td></td>
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<td></td>
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<td>3. HRD Mechanisms</td>
<td>0.949**</td>
<td>0.762**</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>4. OCTAPAC Culture</td>
<td>0.885**</td>
<td>0.702**</td>
<td>0.805**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5. Perceived Org. Performance</td>
<td>0.337**</td>
<td>0.237**</td>
<td>0.378**</td>
<td>0.296**</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. PQ</td>
<td>-0.040</td>
<td>-0.110</td>
<td>0.011</td>
<td>-0.014</td>
<td>0.288**</td>
<td>1</td>
<td></td>
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<td></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>7. NPD</td>
<td>0.163'</td>
<td>0.149'</td>
<td>0.182**</td>
<td>0.092</td>
<td>0.378**</td>
<td>0.015</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. ATTRACT</td>
<td>0.172**</td>
<td>0.108</td>
<td>0.195**</td>
<td>0.166'</td>
<td>0.626**</td>
<td>0.027</td>
<td>0.160'</td>
<td>1</td>
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<td></td>
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<td></td>
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<tr>
<td>9. RETENTION</td>
<td>0.212''</td>
<td>0.180**</td>
<td>0.214**</td>
<td>0.183**</td>
<td>0.434**</td>
<td>0.026</td>
<td>-0.088</td>
<td>0.248**</td>
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<tr>
<td>10. RELME</td>
<td>0.291''</td>
<td>0.220**</td>
<td>0.311**</td>
<td>0.246**</td>
<td>0.573**</td>
<td>0.062</td>
<td>0.042</td>
<td>0.203**</td>
<td>0.012</td>
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<tr>
<td>11. RELE</td>
<td>0.118</td>
<td>0.070</td>
<td>0.126</td>
<td>0.135'</td>
<td>0.519''</td>
<td>0.052</td>
<td>-0.022</td>
<td>0.100</td>
<td>0.009</td>
<td>0.350**</td>
<td>1</td>
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<tr>
<td>12. Perceived Mkt. Performance</td>
<td>0.364**</td>
<td>0.277**</td>
<td>0.406**</td>
<td>0.289**</td>
<td>0.384**</td>
<td>0.090</td>
<td>0.387**</td>
<td>0.223**</td>
<td>0.068</td>
<td>0.243**</td>
<td>0.071</td>
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<td>13. MKTGS</td>
<td>0.953</td>
<td>0.007</td>
<td>0.101</td>
<td>0.015</td>
<td>0.025</td>
<td>0.123</td>
<td>0.093</td>
<td>0.044</td>
<td>-0.003</td>
<td>-0.068</td>
<td>-0.096</td>
<td>0.491**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>14. CUSTSAT</td>
<td>0.148'</td>
<td>0.170**</td>
<td>0.131'</td>
<td>0.080</td>
<td>0.252**</td>
<td>0.092</td>
<td>0.238**</td>
<td>0.204**</td>
<td>0.042</td>
<td>0.187**</td>
<td>0.107</td>
<td>0.544**</td>
<td>0.044</td>
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<tr>
<td>15. MKTSHARE</td>
<td>0.390**</td>
<td>0.286**</td>
<td>0.427**</td>
<td>0.340**</td>
<td>0.384**</td>
<td>0.125</td>
<td>0.382**</td>
<td>0.199**</td>
<td>0.063</td>
<td>0.242**</td>
<td>0.077</td>
<td>0.804**</td>
<td>0.178**</td>
<td>245**</td>
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<td>16. GRSALES</td>
<td>0.313**</td>
<td>0.226**</td>
<td>0.349**</td>
<td>0.267**</td>
<td>0.313**</td>
<td>0.049</td>
<td>0.274**</td>
<td>0.138'</td>
<td>0.070</td>
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<td>0.091</td>
<td>0.764**</td>
<td>0.137'</td>
<td>278**</td>
<td>0.535**</td>
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### Table No. 1.4
Coefficients of Determination (r²) between HRD Climate and OP

<table>
<thead>
<tr>
<th>Variable</th>
<th>Subjective/Perceptual Measures</th>
<th>Perceived Org. Performance (POP)</th>
<th>Perceived Mkt. Performance (PMP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRD Climate</td>
<td>.114* (30.543')</td>
<td>.132* (36.297')</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05, **p<.01

Note: Figures in the parentheses reflect the F-Statistic/ calculated value of F.

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### Table No.1.5
Results of Regression Analysis for Perceived Organisational Performance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>β</td>
</tr>
<tr>
<td>Constant</td>
<td>3.112</td>
<td>.155</td>
<td>.000</td>
</tr>
<tr>
<td>GC</td>
<td>-.081</td>
<td>.062</td>
<td>-.124</td>
</tr>
<tr>
<td>HRDM</td>
<td>.272*</td>
<td>.066</td>
<td>.468</td>
</tr>
<tr>
<td>OC</td>
<td>.004</td>
<td>.067</td>
<td>.006</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.150**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adj. $R^2$</td>
<td>.139</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F$</td>
<td>13.835***</td>
<td></td>
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</tr>
<tr>
<td>$\Delta R^2$</td>
<td>.150*</td>
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<tr>
<td>$\Delta F$</td>
<td>13.835</td>
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<tr>
<td>N</td>
<td>240</td>
<td></td>
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</tbody>
</table>

* $p<.05$, **$p<.01$, ***$p<.001$

* These Statistics reflect the variance accounted for when regression is performed with the remaining variables respectively in each step after the exclusion of the non-significant variable in the next step.

### Table No.1.6
Results of Regression Analysis for Perceived Market Performance

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
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<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
<td>β</td>
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<tr>
<td>Constant</td>
<td>2.571</td>
<td>.247</td>
<td>.230</td>
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<tr>
<td>GC</td>
<td>-.062</td>
<td>.099</td>
<td>.530</td>
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<tr>
<td>HRDM</td>
<td>.494*</td>
<td>.106</td>
<td>.526</td>
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<tr>
<td>OC</td>
<td>-.096</td>
<td>.107</td>
<td>.369</td>
</tr>
<tr>
<td>$R^2$</td>
<td>.171**</td>
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<tr>
<td>Adj. $R^2$</td>
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<tr>
<td>$F$</td>
<td>16.188***</td>
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<td>$\Delta R^2$</td>
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<td>$\Delta F$</td>
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<td>N</td>
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</tbody>
</table>

* $p<.05$, **$p<.01$, ***$p<.001$

* These Statistics reflect the variance accounted for when regression is performed with the remaining variables respectively in each step after the exclusion of the non-significant variable in the equation/model/step.
Antecedents affecting Career Plateauing: Identification and exploration of Gaps through Literature

Srabasti Chatterjee *
Manas Ranjan Tripathy **

Abstract

Career plateauing has emerged as one of the most critical managerial and systemic issues in the context of present day of organizations. The growing uncertainties in business environment, realignments among organizations, innovations in technology information revolution, and demographic shift have added various dimensions to career plateauing concerns. Career plateauing being one of the major predictors of job dissatisfaction and turnover intentions, there is more likelihood to have an adverse impact on organizational competitive advantage. This paper tries to identify and explore the antecedents of career plateauing through literature with an intent of broadening the scope for research on structural and systemic issues in organizations.

Key words: Career plateau, mobility, turn over intentions, hierarchy, psychological contract.

Introduction:

The present day organizations are increasingly being adapted to flatter structures which reduce the scope for career advancement for large number of employees adding uncertainties in the rank and file of modern workforce. The workforce in new age organizations particularly in technology and financial service sectors becoming younger day by day, thus reduces the scope meaningful employment for mid aged employees. The changes in technology, structure and context have created concerns for career consultants especially with regards to career plateauing. Though this issue is primarily faced in the US and Western world, yet it is becoming a serious concern for developing nations like India. Career plateauing has been a serious concern for the US market as their major workforce falls under this group which has become a serious concern for organizational effectiveness. Job burn-out, stress, absenteeism, turnover have been noted as the consequences of plateauing. Again, from the individual point of view downsizing and career plateauing has been noted to have symbiotic relationship. Most of the time the employers in times of lean period or economic downturns due to poor career planning usually go for mass lay off especially for people who have plateaued. The current literatures on career plateauing reveal that mostly people in the middle age group face this problem. The current statistics from various sources reveals that plateauing likely to grow disproportionately in coming years. Though India has the advantage of young and productive workforce with one third of the population falling under 18-35 years of age, there still remains a sizeable population which definitely cannot be overlooked. Management literature including perceived employability focuses on star performers, not on plateaued employees due to
some reasons or other. So the major focus of this paper would be to identify and explore the reasons of career plateauing which will ultimately search for reasonable answers to overcome this most contentious issue for employees and corporate as well.

**Literature Review**

Career plateauing (CP) is a concept which is mostly associated with negative connotation. In literature, it is mostly expressed as a period of stagnation which reflects no further growth in terms of career opportunities. Ference et al. (1977) defined CP as the point in one’s career where the likelihood of any additional hierarchical promotion is very scanty. Lee (2003) defined CP as the stage whereby the individual perceives the work to be mundane and provides no opportunities for knowledge and skills advancement. Kreuter (1993) gave a dynamic approach to CP. He refers CP as a “temporary flat point on the advancement continuum during the career of an individual”. Thus the use of promotion, advancement, or position to operationally define plateaued employees derives an explicit relationship between levels in an organizational hierarchy and job responsibility (Ismail 2008). As such, CP is an important concept for those employees who view vertical movements within organization(s) as important milestones. This definition refers to an employee’s perspective of CP. Another definition by Feldman and Weitz (1988) emphasizes the notion that plateaued employees are those whose likelihood to receive increased responsibility is low. This later definition denotes the concept of plateauing by focusing on the potential growth in the employee’s actual contribution to the firm. This organizational perspective may differ from the employee’s perspective.

The concept of career plateauing was the immediate consequence of the typologies segregating employees as per their current performance and future potential given by Stoner et al (1977). They mentioned four kinds of employees – stars, learners, solid citizens and deadwood. Stars are on “the fast track” career path, doing outstanding work and viewed as having high potential for continued advancement. Learners have high potential for advancement but are performing below standard. Examples include trainees still learning their new job and not yet immersed into the organization as well as employees recently promoted to new positions. Solid citizens do satisfactory work, yet are perceived as having little chance for future advancement. Dead-wood are the individuals who deliver unsatisfactory work and have little potential for advancement. The solid citizens and the dead-wood are the plateaued managers. The difference between the two is that solid citizens are effectively plateaued; while the dead-wood are ineffectively plateaued.

However researchers are critical towards this very approach of theorizing plateauing as a point phenomenon. Chao (1990) made a significant contribution by making a continuous, subjective approach to career plateauing. Using data from 1,755 managers, he compared two measures of the career plateau (perceptual and job tenure) on four work outcomes. The subjective measure accounted for more variance on all outcomes than the objective measure. Job tenure moderated the relationship of the subjective measure and three of the four work outcomes; the career plateau had more negative effects when it occurred in the early years of career. Appelbaum and Finestone (1994) refer career plateauing as the stage when an employee has very rare opportunities to rise in the career ladder and is given no additional responsibilities in the organization. It is mostly perceived with negative sentiments. However as per Stoner et al (1977) “career plateauing tells us nothing about that person’s performance on the job, morale, ambition, or any other personal or behavioral characteristics. It simply describes that individual’s current career status within a particular organization”.

Bardwack (1981) emphasized that no promotion is not necessarily the indication of career plateauing. She stated that there were three dimensions to career plateauing like content, structural plateau and life plateau to career plateauing. Content plateauing refers to the developmental attributes in the job. Structural plateauing focuses on the unlikelihood to get additional promotions in the hierarchy in the organizations while life plateauing results when committed individuals begin to feel unsuccessful at their work. According to Finestone (1984) career plateauing can be of two
categories— one called personal plateauing and the next organizational plateauing. Personal plateauing could be the outcome of insufficient skills, and knowledge among employees. Organizational plateau occurs due to the structure of the organization i.e. the absence of job openings in the higher or lateral positions in the organizations. Organizational plateauing is similar to Bardwick’s structural plateauing; i.e., the individual is capable of moving up to a higher level job, but due to an increasingly smaller number of jobs as one moves up the organizational hierarchy, no such position is available. Stoner et al. (1980) suggested two major types of career plateaus as well as made an useful distinction between unsuccessful and successful plateaus. Personal plateauing is seen as having two forms. In one, the individual decides that he or she is not interested in moving to a higher-level job though one is available. In the other, the organization concludes that an individual is unable to perform a higher-level position satisfactorily because of some personal deficiency, though such jobs are available. Thus career plateauing could be the result of individual abilities or organizational structuring. Unsuccessful career plateaus are not performing their jobs at a satisfactory level (solid citizens of stoner’s typology), whereas successful career plateaus (dead wood of Stoners typology) are performing their jobs at a successful level (Patterson et al., 1987).

Similarly, Tremblay and Roger (1993) divided the determinants of career plateauing into two categories: (1) individual and familial factors, and (2) organizational factors. Individual factors include skills, will, and ambition, while organizational factors consist of variables such as structural characteristics and span of control. Stassen (2008) reported work centrality and learning self-efficacy were related to job content plateauing especially for older managerial and professional employees under personal factors and perceived organizational support from the organization, supervisor, and work group members were significantly under organizational factors. Again with regards to organizational plateauing, business strategy of the company has a significant effect on the incidence of plateauing and on the performance of the plateaued person. Stasson et al (1999) segregated three kinds of variables to address the same perceptions of the work environment, personal orientation factors, and demographic variables. The figure below explains the contextual and structural dimensions of career plateauing framework.


The antecedents of career plateauing and certain unanswered questions in the literature are discussed subsequently in the next section.

Studies by researchers like Viega (1981) and Carnazza et al. (1981) focused on the hierarchical plateaued managers and non plateaued managers sans job content plateauing. Porteel (1995) made a distinct identification of four kinds of employees – double plateaued, hierarchical plateauing, content plateauing and non plateaued employees and their work related attitudes. In this study the author found that content plateaued employees had less favorable work related attitudes like job satisfaction, employee commitment than hierarchical plateauing. However in another study by Nachbarger and Radeil (2002) showed opposite results. Data from school teachers and university staff concluded that changes in the content of the job could mitigate the negative impact of structural plateauing among employees. These mixed results require more explication of work related attitudes among both these plateaued employees. There is also a need for more clarity on the work related attitudes which include content vs. structural plateaued types. Plateaued
employees are likely to have higher labor turnover because they want to advance their careers elsewhere in the environment. Previous researchers state that employees who had attained plateau have a higher degree of intention to quit due to reduced opportunities in the present organization (Gunz, 1989).

**Antecedents and measurement of the construct**

In the earlier discussions on various forms of CP, one can conclude that the construct has both individual and organizational dimensions, so the antecedents involving career plateauing focus on these aspects separately. Hall (1977) stated that the antecedents of career plateauing are very complex and it varies as per the context – whether be individual or organizational level. Feldman and Weitz (1988) developed a taxonomy based on the premise that career plateaus could result from individual-level, job-related, and/or organizational-level variables. At the individual level, an employee’s skills, abilities, needs, and values may be related to his or her perceptions of being plateaued on the job. At the job level, the lack of intrinsically-motivating job characteristics and extrinsic rewards are sources of career plateauing. Finally, at the organizational level, stress/burn-out and slow organizational growth are suggested as sources of career plateauing. Though the literature has provided some initiative about the construct called career plateauing, yet there remains serious lacunae in the conceptualization, measurement, identification of antecedents and the favorable remedies to address career plateauing concerns.

Researchers like Chao(1990), Milliman(1992) and MatSani et al (2006) have developed two approaches in measuring CP, which is based on the duality of career concept, external versus internal career. While objective career plateau (OCP), which is derived from the external career conceptualization, emphasizing vertical progression through positions carrying increasing responsibility, status and rewards is defined by the organization, the subjective career plateau (SCP) measurements are derived from internal career conceptualization. OCP refers to measurement that uses job tenure, job position, promotions, salary growth and compensation as criteria to demarcate plateaued and non-plateaued individuals. OCP is basically derived from the notion that hierarchical mobility is important, thus makes up the pyramidal structure of an organization which were reflected in the studies of Chay et al. (1995), and MatSani et al (2006). The latter measured OCP among the Malaysian administrative and diplomatic officers by job tenure where six years and above were considered as plateaued employees if they were still holding the same position without any vertical mobility.

However, Bardwick (1986) observed that only a limited number of employees could reach the highest-level job position, i.e. the executives who make decisions in an organization. This fact implies that vertical career progression may not be an ambition to be experienced by a vast majority of employees. Similarly, OCP measurement need to focus on dissatisfactions due to the narrow definition of CP that fails to capture the personal perception of career. The appropriateness of the definition is also questionable due to the changing nature of many organizations resulting from downsizing, restructuring and mergers that make the job hierarchy flatter. In addition, there is quite a number of young and middle level employees who may not emphasize hierarchical promotions and they are more concerned with family and work balance as well as still uncertain about their career focus. Since OCP has its shortcoming, the alternative is SCP.

Subjective career plateau (SCP) refers to the career experience of the career aspirant. It is the internal dimension of career emphasizing an employee’s interpretation on his or her career experience. These include job involvement, career satisfaction, expectation for advancement, promotion opportunities, career commitment, and loyalty to organization, trust in management and intention to stay.

The use of SCP in identifying career status of employees was supported by Milliman (1992). He advanced these concepts and developed continuous subjective measures to assess individual perceptions of both hierarchical and job content plateauing. The significance of this approach of measuring CP is to acknowledge that employee’s perception of plateauing
can range from not at all plateaued to very plateaued. The significance of SCP is also based on an emerging concept in career studies called protean careers. Protean career is introduced by Hall (1996; 2004), where it outlines a fundamental shift away from the traditional career dominating its understanding in the late 1980s, to one that is ‘protean’ (derived from Greek word ‘proteus’ that means one who will change shape at will). Protean career is characterized by relationships, which are driven by the individuals not the organization and is subjected to initiatives by the person from time to time as the person and the environment change (Hall, 2004; McDonald, Brown & Bradley, 2005). Protean career is related to psychological success experienced by an individual and can mean a personalized accomplishment accompanied by self-pride and empowerment.

Chao’s (1990) findings asserted that SCP measurement accounted for significantly more variance in work-related attitudes and behaviors than did job tenure or the OCP measurement. SCP provides a stronger explanatory power to account for the negativity of work outcomes. Chao (1990) made a significant contribution in the measurement of career plateauing with continuous perceptual scale, yet it fails to address certain issues like external mobility in career progression. External mobility could be an important dimension of career plateauing which endeavors to focus on the degree to which an individual can move from the current organization to other organizations if the current position of the current organization provides structural and content plateauing. Secondly, though literature is very explicit about the individual antecedents of career plateauing, yet the dimensions like voluntary career plateauing is not covered much. Santiago and Applebaum (1994) states that individuals sometimes voluntarily do not take structural promotions due to geographic mobility and host of other factors yet these individuals fall under the category of career plateaus. The issue of voluntary plateauing is hardly captured empirically in the literature. Further introspection needs to be done on this issue. In fact, this particular attribute needs to be developed in the scale of career plateauing considering the utility potential in Indian context where occurrences of such incidences are mostly prevalent.

Though career plateauing has been explicited with a plethora of antecedents involving both structural and content plateauing, there remain considerable gaps which are mentioned subsequently.

The earlier literature review clearly mentioned that there were various antecedents of career plateauing (both structural and hierarchical). But one major lacunae is that the literature does not segregate the antecedents for each kind of career plateauing. For example, although job tenure can be an important factor for structural plateauing and promotion though an important manifestation of career plateauing may not always be the likely case. There may be vertical mobility of structural promotion without adequate challenges and autonomy. In such a case structural hierarchy is not alone a criteria for career plateauing but the literature hardly points the issue about additional responsibilities in case of promotions. A study by Foster and Shastri (2006) on accountants found that mentoring reduced career plateauing which further reduced intention to quit. So looking at the literature, there has been very few studies which have tried to address career plateauing across industry verticals and professions.

Again, profession can be an important aspect of career plateauing. Researchers need to focus upon multi professions and compared them across various industry verticals. Hall (1977) in this regard stated that project work can be an antidote for career plateauing. So notional perception like career plateauing can be less recurrent in project based jobs needs validation. At the same time business strategy can be an important factor affecting career plateauing. In case of defender firms, career plateauing is found to be more prevalent than analyser firms (Slocum, Hansen, Cron and Rawlings, 1985). However this study had some serious limitations with the sample size and sample frame. The proxy or measure for business strategy was new product development only. However, as per Miles and Snow (1978), typology of organizational structure, HR policy could also be the guiding demarcation factors for categorizing firms as analyzer or defender. Hence further introspection is needed to analyze the impact of business strategy, organization structure on career plateauing. The literature analysis offers intriguing
challenges in the form of following unanswered research questions:

1. Which kind of career plateauing is more detrimental for organization- content or structural plateauing?
2. Does career plateauing vary across various professions and industry verticals?
3. How organization structure can be a variant for career plateauing?
4. How can mobility variables be structured into the realm of career plateauing?

Summary and Implications:

The questions raised in the previous sections call for serious scrutiny of organizational intent and adaptability to address career plateauing issues and challenges. The questions also offer enough scope for wider dialogue among the stakeholders in the organizational and social systems for greater organizational agility. As mentioned earlier, career plateauing does not occur in isolation, but takes shape over the years due to disconnect between individual aspirations and organizational coping mechanism. The issues like role stagnation, efficacy, psychological contract, person-job (PJ) fit and Person-Organization (PO) fit need to be addressed in a holistic manner. However, career plateauing being one of the major predictors of job dissatisfaction and turn over intentions, there is more likelihood to have an adverse impact on organizational competitive advantage. This paper sets agenda for wider collaboration among researchers of organizational psychology to explore meaningful structural and systemic interventions to overcome the career plateauing concerns. The organizations need to play more proactive role in designing adaptive human resource systems to manage career plateauing for sustainable advantage.

References:


Preparation and Context of Intercultural Work Assignments: A Conceptual Framework to understand Traditional and Alternate Forms of Intercultural Work Assignments.

Ms. Anindita Banerjee *

Abstract

Literature in the field of intercultural management has been dominated by research on traditional expatriation based assignments. However, recent developments in information and communication technology imply that there are many instances of work being conducted across geographical and cultural boundaries without physical relocation. This paper argues that this kind of ‘virtual’ intercultural assignment needs to be assessed differently from conventional expatriation. We review the current literature in the area, and draw from theory to build a conceptual framework which provides an exhaustive classification of different types of intercultural work. Our framework introduces two new independent variables i.e. workplace location and medium of interaction, into the intercultural management literature. We also illustrate that our framework can be used to build testable hypotheses about the relationship between preparation for intercultural interaction and workplace performance, and how it will be mediated by the context of intercultural interaction.

Key words: Intercultural, expatriation, intercultural interaction, remote location, BPO, virtual assignment.

Introduction:

Review of the extant literature in the field of intercultural management indicates that there are a large number of people around us, within our family, community and country, who are involved in extensive intercultural interactions at work but ‘their kind of intercultural work’ do not find a mention in the literature as a form of intercultural work assignment (ICWA). The Business Process Outsourcing (BPO) industry is one such example. Likewise there are other formats of ICWA, having evolved or emerged over the years, but are not well represented in the literature especially when compared to literature on traditional expatriation based assignments.

Review of the existing literature further indicates that although one finds an extensive body of research on important areas in the field of intercultural management like intercultural competencies, adjustment, performance, preparation etc., yet almost all key studies have proceeded with the underlying assumption that ICWA implies physical travel overseas. In fact, this association of ICWA with ‘traveling abroad’ has been so strong that in the literature, the term “expatriate” is often used synonymously for ‘an individual working in an ICWA’. Similarly the extensive usage of terms like home culture versus host culture, overseas assignment versus domestic assignment, pre-departure training versus post-arrival training are just a few examples that reinforce this underlying assumption.

Researchers have over the years lamented this lack of representation of various alternate formats of ICWA in the literature on intercultural management. They
have time and again stressed the need to broaden the research horizon to look beyond traditional expatriation based assignments. As argued by researcher Fenwick (2004), “theory building in the area of ICWA has been criticized for adopting a narrow, micro-level focus on expatriation”. Further, as pointed out by researchers McKenna and Richardson (2007), “despite global developments of many kinds, our understanding of the international assignment and international assignee remains largely locked in the idea of the traditional long-term expatriate sent overseas for a 3-5 year period”. All alternate formats are not new; some have in fact been around for as long as the traditional format, but they have not been the focus of research (Bonache et al. 2010).

Advances in the field of transportation, information and communication, have brought in dramatic and significant changes in the way intercultural assignments are being perceived and executed today across the globe. However research does not reflect this change. There is need to research these alternate formats especially keeping in mind the factors that are more aligned with the nature of intercultural interactions in today’s world.

This paper is an attempt in that direction. This conceptual paper presents a framework for classification of ICWA based on parameters that are relevant in today’s world. Two primary drivers of international business in current times, i.e. advances in transportation and communication, play a key role in determining the two parameters used to classify ICWA in this framework. This classification of ICWA will help to streamline research as well as human resource management (HRM) efforts.

The paper is structured as follows. We begin with review of literature on evolution of ICWA and then look at some of the alternate formats of ICWA. We then discuss the need for context specificity in study of ICWA. A conceptual framework for classification of ICWA is presented next followed by implication and future direction of research.

Section II

Evolution of ICWA

ICWA started out primarily as a sojourn involving students, voluntary workers and army personnel. Gradually with rise in intercultural contacts in trade and growth in international business, this focus shifted to intercultural interactions in businesses and it was reflected in research focus as well. In the early years of intercultural interactions in business, an ICWA typically involved relocation overseas (typically to a foreign subsidiary) for a period of two to three years. These traditional expatriation based assignments continued to dominate the field of ICWA for much of the past four decades. It was towards the late 1990’s that rapid globalization of business along with other human resource related issues, accelerated the need to look for alternate formats of ICWA.

Over the past few decades, ICWA have undergone considerable transformations. As posited by researchers Mayerhofer et al., “the number, nature, and purpose of international assignments is increasing and becoming more complex” (Mayerhofer et al. 2004). The changes have occurred not only in the nature and number of these assignments but also in the profile of people working in them. The ICWA were no longer the “prized” assignments reserved only for star performers. Intercultural interactions at work became more commonplace and accessible to people across levels in the hierarchy and years of work experience.

The traditional expatriation assignments were designed more for the purpose of skill and knowledge transfer and management control, coordination and development (Dowling and Welch 2004). With changing purpose of international assignments, organizations started looking for alternate formats of ICWA. At the same time, disadvantages of traditional expatriation assignments like high cost, dual career implications and reintegration problems, (Tharenou and Harvey 2006) were impacting the manpower available for these long-term assignments. The increasing gap between the falling supply of traditional long-term expatriates and the rising demand for professionals who could work...
in the global context further fuelled the need to look for alternatives to traditional expatriation assignments (Collings, Scullion and Dowling 2009).

These researchers, based on a subsequent review of the extant literature on global staffing posited that currently the literature on these alternate formats of ICWA is at an early stage and that there is great scope for theoretical and empirical development in this area (Collings, Scullion and Dowling 2009).

With advances in technology, especially in the field of communication and transportation, intercultural assignments have become more widespread and varied. In addition to the traditional expatriation based assignments, one comes across many alternate formats of ICWA. These alternate formats are either spin-off of the traditional format or are new innovative ones.

We now take a look at the types and characteristics of some alternate formats of ICWA.

Over the years, researchers have identified different types of assignees involved in alternate formats of ICWA. These include (Torrington 1994; Suutari and Brewster 2009):

- International or cosmopolitan managers,
- Technical specialists,
- Short-term assignees,
- International-commuter assignees,
- Frequent-flyer’ assignees,
- Immigrants,
- Global careerist,
- Self-initiated assignees, and
- Virtual assignees

We take a closer look at some of the important alternate formats of ICWA (Bonache et al. 2010):

1. Self-initiated expatriates- In contrast to traditional expatriates, a self-initiated expatriate is one who has applied through competitive examination or through other means to work for international organizations. They typically seek work in other countries either because it is difficult to get work in their own country or because they just wanted to work elsewhere.

2. Short-term assignments- Assignments of duration less than a year are usually categorized as short term assignments, however the actual duration varies a lot depending on purpose, company and sector involved (Tahvanainen, Welch and Worm 2005). Many times the duration of the short term assignment ranges between a few weeks to six months. Families are mostly not transferred with the assignee.

3. Commuter assignments- In these assignments, the employee commutes from the home country to a place of work in another country, usually on a weekly or bi-weekly basis, while the family remains at home. For example, if an employee is required to be in two places at once, then shuttling between the two locations helps to manage the work requirements.

4. Frequent traveling- In these assignments, an employee undertakes frequent international business trips but does not relocate overseas. This form of international work involves stay for less time in any one country than short term or commuter assignment.

5. Virtual working- This form of ICWA has been made possible due to advances in technology so that people can now work on international assignments from their home country. In contrast to the categories of ICWA mentioned above, this category includes people who are not required to physically relocate overseas but instead use modern technology to work in international teams. Modern electronic media such as emails, conference calls or video conferences are used by the virtual assignees to communicate with people overseas (Maznevski and Chudoba 2000; Holtbrügge and Schillo 2008).

Clearly, as is evident from the description of the above mentioned formats, with the exception of virtual ICWA, all the other formats are quite similar to a traditional assignment in terms of the fundamental
nature of intercultural work embedded within the assignment. For instance, short term assignment is different from a traditional one in terms of duration of time spent overseas. Similarly, a self-initiated expatriate is different from a traditional expatriate in terms of the nature of employment. Further, as posited by Bonache et al. (2010),

The line between the categories of short-term assignments, commuter assignments, and frequent flying is a blurred one. Some frequent travelers may stay for several days or even sometimes weeks at one location, commuters travel frequently and not always to the same location, and short-term assignments can range from the very short to as much as a year.

So clearly each of the formats discussed above, with the exception of virtual assignments, are primarily spin offs from a traditional expatriation based assignment. Further, many of these formats, again with the exception of virtual assignments, have been around since long, yet none of these formats have been adequately represented. This is true in case of both theory and practice. For instance, as mentioned earlier, dearth of research studies centered on these alternate formats is an indicator of the lack of focus on these ICWA. Also, international human resource management focuses primarily on traditional assignments. In fact as posited by Bonache et al. (2010), strategic approaches to international human resource management are primarily focused on traditional expatriation and as a result many other people working on alternate ICWA are ignored. As argued by these researchers, the decision regarding the nature of intercultural assignment, for a large number of organizations, is not based on any coherent attempt to identify the most appropriate format. Rather, this decision is typically taken on the basis of assumptions and immediate pressures.

However as we mentioned earlier, virtual assignments do not fit in completely into this group of alternate formats of ICWA. Given its unique characteristics, in the next section we will discuss virtual assignments and BPO and what differentiates them from a more traditional form of ICWA.

**Section III**

**Virtual ICWA**

A non-traditional format, described as ‘the most innovative form of ICWA’ is the Virtual format of ICWA (Holtbrügge and Schillo 2008). Maznevski and Chudoba (2000) define a workplace as virtual “when majority of the communication is mediated by technology”. Hence the assignees do not need to travel or relocate overseas while working on these assignments. As a result of this spatial separation between the personal and professional life, a virtual assignee lives in one culture yet works mainly with people from another culture.

The BPO industry represents a special format within virtual intercultural assignments. The BPO initiative initially started out as a cost cutting measure (through wage arbitrage) for large organizations. Soon, many companies expanded from mere outsourcing of back office functions to outsourcing other customer facing or strategically important functions like human resource management (Sahajpal et al. 2006). Although similar to some extent, yet one cannot directly equate working in front office BPO to working in global virtual teams.

As is the case with any virtual assignment, intercultural work in a BPO takes place through remote media of interaction. As a consequence, direct or face to face intercultural interaction is not necessary for this context of ICWA nor is physical travel overseas. This is in sharp contrast to other formats of ICWA i.e. traditional as well as other alternate formats of ICWA like short-term assignments, international commuter assignment or frequent flyer assignments. This has implications in terms of the nature of adjustment and intercultural skill sets required to be effective in a BPO assignment and it is likely to vary from other formats of ICWA.

The lack of representation of BPO work as a form of ICWA is somewhat surprising given the significant rise in this alternate form over the last two decades. In recent years, there has been some emphasis on research in the area of BPO units, yet none of these studies have looked at BPO as a specialized format of ICWA.
Intercultural issues play an important role in success at work in a BPO. As argued by researchers Holtbrügge and Schillo (2011), “literature review reveals that the risks of virtual delegation are more due to the inability of partners to interact due to cultural differences and less due to insufficient manageability of technical systems”. In fact past research studies have identified that even though there are a number of factors contributing to failure in a BPO assignment, yet one of the most overlooked factors is related to cross-cultural differences (Krishnan, Shay and Walsham 2004). The reason for this oversight lies in the relatively lower salience of ‘subtle cultural differences’ in a BPO context. Further, as argued by the researchers, the culture-related issues tend to get overlooked, misunderstood or mismanaged.

Given the issues faced within this context of ICWA and the differences in the nature of intercultural interactions in a BPO as compared to other traditional/non-traditional formats of ICWA, the direct applicability of existing literature onto this specific context is questionable.

Various aspects affecting the cost effectiveness and human resource policies for BPOs are depicted in the figure 1.

This brings us to the next section, where we will cover the need for context specific research into various alternate formats of ICWA, especially the ones that are not mere spin offs of the traditional format.

**Section IV**

**Need for context specific research**

Given the differences in natures of ICWA across contexts, it is hypothesized that the underlying principles guiding human resource related processes like selection, training and performance assessment are also likely to vary. According to researchers Tahvanainen, Welch and Worm (2005):

There remains a dominance of interest in, and research of, the management of traditional expatriates, primarily because they comprise the bulk of international assignees. Consequently, management of these traditional foreign assignments – comprising of recruitment and selection, training and development, compensation, performance management and repatriation, as well as other, related questions – has received considerable attention. In contrast, limited research has been conducted on the management of, and HRM issues pertaining to, the various forms of non-standard assignments.

Today there is a growing awareness among researchers of the need to study these alternate formats of ICWA and in recent years, one finds a small yet growing body of research studies dedicated to these formats. They are emphasizing the need for developing context-specific constructs rather than broad-brushing ICWA as a generic construct.

Although review of existing research indicates an increased focus on alternate formats of ICWA in recent years, yet most of these studies are still primarily dealing with ICWA involving physical travel overseas albeit for shorter duration stay or frequent travel overseas.

A recent study based on review of the existing literature on global staffing, states that “even though more and more organizations are moving towards a portfolio
Based on the issues discussed so far, some of the key points emerging are as follows:

- Use of alternate formats of ICWA (i.e. formats different from traditional expatriation based assignments) is increasing across organizations.

- This rise in popularity of alternate formats is not ably supported by research into the field of intercultural management.

- Many of the alternate formats presented in the literature are spins offs of the traditional formats, with the exception of a few formats like for example the virtual ICWA.

- Two of the most significant factors contributing to this growth in international business and subsequent growth in ICWA are identified as advances in technology in a) the field of transportation and b) the field of communication.

- The classification of ICWA into different alternate formats is not using parameters for classification that are more aligned with the nature of intercultural interactions in today’s world.

Keeping these pointers in mind, we will now present a conceptual framework that addresses some of the issues/concerns discussed so far.

Section V

Conceptual framework

There are several parameters put forth by researchers that help to measure the extent of intercultural interaction involved in an ICWA. Some of these parameters are (Tung 1981; Tan and Chua 2003):

- Intensity of intercultural interaction: This is measured in terms of frequency of interaction that an individual has with people belonging to other culture. This parameter is classified as high or low intensity of interaction.

- Nature of intercultural interaction: This describes the type of interaction that an individual has with people belonging to other culture during an ICWA. It is classified as either formal or casual interaction.

- Number of cultures interacted with: In the course of an ICWA it is quite likely that an individual may interact with a single culture or with multiple cultures.

- Target country of foreign assignment: This describes the cultural distance between the two cultures (i.e. home culture and foreign culture).

- Duration of ICWA: This parameter classifies ICWA ranging from a short-term assignment to a long-term assignment.

Although these parameters help to explain different types of international assignments that have either evolved or emerged over the past decades, yet there exist some alternate formats of ICWA that are difficult to classify solely on the basis of these existing parameters. While these factors may capture variation in expatriation, they do not deal with differences in the medium of interaction, or the domain of intercultural interaction (professional only vs professional and personal). This leads us to identify two additional
parameters, which are more aligned with the nature of intercultural interactions in today’s world and are useful in classifying ICWA into specific contexts. These additional parameters are as follows:

- **Medium of intercultural interaction** - With advances in technology there has been unprecedented development in communication technology. Over the years, although people working on ICWA may have used a combination of direct and remote form of communication, yet the emergence of virtual ICWA where remote media is the primary or at times the sole medium of intercultural interactions is a relatively recent phenomenon. For the purpose of this study, medium of intercultural interaction implies only the primary medium of interaction. This is classified as:
  - Direct or face to face interaction
  - Remote interaction or interaction through telephone, email, web or video conferencing.

- **Workplace location**: This implies the degree of displacement necessitated by the ICWA. The term ‘workplace location’ refers to the location where one is based. So for example, if one is posted overseas, then his workplace location is the ‘foreign country’ while if one travels overseas but is based in home country, then his workplace location is his ‘home country’. There are basically three types of displacement possible, which are:
  - No displacement
  - Domestic relocation
  - International relocation

(Given the scope of the present study, where sub-cultural or within country cultural interactions are not included, hence the first two types of displacement, as mentioned above, are combined together and named as “no international relocation”). Thus the different types of displacement are rephrased as:
  - No international relocation (home country workplace)
  - International relocation (foreign country workplace)

The reason for choosing these two parameters is that the most noticeable and significant impact of globalization had been brought about by advances in technology related to communication and the access to a global workforce. In this context, workplace location and medium of intercultural interaction are two parameters that play a crucial role in defining the new forms of ICWA. In order to understand the effect of these parameters better, a simple two by two matrix is developed that allocates ICWA based on different combination of the aforementioned parameters. The two axes of the matrix are defined as:

- The horizontal axis: Workplace location, classified as:
  - Home country
  - Foreign country.

- The vertical axis: Medium of intercultural interaction, classified as:
  - Direct interaction
  - Remote interaction.

The matrix is represented as follows in figure 2:

![matrix](image)

**Fig 2**: Classification of ICWA based on workplace location and medium of interaction across cultures.

As is evident, the four different categories of ICWA, namely Migrant, Itinerant, Flier frequent and Resident, are named based on the effect that the specific ICWA format will have on the individual in terms of his residential status.
1. Quadrant I (Migrant) represents ICWA involving remote interaction with people across culture while residing in a foreign country. For example, an individual staying away from home country and working at a BPO in a foreign land represents this form of ICWA.

2. Quadrant II (Itinerant) represents an ICWA where an individual lives in foreign country and has direct interaction with people belonging to other culture. This is represented by traditional form of ICWA where an individual lives and work in the foreign country.

3. Quadrant III (Flier Frequent) represents an ICWA where the individual continues to reside in his home country but maintains direct interaction with people belonging to foreign culture. Professionals traveling frequently to foreign countries for business purposes represent this group.

4. Quadrant IV (Resident) represents ICWA where an individual stays in his home country and has remote interaction with people from other cultures. The BPO executive working with clients/customers belonging to different countries belong to this quadrant.

Section VI

Potential applications of the conceptual framework

This framework will help in classification of ICWA into clusters so that research efforts can be streamlined better. The framework allows us to classify not only traditional and alternate formats of ICWA, but also old and contemporary formats within alternate formats of ICWA. This classification will facilitate mapping of appropriate human resource processes like preparation, selection etc. onto specific intercultural job contexts. Applications of this framework can look at understanding the fundamental differences in the nature of cross cultural adjustment and using this understanding to develop and test fundamental hypotheses on implications for appropriate preparatory methods.

One likely impediment to a more widespread application of training frameworks is the lack of context specificity factored in while planning for intercultural training (ICT). Simply because instruction based training is not effective for a certain context of ICWA, it does not imply that instruction training cannot be effective for some other forms of ICWA. Instead of broad brushing an assignment as ICWA since it involves intercultural interaction, one needs to look at the specific nature and requirements of the assignment while planning the preparation process. Various ideas and concepts of ICT as available from study of literature can be depicted by a flow chart diagram in Fig 3.

![Diagram](Fig 3: A diagrammatic representation of various concepts and ideas around ICT as emerging from study of literature.)

As an example, in the BPO industry, intercultural interactions are often superficial and restricted to the work context. Expatriate interactions on the other hand, tend to involve frequent and intense interactions across work and social contexts. Building on training theory on the relationship between context, preparation
and performance, we can hypothesize as follows on the relationship between preparatory variables and performance:

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</tr>
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<td>Attitude focused training – impact on performance</td>
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**Table 1: Guide for framing the hypotheses**

These hypotheses can be developed as follows:

ICT is by far the most commonly used form of preparation for an ICWA. Triandis (1977) in his research has identified some of the key independent variables that play a crucial role in effective ICT. These are, nature of ICT content (i.e. culture specific or culture general), training outcome (i.e. acquisition of knowledge, skill or attitude), training method (i.e. didactic or experiential), and timing of training (i.e. before beginning the assignment or on-the-job training) etc. are essential in effective design of ICT. Let us look closely at one of these aspects i.e. training outcome:

**Training Outcome**

Knowledge: According to Triandis, “in order to interpret the behavior of the other correctly, one needs to know a great deal about the other culture” (Traindis 1977). In this case, it is also important to understand the differences between tacit knowledge and explicit knowledge and its relevance in case of ICWA. Tacit knowledge is an important part of ICWA and as stated by Hofstede, Pedersen and Hofstede (2002), “by definition, culture refers, in parts, to the unstated assumptions and practices within a society”. Given the difficulties associated with acquiring tacit knowledge, an expatriate is often required to infer this form of knowledge through observation and personal interaction in the target culture.

Skill: Skill based training focuses on appropriate behaviors in the new culture. As argued by Triandis (1977), “in order to do something very different from one’s habit, one requires to either do role playing or experience a training program based on behavior modification techniques.” Historically, intercultural skill based training has predominantly focused on developing intercultural communication competence and the ability to communicate effectively in the language of the host culture.

Attitude: Attitude focused training addresses the emotions of the trainee. Intercultural interaction can produce strong positive or negative emotional responses (Traindis 1977). Discussion, case studies, videos, simulations, role plays and critical incidents are commonly used training methods for attitude based ICT.

In the case of the expatriation context, where an individual is involved primarily in face to face interactions with people from different culture(s), the depth of these interactions are likely to be more in comparison to interactions in BPO context. In the latter case, the interactions are likely to be more superficial and with limited scope. Due to this superficiality of interactions, it is perceived that the training for the BPO context is likely to be more knowledge focused than attitude focused. Since the scope of their intercultural interactions is limited hence it may be possible to identify broadly a set of explicit information (knowledge) that they need in order to effectively handle these interactions. Skill based training is likely to be important for both formats of ICWA although the specific skill sets to be focused on may vary. Communication related skills are likely to be one of the key skills required for both the contexts. Developing the right attitude to deal with the ambiguities related to ICWA is an important area of training; however it is likely to be relevant more for the expatriation context.

This leads us to the following sample hypotheses. Broadly, our hypothesis is that the training related factors which impact performance will differ systematically across contexts of ICWA. Specifically, the hypotheses can be as follows:
Sample hypothesis 1: While knowledge focused ICT will have significant positive impact on performance of BPO context it will not have significant positive impact on performance of expatriation context.

Sample hypothesis 2: Skill focused ICT will have significant positive impact on performance of both BPO context and expatriation context.

Sample hypothesis 3: While attitude focused ICT will have significant positive impact on performance of expatriate context it has no such impact on performance of BPO context.

We cite this not as a separate theory, but an example of the kind of theory building and empirical testing that can be driven by our framework.

Section VII

Conclusion

One of the major gaps identified in review of the existing literature was the lack of research on alternate formats of ICWA. While recent research studies focus partially on the importance of bringing in context specificity in the study of ICWA (Tung 1981; Tahvanainen, Welch and Worm 2005; Fenwick 2004; McKenna and Richardson 2007), yet no study so far has systematically attempted to examine alternate formats of ICWA on the basis of parameters that are relevant to the way intercultural businesses and hence intercultural assignments are being conducted in today’s world. There is need to look beyond standard listing of ICWA, where in many cases, the criteria of listing is based on the amount of time spent overseas.

Specifically, there is a need to re-look at the intercultural competencies and preparation processes currently followed, both at organizational as well as at an individual level, across contexts of ICWA. Given the growth in alternate forms of ICWA, there is a need to develop customized forms of ICWA, there is a need to develop customized preparatory tools which can increase productivity and curb high rate of attrition witnessed by many organizations involved in such ICWA.

This paper presents a framework which allows us to take a holistic view of traditional and emerging contexts of intercultural work assignments. It presents two new explanatory variables which shed fresh perspective on the descriptors of intercultural assignments. These descriptors allow us to draw on a rich base of theory in preparatory methods, and develop testable hypotheses. We illustrate this aspect, by comparing briefly, traditional expatriation and the BPO context, and developing testable hypotheses on the relationship between preparation and performance. We thus show that our framework has the potential to build new insight in the broad area of ICWA, and provides a lens by which we can integrate our view of traditional expatriation with our view of the emerging, fast growing world of virtual assignments and BPO.

We hope that this framework will provide fresh impetus for new conceptual and empirical work in this area.

References


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Management Development Programme (MDP) Fee (Exclusive of service taxes and others)

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