SCMS JOURNAL OF INDIAN MANAGEMENT

Contents

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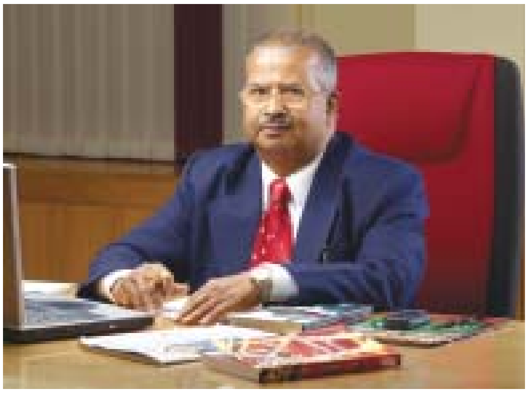
The Chairman speaks ...



Gone are the days when business organisations could be self-reliant and self-sufficient in meeting their needs for survival and growth. Today, they operate in a totally different environment of interdependence externally as well as internally. Therefore, a holistic approach is essential in handling issues, particularly the complex ones.

Successful business organisations are those that operate on the basis of well-defined strategies. Strategic management has now become the key to achieving performance excellence. It employs a dynamic and complex process that gives due consideration to internal and external factors as well as short term and long term objectives.

Our lead article in this issue deals with 'System Thinking in Strategic Planning' which is a holistic approach that looks at the bigger picture for better management of interdependency and complexity.

Almost everything we do in today's business world involves some amount of risk. A risk analysis can pave way to manage it better and minimise the damage. Our second lead article in this issue, therefore, is on 'Risk Analysis in Strategic Investment.'

The subsequent articles deal with a variety of topics like advertising, conflict management, salesforce compensation, automobile industry, risk measurement, and the like.

We are confident that you will find this issue informative and enlightening.

Dr. G.P.C. NAYAR
Chairman, SCMS Group of Educational Institutions

SCMS Journal of Indian Management

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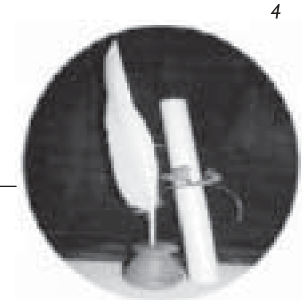

Editorial

The "Cave Image" and Learning

The Allegory of the cave is a chapter in the Greek Philosopher Plato's *The Republic.* It's taken from a fictional dialogue between Plato's mentor, Socrates and Plato's brother, Glaucon. It is used to illustrate our nature in its education and want of education. The physical world is in the form of a cave. Human beings are trapped inside the cave from the beginning of life. They are stationary. They cannot move their heads. They perceive only shadows and sounds. If one of them is released and is encouraged to travel upward to the entrance of the cave! There the light may pain the eye that's accustomed to the dark. He is exposed to daylight. The world of day light represents the realm of ideas. His eyes grow slowly accustomed to this light. Gradually, he can look up to the sun. He can understand what the ultimate source of light and life is. This gradual process is a metaphor of education and enlightenment.

Plato's parable "cave image" leads to the concept of ideal education. What is expected of a good student is like that of a prisoner in the cave who breaks the shackles and reaches the opening of the cave to see the outside world. The source of light in the cave is a burning fire behind them. Those in the cave see only the light against the far wall of the cave. There are several people who play puppets in front of the fire, yet behind the prisoners. This projects shadows on to the far wall. The prisoners assume that these shadows are real, as they cannot see the fire, the puppets, or the puppeteers. Who are the prisoners? Who are the puppeteers? What are these puppets? The prisoners are those who have desire to know reality, but they don't have the will to come to light. The shadows of puppets and puppeteers give us an illusion of reality. The puppeteers make these puppets sing and dance and move to the tunes of the puppeteers. But they are not visible to the prisoners. The insiders, the prisoners, are trapped by circumstance, ignorant to a great deal of the happenings. The Cave, as we see the image, is not real at all, yet it is believed to be so by the prisoners. The fire continuously burning behind them is the urge for knowledge.

Dr. D. Radhakrishnan Nair

Editorial Assistant: Mr. E.V. Johnson **Assistant Editor: Dr. Poornima Narayan R.**

System Thinking:

Strategic Planning

Arusb Batra, Prabhakar Kaushik, and Leena Kalia

Abstract

System Thinking, an agent of integration and enabler of effective decision making for permanent solutions of this complex world, has developed as an important tool for strategic planning and decision making. The concepts of system thinking tend to regard strategic planning by contributing at initial level of the problem and exploring all possible reasons for the same going down the multiple levels of contributing factors. An integration of system thinking and strategic planning will enhance the solution capability by providing better solutions and providing effective planning. This conceptual paper provides a sound discussion on the System Thinking by taking an in-depth look at its origins, concept and implementation strategy.

The real origins of system thinking are still very controversial and it is believed that it emerged and established itself as a trans-discipline in the 1940s and early 1950s. The foundation of System Thinking was laid in the field of system dynamics, founded in 1956 by MIT Professor Jay Forrester. He recognized the need for a better way of testing new ideas, and in the same way the ideas can be tested in field of management especially strategic planning. The concept of System thinking helps people in understanding the systems problems and finds a solution to those problems by finding out the root causes of the problem and considering all of them as a whole system, and improve their understanding of planning systems. According to Hammond, systems theory is the one metaphor that highlights the relationships and interconnections among the biological, ecological, social, psychological, and technological dimensions of our increasingly complex lives. Notable scientists in the field of systems thinking

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are Ludwig von Bertalanffy, Kenneth Boulding, Ralph Gerard and Anatol Rapoport, Wiener, Shannon and Weaver, John von Neumann and Laswell.

On the other side Strategic management as a discipline originated in the 1950s and 60s. Although there were numerous early contributors to the literature, the most influential pioneers were Alfred D. Chandler, Philip Selznick, Igor Ansoff, and Peter Drucker. In 1957, Philip Selznick introduced the idea of matching the organization's internal factors with external environmental circumstances and now we call this as SWOT analysis. Alfred Chandler recognized the importance of coordinating the various aspects of management under one all-encompassing strategy and he also stressed the importance of taking a long term perspective." Igor Ansoff built on Chandler's work by adding a range of strategic concepts and inventing a whole new vocabulary. Peter Drucker was a prolific strategy theorist, author of dozens of management books, with a career spanning five decades. His contributions to strategic management were many but two are most important. Firstly, he developed the concept of management by objectives and secondly he helped in predicting the importance of intellectual capital.

System Thinking Approach and Strategic Planning

System thinking is a holistic way of thinking, fundamentally different from that of traditional forms of analysis in which the observer considers himself the part of reality as a whole system. System thinking resists the breaking down of problems into its component parts for detailed examination and focuses on how the thing being studied interacts with the other constituents of the system - a set of elements that interact to produce behaviour of which it is a part. By examining the links and interrelationships of the whole system, patterns and themes emerge which offer insights and new meaning to the initial problem. This means that instead of taking smaller and smaller parts or view of the system taken for study, it actually works by expanding its view by taking into account larger and larger numbers of views or parts of the system. This procedure sometimes results in strikingly different conclusions than those generated by traditional forms of analysis, especially in those cases which are more complex or are having dependence / feedback from other sources i.e. internal or external.

The character / nature / approach of systems thinking makes it extremely effective on the most difficult types of problems to solve: those involving complex issues, those that depend a great deal dependence on the past or on the actions of others, and those stemming from ineffective coordination among those involved and some of the examples in which system thinking has proven its value include:

- Complex problems that involve helping many actors see the "big picture" and not just their part,
- Recurring problems or those that have been made worse by past attempts to fix them,
- Issues where an action affects (or is affected by) the environment surrounding the issue, either the natural environment or the competitive environment, and
- Problems whose solutions are not obvious,

There are certain laws which are related to system thinking and which help in understanding and solving the problems in a better and effective way. These laws are stated as:

- Today's problems come from yesterday's solutions,
- The harder you push, the harder the system pushes you,
- Behaviour grows better before it grows worse,
- The easy way out usually leads back in,
- Cause and effect are not closely related in time and space,
- Small changes can produce big results,
- Dividing an elephant in half does not produce two small elephants,
- You can have your cake and eat it too, and
- Faster is Slower.

The System Thinking Approach has a set of defined moves or indicators [5] which help in defining and solving the problems in a better way. These indicators are underlined as following:

- Define the Situation,
- Develop Patterns of Behaviour,
- Evolve the Underlying Structure,
- Identify the factors contributing to the underlying structure,
- Identify the Leverage Points,
- Develop an Alternate Structure, and
- Find solution to the problem.

Areas of Application

Strategy

System thinkers have been interested in strategy for a long time. Some of the early texts on strategic planning were written by prominent systems experts. A first look / glance at these early works by the system experts seem to give the impression that system thinking and strategic thinking were almost similar or we can say synonymous. But now a days, it is currently argued that system thinking has much to offer in strategic planning or development. Ackoff was the first and foremost to propose an unambiguous system approach to strategic planning. His major contribution was that the strategic decisions were generally messed-up, often characterised as an interactive system of related issues. Others have also highlighted and contributed in this observation for example, the context for strategy has been defined as wicked problems. From the system literature, Ackoff (with his concept of corporate planning) provided ingredients and the first recipe for a rational approach required to develop strategy. System thinking in strategy has integrated ideas from various theories and regarded strategic decision making as complex, which involves different issues and many interacting factors stakeholders.

Strategic Planning is an organization's process of defining its strategy, or direction, and making decisions on allocating its resources to achieve defined objectives, including its capital and people. Various business analysis techniques can be used in strategic planning, including SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats), PEST analysis (Political, Economic, Social, and Technological), STEER analysis (Socio-cultural, Technological, Economic, Ecological, and Regulatory factors), and EPISTEL (Environment, Political, Informatic, Social, Technological, Economic and Legal).

Strategic planning is the formal consideration of an organization's future course. All strategic planning deals with at least one of three key questions:

1. "What do we do?"
2. "For whom do we do it?"
3. "How do we excel?"

The Strategic Planning process is as following (Figure 1):

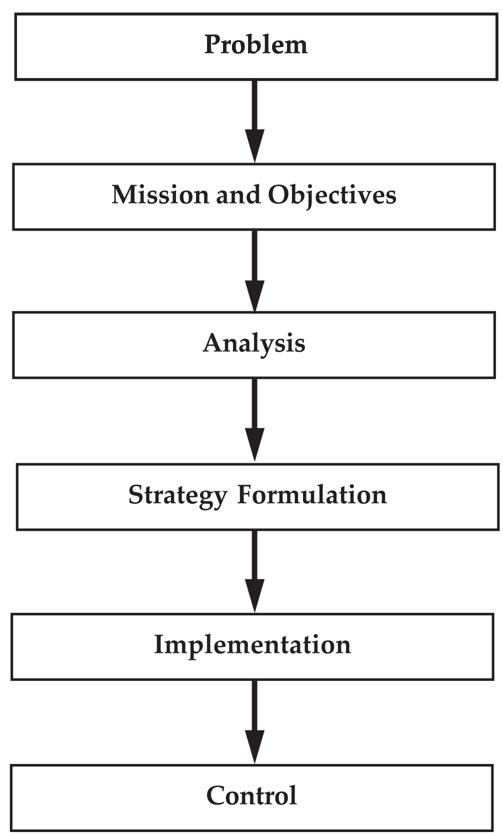

Figure 1: Process of Strategic Planning

How does System Thinking Contribute to Strategic Planning?

After studying the concept of system thinking and strategic planning, it is the time for taking a real life situation to draw causal loop diagrams considering all the parameters and rules for developing them explain their importance and show the effect and contribution of system thinking in strategic planning. We will take two different examples and show the difference in solutions to the problems through strategic planning approach on its own and with contribution of system thinking approach and strategic planning.

Problem 1: Problem of Road Congestion and Accidents

Strategic Planning Approach without System Thinking

Firstly using the strategic planning approach (Figure 2) to solve the problem and for that we will define the mission and objectives of the problem, do the required analysis to find out the sources of problem and then formulate our strategy by implementing it.

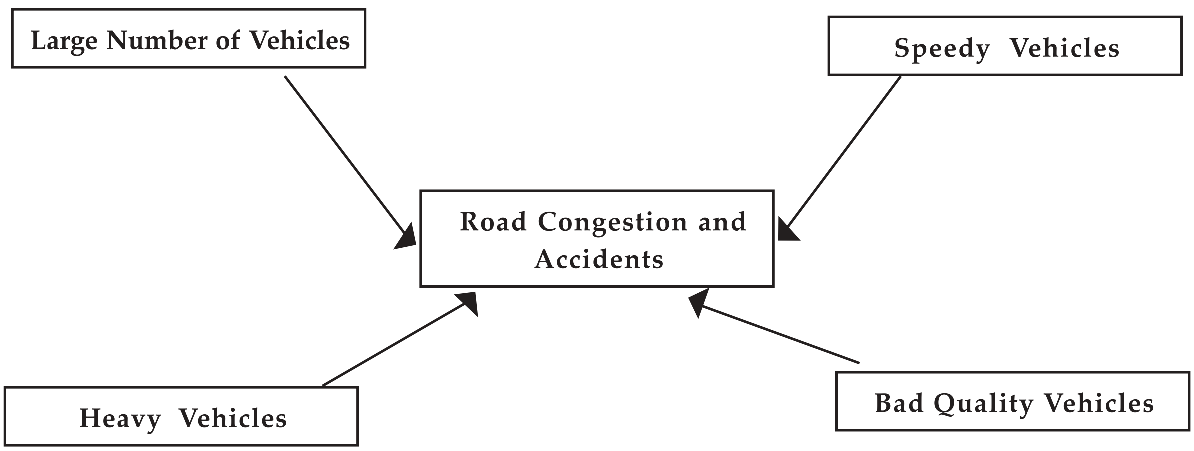

Figure 2: Reasons for Road Congestion and Accidents (Strategic Planning Approach)

Causes/Reasons of Problem have been identified resulting into formulation of strategy with listed corrective actions / measures:

- Repair of Bad Quality Roads,
- Putting Speed Limit Barriers, and
- Entry Barrier for heavy vehicles during traffic hours.

But these solutions don't have the permanent solution of the problem as the root causes for the same have not been identified and will lead to further traffic chaos and advancement in the problem as the system will push back harder as per the law of system thinking.

System Thinking Approach Contribution

With Contribution of System Thinking Approach (Figure 3), we have been able to identify all-together different reasons for road congestion and accidents and to avoid these problems or contributors; strategy will be formulated with listed actions:

- Compulsory Implementation and Introduction of Road Education,

- Strengthening of Judiciary system to avoid favourism, wrong support and give heavy punishment to offenders.

- Strengthening and Drawing up of better and new government policies for traffic management, to avoid and stop illegal licensing of private vehicles,
- Providing improved Infrastructure facilities to avoid congestion and Implementation of rules and regulations.

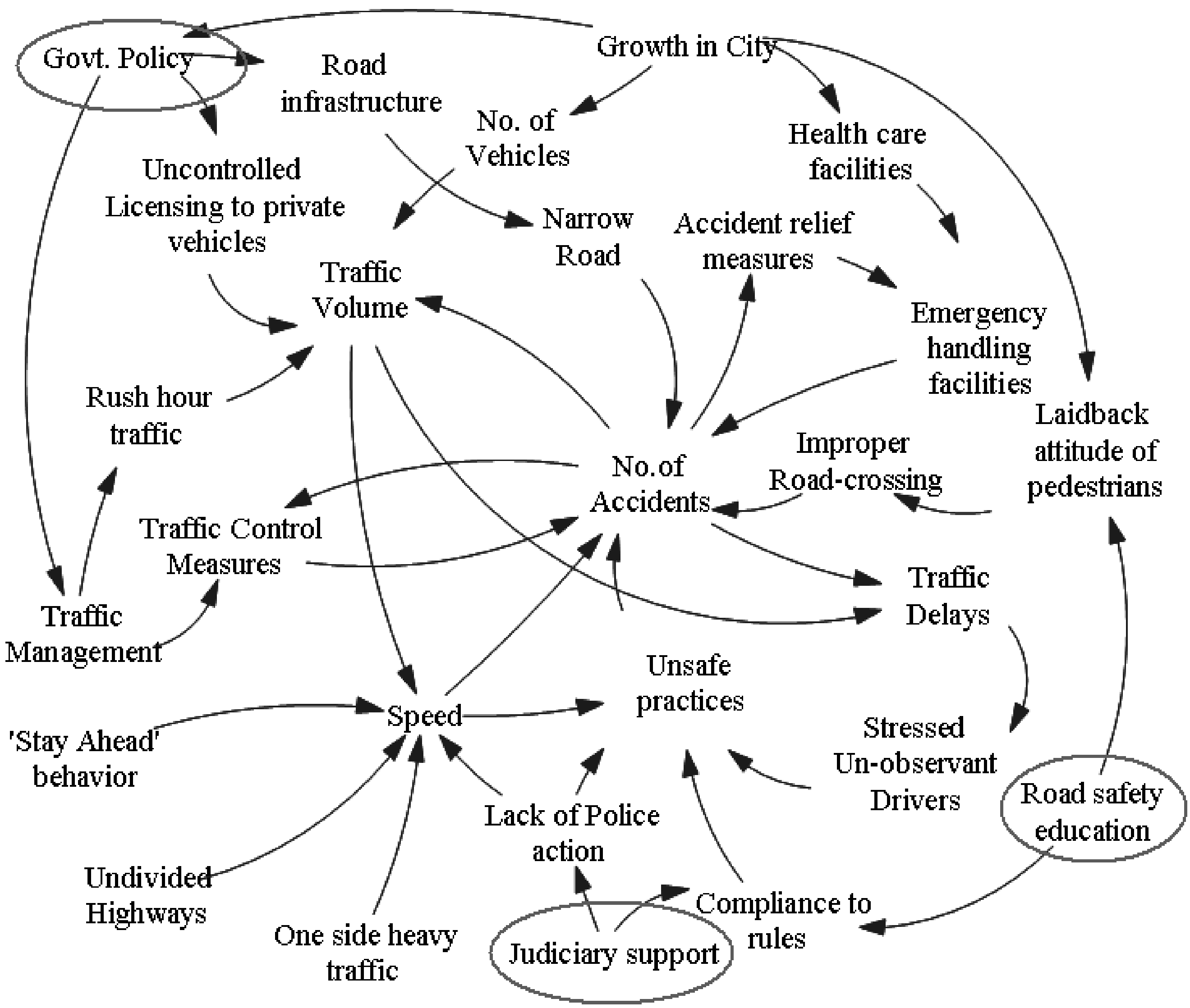

Figure 3: Finding Actual Problem Contributors through System Thinking

Problem 2: Problem of Decreased Viewers of a TV Channel

Strategic Planning Approach without System Thinking (Figure 4)

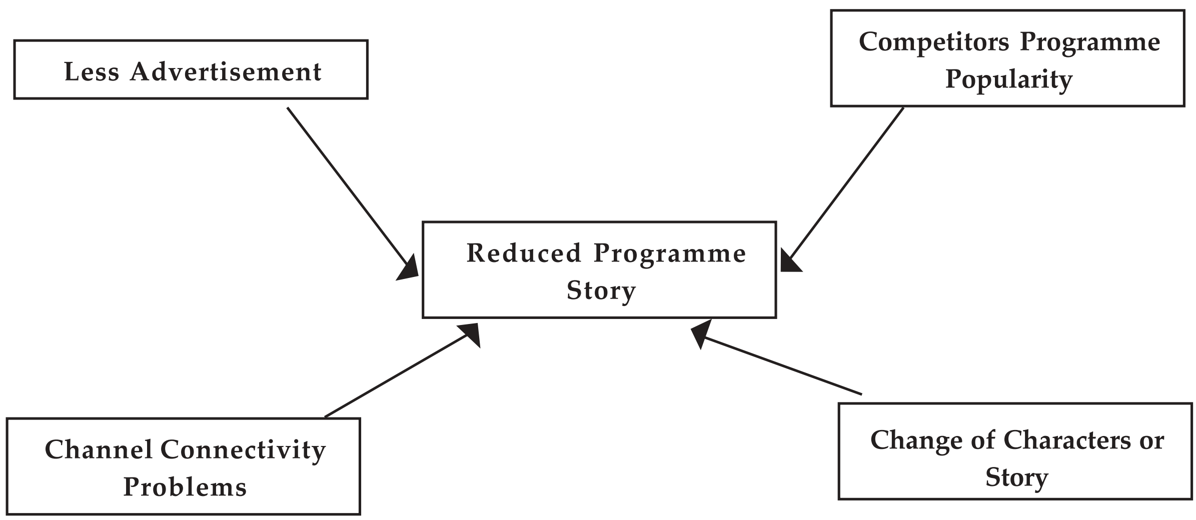

Figure 4: Reasons for Reduced Programme Viewing (Strategic Planning Approach)

Identification of causes of decreased viewers of the TV channel is done resulting formulation of strategy with listed set of actions to remove those causes:

- Improvement in Channel Frequency by use of Advanced Set-top boxes.
- Re-consideration and consideration of old and previous characters.
- More spending on Advertisement.

System Thinking Approach Contribution (Figure 5)

The all-together different reasons which were identified with the help of strategic approach have been identified for decrease in programme viewers of a particular TV channel with the help of System Thinking Approach and the corrective measures have been indicated in **BOLD** in the diagram.

Conclusion

The research proves that firms successfully implement System Thinking, perform better in virtually every business category, including return on scales, and return on investment, employment growth and stock value growth. It has been found that System Thinking methodology is highly beneficial to improve the performance of any organization.The following conclusions can be drawn after the implementation of two approaches on the same kind of problems:

- System Approach leads to in-depth search of problem contributors by finding out further reasons for those problems and lead to actual reasons of the same.
- System Approach provides solution to all kinds of problems by considering them as a whole system.

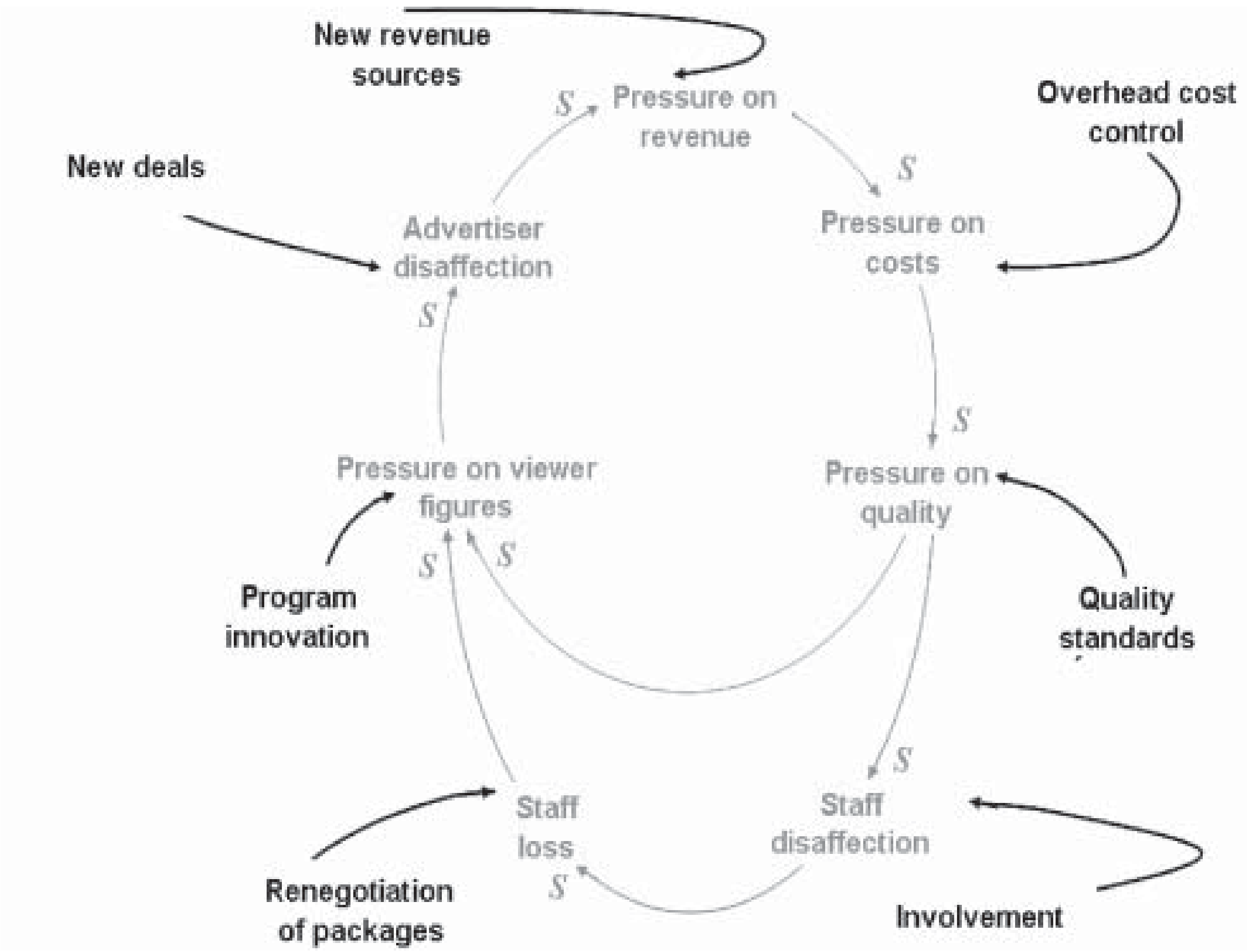

Figure 5: Finding Actual Problem Contributors through System Thinking

- System Thinking is different from Strategic Planning as it looks deep down for the reasons of problem by exploring it while in Strategic Planning Approach, we analyze the problem from top only and assume what we don't know.

- System Thinking leads to permanent solutions of problems by acting on all possible reasons simultaneously while in Strategic Planning, we make plans to solve the problem by removing the reasons one by one as per the plan formation.

The success of this methodology within an organization has significant momentum that can only lead to fundamental organizational cultural transformation. In a net shell, System Thinking has immense potential for future research.

Keywords: System Thinking, Strategic Planning, Problem Contributors.

References

Ansoff, Igor. *Corporate Strategy.* McGraw Hill, New York: 1965.

Chandler, Alfred. *Strategy and Structure: Chapters in the History of Industrial Enterprise*. Doubleday, New York: 1962.

Drucker, Peter. *The Practice of Management.* Harper and Row, New York: 1954.

<http://www.netmba.com/strategy/process>

<http://www.systems-thinking.org/stada/stada.htm>

<http://www.tcs.com>

Kate, M. Gill. "Systems Thinking or Systems Engineering." *International Journal of Intelligent Defence Support System.* Vol.2, No.3, (2009): 202-221.

Mo, Mo Mansouri and Alex Gorod. "Maritime Transportation System of Systems Management Framework: A System of Systems Engineering Approach." *International Journal of Ocean Systems Management.* Vol.1, No.2, (2009): 200-226.

Rashmi, Jain. "A Framework for End-To-End Approach to Systems Integration." *International Journal of Industrial and System Engineering.* Vol.5, No.1, (2010): 79-109. Selznick, Philip. *Leadership in Administration: A Sociological Interpretation*, Row, Peterson, Evanston Il. 1957.

Singh, Rohit. *Stratecent Consulting.* Pune: 2006.

Risk Analysis:
Strategic Investment

Kannadhasan M. and Nandagopal R.

Abstract

This paper examines whether Business Strategy as one of the contingency variables influences the extent of usage of Risk Analysis (RA) in Strategic Investment Decisions (SIDs) or not. To understand the relationship, this paper developed and tested a structural model linking business strategy and RA in SIDs. Based on the 36 responses collected from Senior Finance Professionals through a single cross-sectional mailed survey, this study produces two findings. First, the extent of usage of RA in SIDs varies with the strategy adopted by the companies. Secondly, Business Strategy has a significant positive influence on the extent of usage of RA in SIDs.

The fundamental objective of any business is to create wealth i.e. benefits for their stakeholders. Every organisation has a vision/mission, which defines the scope and extent of those benefits. However vision/mission alone does not create benefits, the same should be implemented on time. The projects i.e. Strategic Investment Decisions (SIDs) are one among the most important alternative means to deliver the capability of the company which will help them to achieve the required benefits. Defining the vision /mission and business benefits is the realm of strategy (David Hillion 2006). Each company follows a strategy in its efforts to achieve the goal. Strategies spell the fundamental steps to be followed by a company and give direction in its process of effective and efficient resource allocation. Each company can have a single or multiple strategies and it may be adopted at three different levels viz., corporate level, business level, and functional level. This study focuses on the strategies followed by automotive companies at the business unit level or in short the business strategy level.

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Most researches on business strategy have sought to validate and test one of the two schools of thought viz., typologies developed by Porter's (1980) differentiation and low cost strategies and Miles–Snow's (1978) typology of prospectors, analysers, and defenders. Though all the companies are not alike, they face three fundamental problems viz. Entrepreneurial (managing its market share), engineering or operational (finding and implementing the solution to the entrepreneurial problems), and administrative problems (formulating the structure to manage the implementation of the solutions to the first two problems). Companies choose different ways to address these problems i.e. strategy. There is a possibility that many companies develop similar solutions. As a result, Miles and Snow (1978) suggested that organisations could be grouped into any one of the four types mentioned above. Depending on the strategy adopted, a company may give emphasis to one or more of the following aspects such as technological position, innovation, organisational design, and so on, which in turn, reflect their risk appetite. It is because the degree of risk varies with the above stated aspects. These aspects largely determine a firm's performance and efficiency of its business (Slater and Narver, 1993). Therefore, there is a need to understand whether using different strategy types produce correspondingly different level of usage of RA in SIDs or not?

It is a known fact that risk is an inherent characteristic of all SIDs such that there is some degree of uncertainty closely associated with the future economic outcomes. Further, Decision maker should be aware that making any decision demands the acceptance of risk while the main risks are taken with the expectation of receiving some appropriate rewards; often there are a host of hidden or implicit risks that vitiate the risk reward equation. It is therefore timely to consider the impact of the approaches of sophisticated risk analysis on SIDs. Increasing dynamism and complexity of the ever changing business environment has put risk analysis in the priority list on the agenda of all SIDs. Therefore, authors are interested to investigate how business strategy influences the risk analysis in SIDs of automotive industry in India.

Theoretical Background and Research Hypotheses

As discussed above, Miles and Snow typology has classified firms into four categories namely Prospectors, Analysers, Defenders, and Reactors. Prospectors refer to firms that are externally oriented i.e. they are very keen in exploiting new product and market opportunities. They are the pioneers in new product development with a focus on innovation and creators of change in an industry since they monitor the external environment constantly and developing alternative responses according to emerging trends (Thomas and Ramaswamy 1996). They have a flexible administrative structure (Smith et al 1989) and have complex coordination and communication mechanisms which rely on decentralized decision-making which in turn makes them ever ready to seize the opportunities (Hambrick 1983). In contrast, defenders refer to firms that are internally oriented. Generally, they use narrow–product domain which has a focus on improving operational efficiency. They have a stable administrative structure (Smith et al 1989) and rely on centralized decision making. They use vertical integration to control costs as its technology is inflexible. Comparatively they devote valuable time in controlling costs than other type of firms (Hambrick 1983). Analyzers refer to the firms that are hybrid in nature i.e. those firms exhibit some features of the prospector and some of the defender firms (Thomas and Ramaswamy 1994). They have multiple products, but they adopt both stable and flexible technology with matrix or product-oriented organisation structures. They penetrate more deeply into the market they serve and adopt new products only after thorough analysis and proven potential (Conant et al 1990).

Over the years, Research on the typology has been discussed on different perspectives, such as the formulation process, identification and nature of strategic types, performance differences among the strategy types, link between strategy and CB, environment and size (for example, Zahra et al 1990, Namiki 1989, Parnell 1997, Jennings et al 2003, Tamalee et al 2008, Smith et al 1989, Parnell and Wright 1993, Aragon-Sanchez and Sanchez-Martin 2005, Short et al 2007, Pleshko

2007, Ramaswamy and Thomas 1994,1996, Osgoog 2004, Tanewski et al 2003, Rizzi 1984, Prescott 1986, Fuentes et al 2005, Lina anatan 2006,Componation et al 2006, Liberatore et al 1992, Brakel 2004, Depperu and Gnan 2006). Research work on strategy-performance relationship is well documented in many countries. Findings of the previous researches indicate disparate results. For example, Namiki (1989), Parnell (1997), Jennings et al (2003), Tamalee et al (2008) found that there is no significant difference in performance among the firms that followed four different strategies of firms i.e. prospectors, analysers, defenders, and reactors.

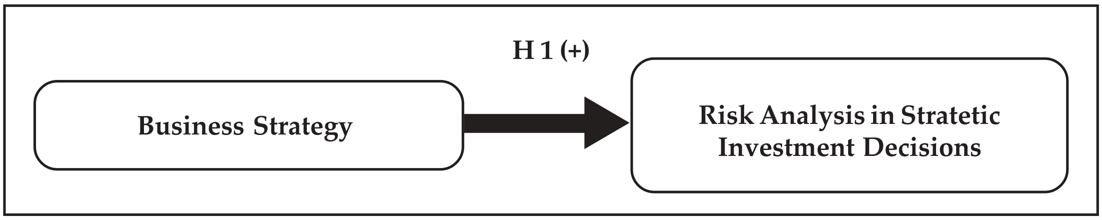
Contrary to the above findings, Smith et al (1989) found that the four strategies resulted in significant differences among firms' performance on all measures. Parnell and Wright (1993) showed that for a single industry, prospectors outperformed other strategists in terms of sales growth, but analyzers performed better in terms of return on assets. Therefore, it is clear from the above discussion that previous empirical researches have not arrived at a consensus with regards to the definite relationship between business strategies and performance or which strategies are the best. However, a few studies examined that the influence of some variables such as technology, firm size and environment on the strength of the above said relationship i.e. strategy-performance relationship. Lina Anatan (2006) found that hard technology moderates the relationship between manufacturing strategy and operational performance, as a quasi moderator variable. Conversely, soft technology has an impact on the manufacturing strategy-performance relationship as an independent predictor variable, but it doesn't moderate the relationship between manufacturing strategy and operational performance. Prescott (1986) demonstrated that environments, as measured by characteristics of market structures, moderate the strength but not the form of relationship between strategy variables and performance. Hofer (1975) and Smith et al (1989) found that firm size explains differences in the relationship between strategy and performance. Further, since 1990s, the accelerated speed of globalisation of economic activities and global competition has made it impossible for automotive industry to make decisions without incorporating risk analysis in their SIDs.

The extent of risk analysis in SIDs varies from one organisation to the other due to several reasons, predominant among them being its types of strategy. Prospectors are primarily concerned about various subjects, such as how can they gain the competitive advantage, how to identify and avail the opportunities in markets, which products or services to be introduced to serve the lucrative markets, so on and so forth. Answers to all these questions demand careful analysis i.e. Risk analysis. In contrast, defenders are concerned about various subjects, like improving operational efficiency, controlling costs. The extent of RA carried out by defenders is low while comparing with that of the prospectors' firms. Analyzers are hybrid in the nature of the above. This difference leads to the following hypothesis:

H 1: Prospectors use risk analysis more extensively than defenders.

H 2: The extent of usage of RA in SIDs varies with the types of business strategy adopted by the company.

Figure 1: Research Model



Proposed Research Model

With the help of the literature review, the study has conceptualised the research model and the same has been presented in Figure 1. The proposed model encompasses business strategy as an independent variable. The extent of usage of Risk analysis would be the dependent variable. The arrow in the model explains the hypothesised relationship and indicates the impact of one latent construct on another. The proposed relationship of the model was examined using PLS-PM in Visual PLS software.

Research Methodology

Data Collection: This study has adopted a quantitative, non-experimental, single cross-sectional mailed survey design in order to gain a broad understanding of the extent of the usage of RA practices involved in SIDs made by automotive companies in India. This study has relied heavily on Primary data which was collected by using the structured questionnaire. The questionnaire was adapted from Ho and Pike (1991, 1992 and 1998) with a few adjustments made to incorporate the Indian environment and the objectives of the study as well.

Sampling Design: The population of the research has been confined to automotive companies operating in India. A list of all the automotive companies in India was obtained from the CMIE, Prowess Data Base on August 2008. There are 500 automotive companies operating business in India. Among the 500 companies, the authors identified 95 companies as the sample frame relevant to this study using three criteria: (1) companies should be listed on the BSE and NSE, (2) Company should have a minimum of 10 years of operation, (3) the availability of data for the study period. The questionnaire was sent to senior finance professionals (CFO, General Manager-Finance, Vice President-Finance, controller etc.) of 95 companies along with a covering letter which served as an introduction to the purpose of the survey and assured the confidentiality of the information supplied by each respondent. 36 questionnaires were received from the respondents (a response rate of 37.89 percent). The response rate is better than the previous studies [20 percent of Ashish Kumar and Bhavin Shah (2006), 15.43 percent of Manoj Anand (2002), nine percent of Graham and Harvey (2001)].

Variables of the Study

Business Strategy: This study used the business strategy types as conceptualised by Miles and Snow (1978) typology. Following Ho and Pike (1998), this study used a self typing method whereby senior professionals responded to the survey items designed to tap the fundamental distinctions between strategic types. The survey instrument composed five items to measure the strategic types of each firm based on Miles and Snow typology.

Risk Analysis Approaches and Techniques: In order to know the risk analysis practices, this study was raised on the five dimensions which were measured on a five point numerical scale ranging from "strongly agree" to "strongly disagree."

Analytical Methods

In order to examine the proposed research model (Figure 1) and its associated measurement model, the study employed the Partial Least Square (PLS) to Structural Equation Modelling (SEM). Cluster analysis was done to classify the companies based on the strategy followed by them and discriminant analysis was done to confirm the groups of companies they belong to. Further, to test the hypotheses 2, this study employed one-way ANOVA. Analysis has been made with help of Visual PLS software and SPSS package.

Reliability

This study has used the most common method of reliability test namely Cronbach's alpha coefficient for assessing reliability of the scale. Generally, a Cronbach's alpha (á) level of 0.60 or above is considered to be acceptable for a construct (Nunnally 1978). The items of the constructs need to be purified as a prerequisite for reliability analysis (Churchill

1979). Purification was done one by one by examining the Corrected Item Total Correlation (CITC) using SPSS software version 16.

Risk Measurement Approaches and Techniques: This construct was initially represented by five dimensions. At the end of the purification process, the study has identified four dimensions and their reliability value was 0.744. The reason for dropping the item is that the DMs have strong belief on the formal methods than the subjective methods of RA in SIDs.

Business Strategy: BS construct was initially represented by five dimensions. At the end of the purification process, the study has identified three dimensions and their reliability value was 0.707. The probable reasons for dropping two items might be that the companies do refer to offer different products instead of concentration on a single product and the willingness to take high risk depends not only on the potential returns, but also on account of the need for survival and sustainability.

Validity

Firstly, The measures included in the study have a strong literature base to support the content validity. Further, all the measures used in this study are well established measures on the prior research studies. Content validity of the survey instrument was established through initial pilot study involving senior finance professionals, consultants and academics. Secondly, the measures used in this study enable the researcher to predict the performance of a company in future. For instance, the extant literature shows that there is a relationship between the capital budgeting decisions and the performance of a company. Thirdly, the convergent validity of each construct, modelled in the reflective mode, is verified by examining the "Average Variance Extracted (AVE)" values. AVE value describes the amount of shared variances among the indicators for a construct i.e. the amount of variance in the indicators 'accounted for' by true representation of the constructs (Cohen 2001). Generally, constructs which have AVE greater than 0.50 and composite reliability greater than 0.70 are considered to have a good convergent validity. In some cases values up to 0.40 of AVE and 0.60 of composite reliability are also considered to be acceptable if they are central to the model (Chin 1995, 1998, Chin et al 1999 and 2003). The results of convergent validity are given in Table 1.

The Table 1 shows that the AVE value of all the constructs were greater than 0.43 and their composite reliability were greater than 66 percent. Since AVE and composite reliability values are greater than the minimum threshold level, this study concludes that all the constructs have good convergent validity. Fourthly, this study employed discriminant validity. This test describes the degree to which the construct is not similar (diverges from) to other constructs and it should not be similar in the theoretical background as well. This can be achieved by examining the square root of a construct AVE, which should be greater than the correlation between that construct and other constructs used in the model or squared correlation between the constructs should be less than the AVE (Fornell Larcker, 1981). The AVE values are greater than the r square value, which indicates that all the constructs have good discriminant validity.

Table 1: Convergent Validity of Constructs

Variables	AVE Value	Composite Reliability
Risk Measurement Approaches and Techniques	0.569	0.840
Business Strategy	0.638	0.839

Results

This study has employed cluster analysis to classify the companies into different strategy groups. Business strategic practices were classified into clusters by Hierarchical cluster analysis using Ward's method along with Squared Euclidean distance and thereby categorised into four groups. The clusters were labelled as follows:

- The group with the highest summed mean score was labelled as prospectors
- The group with the second highest summed mean score was labelled as analysers.
- The group with the third highest summed mean score was labelled as Defenders.
- The group with the lowest summed mean score was labelled as Reactors.

36 companies were categorised into four clusters. Table 2 exhibits the results of cluster analysis. Cluster 1 (18 companies) had the highest summed mean score of 20.11 and were labelled as Prospectors. Cluster 2 (10 companies) had the third highest summed mean score of 17.50 and were labelled as defenders. The cluster 3 (5 companies) had the second highest summed mean score of 18 and were categorised as analysers. The cluster 4 (3 companies)

Table 2: Cluster Analysis of Respondent Companies (Based on types of Business Strategies)

Dimensions	Cluster 1 Prospectors		Cluster 2 Defenders		Cluster 3 Analysers		Cluster 4 Reactors	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Firm's Strategic priority is on long term rather short term profits	4.83	0.38	3.40	0.84	4.80	0.45	2.33	1.16
Firm concentrates on a single group of related products and sticks to it	4.61	0.50	3.90	0.88	1.20	0.45	3.00	1.00
Firm's growth has been realised mainly via new product development rather market penetration	3.39	1.24	3.40	0.97	4.20	0.84	1.33	0.58
Firms Strong emphasis is on research and development, technological leadership and innovation	4.72	0.46	3.68	0.84	5.00	0.00	1.33	0.58
Firm's preparedness to take a high risk if the potential returns are high	2.56	1.10	3.20	0.63	2.80	1.64	2.00	1.73
Total Summed Score	20.11		17.50		18.00		9.99	
No of Companies	18		10		05		03	

has the least mean score of 9.99 and were categorised as reactors. In order to confirm the above classification of firm strategies, this study used discriminant analysis. The validity of discriminant analysis is checked by the Wilk's Lambda. The significance value is less than the alpha (0.05) which indicates that the discriminant analysis is valid. The result of Wilki's Lambda was found to be significant i.e., discriminant analysis is valid (see Table 3).

In addition, the study employed hit ratio to verify the accuracy of the classification of groups. The Table 4 shows that the groups were classified correctly.

Table 3: The Results of Wilki's Lambda Analysis

Test of Functions	Wilki's Lambda	Chi-Square	df	Sig.	Results
1 through 3	0.014	130.35	15	0.000	Significant
2 through 3	0.150	057.79	8	0.000	Significant
3	0.697	011.02	3	0.012	Significant

Table 4: Classification of Results*

Cluster Number of Case	Predicted Group Membership				Total
	1	2	3	4	
1	18	0	0	0	18
2	0	10	0	0	10
3	0	0	5	0	05
4	0	0	0	3	03

*100 per cent original groups cases correctly classified

In order to test the hypothesis 2, study conducted the one-way analysis of variance (ANOVA) i.e. whether firms using different business strategies (prospector, analyzer, defenders, and reactors) exhibit different level of RA. Table 5, shows the results of ANOVA between business strategies and the extent of usage of RA. The results revealed that there is a significant difference in the extent of usage of RA in SIDs ($F(3, 32) = 3.119$, $p < 0.05$). In simple words, the results revealed that the extent of usage of RA of Indian automotive companies vary with the types of business strategy adopted by them.

Table 5: Results of One way ANOVA between BS and the extent of usage of RA

Sources of Variations	Sum of Squares	Df	Mean Square	F	Sig.	Results
Between Groups	7.919	3	2.640	3.119	0.04	
Within Groups	27.085	32	0.846			Significant
Total	35.004	17				

Structural Equation Results for Research Model

In order to test the proposed hypotheses in the model, this study employed a construct level correlation analysis for the initial verification. Visual PLS is used to compute the construct scores. Using these construct scores as a base, the study explored the relationship between the variables using SPSS package version 16. The table 6 indicates that there exists a positive correlation between the BS and RA (r=0.567). The correlation coefficient between BS and RA was positively significant at 0.01 percent level.

Though the bivariate correlations are significant between the constructs, it is still needed to assess the path coefficients in the structural model as a causal effect. Path coefficients in PLS are standardised regression coefficients (Staples et al 1998). In order to ensure that path coefficients are statistically significant, this study used a bootstrap and Jackknife re-sampling procedures to estimate standard errors for calculating T values using Visual PLS. The results are examined at five percent significance level and the t-statistic value at the 0.05 level is 1.96. If the t-statistic value is greater than 1.96, the path is significant (Efron 1979, Efron and Gong 1983). Table 7 and Figure 2 present the results of the test of the research model.

The path linking BS to the extent of usage of RA was found to be positively significant at 0.05 level (Beta =0.539, t= 6.109). This result reveals that prospectors use risk analysis more extensively than the defenders and supports the

Table 6: Construct Level Correlation Analysis of Research Model

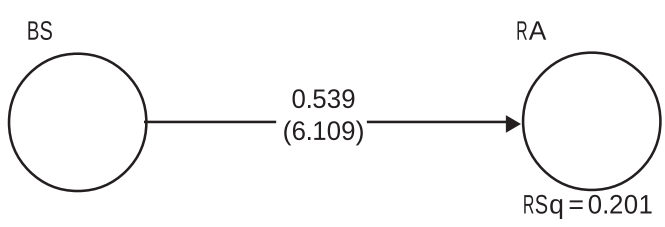
Hypothesis	Independent Variable	Dependent Variable	Pearson Correlation	Sig. (2 Tailed)
H 1	BS	RA	0.567	0.000**

**Correlation is significant at the 0.01 level

Table 7: Bootstrap Summary of Research Model and Hypotheses Results

Hypothesis	Entire Sample Estimate	Mean of Sub Sample	Standard Error	T-Statistic	R Square Value	Results
H 1	0.539	0.589	0.088	6.109	0.299	Significant

Figure 2: Validation of Research Model



literature view. The overall fit of the structural model is evaluated by examining the squared multiple correlations or R2 or coefficient of determination which determines the predictive power of the structural model. The R2 value should be close to 1 for a model to perfectly describe the relationship between the constructs. Business Strategy has a predictive power (0.299 i.e. 29.90 percent) of the extent of usage of RA in SIDs.

Discussion of Results

Literature suggests that the extent of usage of RA in SIDs varies with the strategy types adopted by the companies. The expected findings of this study are also similar to that view, because Prospectors are external oriented and dealing with unpredictable environment. They demand more usage of RA. Therefore they have to do more RA in order to reduce/eliminate the level of risk. On the other hand, defenders are internally oriented and dealing with the known and predictable environment than Prospectors. It is easy for them to deal with risk as they deal with the internal environment. And they tend to use RA at lower level. Further, the extent of usage of RA should therefore begin with a focus on the business strategy within which RA takes place. The findings of this study have supported this view. Further, this study seeks to examine whether BS influences on the extent of usage of RA in SIDs or not. Findings of this study were significant and hence this study supports the findings of Ho and Pike (1998) and at the same time has yielded results that are in contrast to Shimin Chin's (1995) findings.

Conclusion

The objective of the study is to examine the influence of business strategy on the extent of usage of RA in SIDs. To understand the relationship, this study developed and tested a structural model linking BS to the extent of usage of RA in SIDs. The path linking BS to the extent of usage of RA in the model was found to be positively significant. It indicates that BS has influence on the extent of usage of RA in SIDs. It was further learned from the study that RA in SIDs vary with the strategy adopted by the companies. The authors believe that the findings of this study can be complemented by further investigation on the following areas: (1) comparison among different industries on the risk analysis in the SIDs context (Inter-industry comparison). (2) Whether adopting sophisticated RA techniques improve the performance of the companies or not (impact organisation performance). (3) How do different types of investments affect the use of RA? (Impact of different types of investments).

References

Anishya, S .Thomas and Kannan, Ramaswamy. "Matching Managers to Strategy: Further Tests of the Miles and Snow Typology." *British Journal of Management*. Vol.7, (1996): 247-261.

Anisya, S. Thomas and Kannan, Ramaswamy "Matching Managers to Strategy: An Investigation of Performance Implications and Boundary Conditions." *Australian Journal of Management*. Vol.19, No.1, (1994): 73-93.

Aragon-Sanchez A. and Sanchez Martin G. "Strategic Orientation, Management Characteristics, and Performance: A Study of Spanish SMEs." *Journal of Small Business Management.* Vol.43, No.3, (2005): 287-308.

Chin W.W. "Partial Least Squares is to LISREL as Principal Components Analysis is to Common Factor Analysis." *Technology Studies*. Vol.2, No.2, (1995): 315-319.

Chin W.W. "The Partial Least Squares Approach for Structural Equation Modelling." In George A. Marcoulides (Ed.), *Modern Methods for Business Research.* Lawrence Erlbaum Associates, 1988.

Chin, W.W. and Newsted, P.R. "Structural Equation Modelling analysis with Small Samples Using Partial Least Squares." In Rick Hoyle (Ed.), *Statistical Strategies for Small Sample Research.* Sage Publications, 1999.

Chin, Wynne W., Marcolin, Barbara L. and Newsted, Peter R. "A Partial Least Squares Latent Variable Modeling Approach for Measuring Interaction Effects. Results from a Monte Carlo Simulation Study and an Electronic-Mail Emotion / Adopion Study." *Information Systems Research.* Vol.14, No.2, (2003): 189-217.

Churchill, G.A. "A Paradigm for Developing Better Measures of Marketing Constructs." *Journal of Marketing Studies.* Vol.16, (1979): 12-27.

Cohen, J.F. "Environmental Uncertainty And Managerial Attitude: Effects on Strategic Planning, Non-Strategic Decision-Making And Organisational Performance." *South African Journal of Business Management*. Vol.32, No.3, (2001): 17-30.

Componation, J.P. Sadowski, W.F. and Youngblood A.D. "Aligning Strategy and Capital Allocation Decisions: A Case Study." *Engineering Management Journal*. Vol.18, No.1, (2006): 24-31.

Conant, J.S., Mokwa, M.P. and Varadarajan, P.R. "Strategic Types, Distinctive Marketing Competencies and Organizational Performance: A Multiple Measures Based Study." *Strategic Management Journal*. Vol. 11, (1990): 365-383.

David, Hillson. "Integrated Risk Management as a Framework for Organisational Success." *PMI Global Congress Proceedings*-Seattle Washington, 2006.

Donatella, Depperu and Luca, Gnan. "The Role of the Competitive Context in the Business Strategy – Formulation Process." *International Studies of Management and Organisation.* Vol.36, No.3, (2006): 110-130.

Hambrick, D.C. "Some Tests of Effectiveness and Functional Attributes of Miles and Snow's Strategic Types." *Academy of Management Journal*. Vol.26, No.1, (1983): 5-26.

Ho S.M. and Pike R.H. "Computer Decision Support for Capital Budgeting: Some Empirical Findings of Practice." *Journal of Information Technology.* Vol.11, (1996): 119 -128.

Ho S.M. and Pike R.H. "Risk Analysis in Capital Budgeting Contests: Simple or Sophisticated?" *Accounting and Business Research.* Vol.43, No.3, (1991): 247-268.

Ho S.M. and Pike R.H. "Adoption of Probabilistic Risk Analysis in Capital Budgeting and Corporate Investment." *Journal of Business Finance and Accounting*. Vol.19, No.3, (1992): 387-405.

Ho, S.M. and Pike, R.H. "Organisational Characteristics influencing the use of Risk Analysis in Strategic Capital Investments." *The Engineering Economist*. Vol.21, No.83, (1998): 227-238.

Hofer, C.W. "Toward a Contingency theory of Business Strategy." *Academy of Management Journal.* Vol.18, (1975): 784-810.

Jennings D.F., Daniel Rajaratnam and Barry Lawrence F. "Strategy-Performance Relationships in Service Firms: A Test for Equifinality." *Journal of Management Issues.* Vol.15, No.2, (2003): 208-220.

Kitima Tamalee, Mohamed Sulaiman and Ishak Ismail. "Business Strategy and Performance of Manufacturing Firms in Thailand." *Paper presented at conference organised by Oxford Business and Economics.* UK, June, (2008): 22-24.

Lina, Anatan. "Examining the Moderating Effect of Technology on the Manufacturing Strategy and Operational Performance Relationship." *Empirika.* Vol.19, No.1, 2006.

Mar Fuentes M., Javier Llore´ Ns Montes F. and Molina Ferna Ndez Luis M. "Total Quality Management, Strategic

Orientation and Organizational Performance: The Case of Spanish Companies." *Total Quality Management*. Vol.17, No.3, (2006): 303-323.

Miles, R.E. and Snow, C. "Organisational Strategy, Structure and Process." New York: NY-McGraw Hills, 1978.

Namiki, N. "Miles and Snow's Typology of Strategy, Perceived Environment Uncertainty and Organizational Performance." *Akron Business and Economic Review*. Vol.20, No.2, (1989): 72-88.

Nunnally, J.C. *Psychometric Theory*. McCraw-Hill, New York, NY: 1978.

Osgood, R.T. "Translating Organisational Strategy into Real Estate Action: The Strategy Alignment Model." *Journal of Corporate Real Estate.* Vol.6, No.2, (2004): 106-116.

Parnell, J.A. "New Evidence in the Generic Strategy and Business Performance Debate: A Research Note." *British Journal of Management.* Vol.8, (1997): 175-181.

Parnell, J.A. and Peter, Wright. "Generic Strategy and Performance: An Empirical Test of the Miles and Snow Typology." *British Journal of Management*. Vol.4, (1993): 29-36.

Pleshko, L.P. "Strategic Orientation, Organisational Structure, and the associated effects on Performance." *Journal of Financial Services Marketing*. Vol.12, No.1, (2007): 53-64.

Porter, Michael E. *Competitive Strategy*. New York: The Free Press, 1980.

Prescott, J.E. "Environments as Moderators of the Relationship between Strategy and Performance." *Academy of Management Journal.* Vol.29, No.2, (1986): 329-346.

Rizzi, J.V. "Capital Budgeting : Linking Financial Analysis to Corporate Strategy." *Journal of Business Strategy.* Vol.4, No.4, (1984): 81-84.

Shimin, Chen. "An Empirical Examination of Capital Budgeting Techniques: Impact of Investment Types and firm Characteristics." *The Engineering Economist*. Vol.40, No.2, (1995): 145-170.

Shimin, Chen. "DCF Techniques and Non-financial Measures in Capital Budgeting: A Contingency Approach Analysis." *Behavioural Research in Accounting*. Vol.20, No.1, (2008): 13-29.

Short, J.C., Ketchen J.D. and Palmer T.B. "Firm, Strategic Group and Industry Influences on Performance." *Strategic Management Journal*. Vol.28, (2007): 147-167.

Slater, S.F. and Narver, J.C. "Product-Market Strategy and Performance: An analysis of the Miles and Snow Strategic Types." *European Journal of Marketing.* Vol.27, (1993): 33-51.

Smith, K.G., Guthrie J.P. and Ming-Jer Chen. "Strategy, Size, and Performance." *Organisation Studies.* Vol.10, No.1, (1989): 63-81.

Van, Brakel A.J. (2004), "The Influence of Competitive Strategy on Capital Investment Decisions." *A Mini-dissertation submitted to UNISA,* Available <atetd.unisa.ac.za/ETD-db/theses/available/etd-07032007-80124/unrestricted/ dissertation.pdf>

Zahra, S.A. and Pearce, II J.A. "Research Evidence on the Miles- Snow Typology." *Journal of Management.* Vol.16, No.4, (1990): 751-768.

Energetic Site Signs and Pop-up Advertisings

Vahid Rangriz and Basava Raja M.G.

Abstract

This paper explores the influences of two precise message-delivery techniques regularly adopted by e-stores: ceaselessly energetic site signs and unforeseen pop-up advertisings. Results from 128 surveys collected in a two-by-two factorial intent, have shown that each of the two techniques has had a major effect on appreciated aggravation in the hypothesised direction. This paper moreover establishes that appreciated aggravation has a significant negative association with a visitor's approach toward the Network. This study fills the vacuum in academic research with respect to the negative influences of Web advertisings and advises caution in the procedure of persuaded techniques. This paper encourages future research exploring the influences of cross-site advertisings on customer approach and advocates additional studies linking format attributes and presentation techniques with attitudinal consequences in the design of business Networks.

The web offers many tools a firm can discover to harvest the payback of this rich medium. Companies find themselves dwelling at the junction of the real and the practical, and are faced with a task that is more multifaceted than delivering an attractive Network (Mitra, 2003). Both practitioners and scholars are beginning to investigate ways to take full advantage of the techniques used in site promotion (Berthon, Pitt, and Watson, 1996; Coyle and Thorson, 2001; Ducoffe, 1996). These techniques may include the overall arrangement of the online retailing interface (Westland and Au, 1998) and such individual features as signs, animation, sound, video, interstitials, and pop-up advertisings (Rodgers and Thorson, 2000). Features like sign size, image maps, audio, and network interactivity have been found to enhance site appeal (Coyle and Thorson; Li and Bukovac, 1999). In a recent study, sign advertising effectiveness was found to be affected by incentive offerings contained in the advertisings as well as the emotional appeal imbedded in the advertising (Xie, Donthu, Lohti, and Osmonbekow, 2004). Nonetheless, the use of such promotional

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techniques also comes with its negative influences. Such influences have been largely overlooked in the academic literature. The questions of how certain advertising technique have influenced customers' perceptions of and attitude toward a site for more research in this field.

Conventional advertising research has recognised a hierarchical model of advertising influences, spanning the spectrum from advertising content to cognition, approach, and performance (Holbrook, 1986; Olney, Holbrook, and Barta, 1991). Olney et al. Saw TV advertising content and techniques influence customers' emotional dimensions, approach, and subsequent viewing performance, for example, zipping and zapping in watching TV and video programmes. This chain of links has been well documented in advertising and marketing research where both content and form variables were examined as predictors of attention, memory, recall, click-through, informativeness, attractiveness, and approach (Rodgers and Thorson, 2000). However, the study of the influences of execution factors extended to the Web involves new factors to be considered and requires a higher level of comprehensiveness due to the volume and scope of a Network in comparison to print or TV advertisings. While maintaining that many of the advertising kind found in traditional media (such as colour, size, and typeface in print media, and audio, sound level, animation, and movement in broadcast) are relevant to the Web, Rodgers and Thorson (2000) believe such techniques as signs, sponsorships, interstitials, pop-up windows, and hyperlinks additions to advertising formats in interactive marketing. A brief description on each type, based on Rodgers and Thorson, is presented in Table 1.

Table 1: Advertising Formats in Interactive Marketing

Advertising Format	Description
Signs	Rectangular-shaped graphics, mostly horizontal but some vertical
Interstitials	Full-screen advertisings between two content pages
Pop-ups	A separate window on top of the user's content window
Sponsorships	Indirect persuasion, such as brand name, associated with key content
Hyperlink	A highlighted word, phrase, or graphic that allows the user to click to go to another page or site.

In addition to information content, format and presentation attributes that contribute to the delivery of network appeal have also been examined (Huizingh, 2000; Palmer and Griffith, 1998) customer performance related to online shopping knowledge is steadily explored in the information systems literature (Bhatngar, Misra, and Raw, 2000; Jarvenpaa and Todd, 1997; Koufaris, Kambil, and Labarbera, 2001). In a recent study, Vijayasarathy (2003) performed a psychographic profiling of online shoppers and studied association between customers' shopping orientations (home, Community, and indifferent) and their meaning of use and actual use of the online shopping medium. Researchers have also examined Network design from the perspective of building a cognitive framework, emphasising enhanced usability through the coherent choice of design elements and composition of the layout (Rosen, Purinton, and Lloyd, 2004).

We recognise the interdisciplinary nature of research in this field, and would like to addition existing research in this compilation of theories and studies that relate content and forms of business Networks to visitor perceptions of and approach toward a site.

Aggravation

Several studies have explored issues addressing customer performance, approach, and perceptions in the online surrounding (Chen and Performancells, 1999; Ducoffe, 1996;

Eighmey, 1997; Koufaris, 2002; Koufaris et al., 2001). Eighmey finds that users are helped by information in an enjoyable framework, whereas finds that users are helped by information in an enjoyable framework, whereas Ducoffe argues that the value of advertising comes from informative claims in an amusing form. Several studies have shown that product symbol and the quality of the shopping experience online have a significant effect on approach toward online shopping and intention to buy (Burke et al., 1992; Jarvenpaa and Todd, 1997; Novak, Hoffman, and Yung, 2000). Appreciated usefulness and ease of use of the Network have both shown to have a strong impact on online customer approaches and performance (Koufaris, 2002; Gefen, Karahanna, and Straub, 2003).

Such research has provided precious measuring tools of customer perceptions and approach, both in traditional media and the online surrounding that might result from a visitor's experience at a Network.

Online customers place great value on the performance as a source of information. In a Jupiter Research survey, 48 percent of respondents indicate they use the performance extensively for product research and information gathering on health or medical information, local events, and/or job postings (Johnson, Slack, and Keane, 1999). With regard to online advertisings 40 percent of respondents say a sign that is informative would grab their attention, and an even larger number (49 percent) would pay concentration to advertisings that contain some reduction or voucher information.

Though, the experience and perceptions of a visitor are individual specific. While one individual might find the flash entry monitor of the Coca-Cola Network entertaining, another person could find it maddening. The recurrent pop-up advertisings that appear on the New York Times Network may be annoying to many of its readers, but there may be some that find the information in the advertisings informative and obliging. The same could be said for the incessantly energetic skyscrapers that frequently appears in the news articles in Yahoo! News. Some users may find them distracting while others may enjoy their content.

An unintentional outcome from visiting a Network is a user's opinion of aggravation. Aggravation is a factor that has been studied in traditional advertising (Greyser, 1973). It could be caused by strategy appreciated to be annoying, offensive, or insulting. Advertising that is overly scheming could also cause aggravation (Ducoffe, 1996). Even though research in traditional advertising identified aggravation as a significant factor that influences customer approach, it has not been widely explored in the online framework. Purposely, scarce research has been done to address the specific features or content elements of a Network that relate to higher levels of aggravation by the visitors and its influence on approach toward the site.

In the traditional media, an annoying business is one that provokes and causes displeasure and momentary impatience (Aaker and Bruzzone, 1985). In the Web framework, aggravation can indicate a user's confusion and distraction or the messiness of the site, all due to the way a Network is presented and the site's features that are present (Chen and Wells, 1999). The source of aggravation may be the negative opinions about the organisation of the site, a feature of the site, or the visitor's frustration with a particular design element.

Certain Web based features may have negative influences on visitor perceptions and approach. These negative elements include scrolling text across the screen or the status bar, continuously running animation, nonstandard link colours, outdated information, complex URLs (uniform resource locations), broken links or anchors, error messages, and pop-ups (Nielson, 1996). For example, it has become standard in most Web browsers that links change from blue to purple or red after being accessed. Any deviation from this convention seems to cause visitor confusion and aggravation.

Animation as a design tool facilitates the communication of product information between the Network and its visitors. For example, Ford Motor Company's Network at http://www.fodvehicles.com includes a virtual showroom that allows the visitor, under his or her control, to view a three-dimensional presentation of the exterior and interior of each model. Such use of animation helps the visitor visualise a three-dimensional arrangement and better understand the features offered in a product. Another example of wise use of animation is at <http://www.weather.com>. When the visitor chooses to view the Doppler radar in motion, the site provides an energetic view of a satellite weather map showing the cloud cover, among other things, changing over time. At other sites featuring computer games and outdoor activities, animation may also increase the appreciated realism of information presented. For example, in a study of the influences of interactivity and vividness on customer approach, Coyle and Thorson (2001) find that a more vivid site, operational through the use of audio and moderate animation, was related to more positive approach toward the site.

Animation can also be used to draw a visitor's concentration. We recognise that the use of continuous animation on many Networks is for the purpose of alerting the visitor of a particular product or event, or an attempt to entertain the visitor while he or she is at the site. In that case, Nielsen (1999) suggests that animation should be done on a one-time only basis, and then the energetic object should become a still image. Nielson (1995) argues that "a web page should not emulate Times Square in New York City in its constant attack on the human senses: give your user some peace that quite to actually read the text!"

Due to the overwhelming effect of moving images on the human tangential vision, the presence of continuous animation on a page makes it very hard to read the text in the middle of a page (Nielsen, 1995). We argue that the continuousness poses a problem that is similar to TV advertising in terms of intrusiveness.

Greyser (1973) found that people felt more irritated by TV businesses than by other media due to the intrusiveness of TV businesses. Continuous animation in much like scrolling text at the bottom of a television screens that cries for attention. It is a form of invasive appearance of information to Network visitors. Such intrusiveness demands concentration like TV businesses, and will similarly cause aggravation like any other intrusive means of advertising. Thus, we so hypothesise:

- H1: Appreciated aggravation of the Network is positively related to the use of continuous animation.

Another frequently adopted Web based promotional technique is the pop-up advertising. We observe that pop-up advertisings, like energetic signs, can be used for both cross-site and in house advertising. Whether a site deploys cross site advertisings or in house advertisings depends on the main type of business the site is conducting. For a portal site such as Yahoo or Microsoft Network (MSN), whether revenue comes at least partially from third-party advertising, crises-site advertisings are a necessary source of its income. Nielsen (2003) maintains that users at search sites are more receptive to targeted advertisings than in other frameworks because theses advertisings often relate to what the users are after, and subsequently the users are more likely to follow the advertisings. While some people often find them annoying, many others find them informative and related their search goal, and thus consider them less annoying than in other circumstances.

On the other hand, firms selling their own products or services online are less tending to deploy cross-site advertisings, either in the form of a sign or pop-up, because it is not in their interest to have visitors click away from their own Network.

However, we observe that many such e-commerce sites do use pop-up advertisings, along with energetic signs, to inform visitors of certain promotions and events. While the business model of portal sites relies on selling advertising space to generate income from third-party advertisings, an e-commerce site selling its own products or services online has a choice between whether to adopt or not to adopt any such advertising. Our research question is whether the use of such techniques for in house advertising causes a higher level of aggravation than the absence of them. Both energetic site sign and pop-up advertisings are ways to reach the customer within the site, but are they good delivery mechanisms for the store?

We have argued that such techniques will cause more aggravation in the case of a continuously energetic site sign. We also quarrel that unforeseen pop-up advertisings could have similar negative influences. In traditional advertising, Greyser (1973) found that interruption was a predominant reason why the British public considered TV advertisements more irrupting than print media. The Internet is a hybrid of print and broadcast media. The use of unforeseen pop-up advertisings closely mirrors the TV businesses' interruptible nature. In addition, the visitor has to find a way to get rid of the popped-up window, the process of which increases the level of aggravation.

In a study the use of interruption implemented via pop-up windows, Xia and Sunharshan (2000) manipulated the frequency of interruptions and found that interruptions had a negative impact on customer decision-making processes. Intrusive formats of advertising like interstitials are found to have "backlash risks" online according to Johnson et al. (1999), where survey found that 69 percent of users consider pop-up advertisings mildly to very annoying, and 23 percent of them said they would never come back to the site again. In light of the above discussion, we hypothesis the following:

- H2: Appreciated aggravation of the Network is positively related to the use of pop-up advertisings.

Approach toward the Site

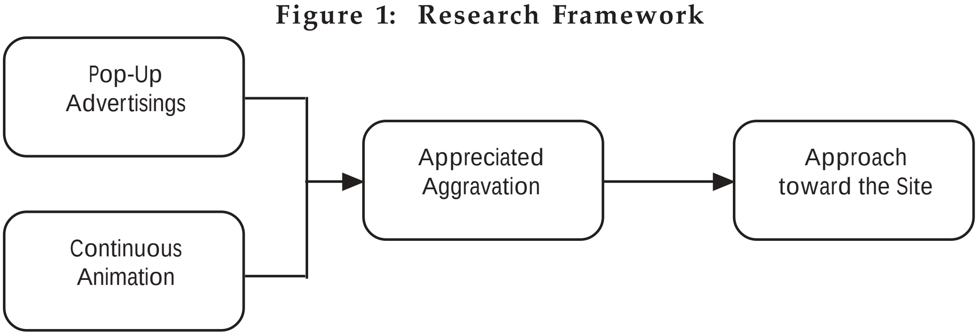
Approach toward the site (Ast) is a measure parallel to approach toward the advertising (Aad) and was developed in response to a need to evaluate site effectiveness, like using Aad to evaluate advertising in traditional media (Chen and Wells, 1999). Aad mediates advertising response to influence brand approaches and purchase intentions (Brown and Stayman, 1992). It is an important factor for marketing and advertising strategies. Ast is an equally useful indicator of a Web user's tendency to respond either favourably or unfavourably to the content of a Network in a natural exposure situation (Chen and Wells). In this paper, we define approach to be a positive affective variable.

The similarity between Aad and Ast arises from the fact that a business network contains information similar to that contained in traditional advertising. Chen and Wells (1999) developed and tested a scale assessing a surfer's general approach toward Network through a six-item scale, incorporating various perspectives that reflect a visitor's positive or negative impressions of a sponsoring company. A Network high in organisation and how in aggravation is likely to be appreciated by the site visitors and hence is likely to receive a favourable approach toward the site, a finding that has been validated by Chen and Wells and Ducoffe (1996). Ast is a direct result of a visitor's perceptual dimensions such as appreciated aggravation (Ducoffe, 1995, 1996). A visitor's affective response to a Web sites many from his or her experience at the Network.

In traditional media, annoyance and aggravation are the main reasons why people criticise advertising (Bauer and Greyser, 1968). Aggravation leads to reduction in advertising effectiveness (Aaker and Bruzzone, 1985). Aggravation is also a cause for visitors to leave a site (Johnson et al., 1999; Nielsen, 1999). Ducoffe (1995) finds a negative and significant correlation of -0.52 between aggravation and the appreciated value of advertising. Chen and Wells (1999) find a positive 0.44 correlation between organisation and Ast, where organisation is measured through descriptions such as not messy, not cumbersome, not confusing, and not annoying.

To validate whether such a negative correlation holds in the framework of a Network, especially in the presence of Web

Figure 1: Research Framework



Note: Solid lines represent positive associations; a dashed line represents a negative association advertising techniques like pop-up advertisings and continuously energetic signs, we hypothesis the following:

- H3: Approach toward the site is negatively related to appreciate aggravation.

Figure 1 summarises the research questions future in this study. We note that appreciated aggravation is just one of the perceptual antecedents to a visitor's approach toward the site. In Web related research, Chen and Wells (1999), Ducoffe (1996), and Eighmey (1997) find appreciated entertainment and appreciated informativeness predictors of Ast, while Coyle and Thorson (2001) find the appreciated telepresence is an important factor in predicting Ast. We believe that testing the negative relationship between aggravation and Ast in this study will help us understand the direct relationship between the use of Network techniques and Ast, and may shed light on the direction of future research in this area.

Research Methodology

Based on Simmon's market research database (Choices II, 2000), customer electronics are researched and purchased by customers between the ages of 18 and 24 at a rate that is proportional to their percentage of the population overall.

As a result, adults of this age group represent an important segment of the real target demographic. They represent about one percent of electronics customers who purchase electronics such as cameras. A business Network selling a variety of cameras was chosen as the site for the experiment involved in this study. The Network, by its own design, makes use of a framed page that contains a navigational header-the site sign-and a main frame underneath it. Hyperlinks in the header change the main frame. Hyperlinks in the main frame change the main frame only. Thus, the header is present all the time. Both the header and the main frame were borderless so that they integrated into each other seamlessly.

This Network was peripherally modified to operationalise the constructs in the study through a two-by-two factorial design. Four versions were created based on the site through the presence or absence of continuously running animation in the site sign, and the presence or absence of pop-up advertisings during a user's visit. There was light animation in the original sign to create energetic version that included an energetic logo, an energetic neon sign saying, "open 24 hours," energetic images of a phone and e-mail icons linking to customer-service and contact pages, and an energetic text sign linking to a prize contest. Still pictures were used in the non-energetic version. Thus, both versions of the header were custom made and resided on the local server. The main frame pointed to the main frame of the real business Network. Content in the main frame was not manipulated. The functionalities of the hyperlinks (in both the custom header and the real site main frame) were maintained and tested to be robust when the custom headers were integrated into the real site main frame.

The pop-up advertisings incorporated a message of quantity (save five percent on $200 or more) offered by the site and a picture linking to a sweepstakes entry from then running at the site. The first pop-up restricted an expiration date of the offer and a close button. The second pop-up contained, in supplementary to an image of a camera, a line of instruction that said, "Click the image above to enter the sweepstakes." Both were created with the theme of the Network and used existing images of the site. The two windows popped up at 30 seconds and three minutes into the visit, respectively. Hence, the four treatment conditions were:

1. Animation without pop-up
2. Pop-up without animation
3. Animation and pop-up
4. Neither animation nor pop-up.

In all four conditions, hyperlinks in the custom header changed the main frame, and hyperlinks in the main frame changed the main frame only. Thus, to each visitor, the custom header was present all the time. As in the original site, both the header and the main frame were borderless.

This experimental design maintained internal validity through the factor manipulations and external validity through the use of a slightly modified real business Network.

Voluntary contribution was sought from students on the campus of a northeast college. One hundred and thirty-six undergraduate students participated in this study through a gift incentive (a disposable camera valued at about $7) and entry into a lottery of four cash prizes (one $100 and three $50 prizes). Each participant was randomly assigned to one of the four treatment conditions, that is, the four versions of the same Network. They were instructed to explore the site for product information and help in finding a model of digital camera for one of his or her close friends.

The task-assignment approach has been used in participation research to manipulate levels of involvement (Buchholz and Smith, 1991; Laczniak and Carlson, 1989). Our study adopted this approach to bring all participants to a similar level of involvement in the task they were assigned. We chose not to instruct them to go into an "I-am-ready-to-buy" mode because we believe that the scenario we presented them with better represents an initial exchange between a visitor and a Network. Opinions about or approaches toward the site formed from this initial exchange would be a key indicator of the effectiveness of the site in retaining site visitors and thus attracting return customers. Additionally, we believe that the I-am-ready-to-buy type of engagement would be more difficult to attain across all participants than the informational search type we assigned them. Finally, a homogenous level of engagement in the assigned task across the entire sample was desirable in our experimental study.

Each participant completed a survey after visiting the site. On average, participants spent slightly under 20 minutes to complete the visit and the survey. The measures taken are explained in the following section. The data collection was done over four weeks. Among surveys returned, 128 were substantially complete and used in data analysis of this study.

Measures

This study was part of a larger research project and it modified breathing scales from the current literature. With respect to the variables concerned in this experiment, appreciated aggravation was measured through three items indicating whether the site was annoying, and frustrating. These scale items have been urbanized, tested, and used in measuring appreciated aggravation of TV advertising and Web advertising, and have yielded fairly high Cronbach's alpha value (>0.8; Ducoffe, 1995, 1996). In Ducoffe's (1996) Web advertising survey, 57 percent of respondents considered an entire Network a form of advertising.

Firms originally displayed brochures and promotional pieces onto the Network to deliver a message that was much like advertising in the online surrounding (Singh and Dalal, 1999). Rodgers and Thorson (2000) think an entire Network a format of interactive marketing. We maintain that the use of these items developed for measuring appreciated aggravation of Web advertising was appropriate for measuring appreciated aggravation of Network as a whole.

Ast was measured through the following three pairs of description: like or dislike, favourable or unfavourable, and good or bad (Coyle and Thorson, 2001). Since product involvement has been found to be a significant predictor of customer approach and performance in e-commerce (Coyle and Thorson, 2001; Koufaris et al., 2001), product participation using the Revised Personal Involvement Inventory (RPII) (Zaichkowsky, 1985) was taken as a potential covariate.

Additionally, to check the effectiveness of our manipulations, after participants completed the attitudinal part of the questionnaire, they were asked to check off whether they saw continuously running animation and whether they experienced pop-up advertisings during their visit. The appendix shows details of the scale items used in this study.

Results

Demographic information taken with the survey shows about 60 percent of the respondents were under 24, and all were roughly evenly split between male and female participants. About 20 percent spent between four to six hours per week online, author 20 percent spent between seven to 10 hours online, and more than 32 percent spent more than 10 hours per week online. With respect to the site, the participants seem to have a generally favourable approach toward the site, with a mean Ast score of 5.47 on a seven-point scale.

Cronbach's alphas on multi-item scales adopted in this study indicate strong scale reliability. Table 2 summarises the means and standard deviations (S.D.) of each scale item.

To examine construct validity of the measures adopted in this study, evidence of the dimensionality of each scale and its discriminate validity was obtained through factor analyses. Construct validity addresses whether a measure measures the construct or variable that is supposed to be measured. A principle component analysis with direct oblimin rotation was performed on each group of scales. The results indicate that items within each scale load on the same factor, and thus are all undimensional. Items belonging to different scales load on their own separate factors, showing evidence of discriminate validity. Table 3 shows that appreciated aggravation (the first three items) loads on the second factor, Ast (the next three items) loads on the third factor, while product involvement (the last 10 item) loads on the first factor. We thus conclude that evidence supports construct validity for all scales adopted.

Table 2: Summary Statistics and Cronbach's Alpha Values

Scale	Mean	S.D.	Cronbach's Alpha
Aggravation			0.9473
This Network is frustrating	2.52	1.49	
This Network is annoying	2.48	1.67	
This Network is aggravating	2.57	1.69	
Approach toward Site (Ast)			0.9525
Bad...Good	5.54	1.27	
Unfavourable...Favourable	5.40	1.31	
Dislike...Like	5.38	1.37	
Product Involvement			0.9352
Important...Unimportant	4.89	1.68	
Irrelevant...Relevant	5.09	1.51	
Means a lot to me...Means nothing to me	4.89	1.68	
Unexciting...Exciting	4.91	1.51	
Dull...Neat	5.18	1.51	
Matters to me...Does not matter to me	4.66	1.54	
Boring...Interesting	5.17	1.47	
Fun...Not fun	4.84	1.73	
Appealing...Unappealing	4.89	1.59	
Of no concern to me...Of concern to me	4.91	1.35	

Manoeuvring checks were performed via one-way ANOVAs (analyses of variance), with each fixed factor (animation or pop-up) as independent variables and a participant's acknowledgment of perceiving (or noticing) the features as the dependent variables. Those who were exposed to the energetic sites were significantly more likely to agree that the site had continuous animation ($M = 0.8281$) than those who were exposed to the non-energetic versions ($M = 0.1406$; $F[1,126] = 113.14$, $P < 0.001$). Those who were exposed to the sites with pop-up advertisings were significantly more likely to agree that they saw pop-up advertisings ($M = 0.8438$) than those that were not exposed to versions with pop-up advertisings ($M = 0.2500$; $F[1, 126] = 69.55$, $p < 0.001$). Thus,

Table 3: Structure Matrix

	Component No.1	Component No.2	Component No.3
Annoying	-.174	.930	-.490
Frustrating	-.231	.915	-.463
Irritating	-229	.938	-.503
Good	.355	-.559	.913
Favourable	.365	-.569	.931
Like	.322	-.592	.912
Relevant	.819	-.088	.229
Exciting	.844	-.145	.346
Neat	.830	-.179	.381
Interesting	.807	-.216	.369
Of concern to me	.881	-.185	.236
Important	.859	-.085	.264
Means something to me	.859	-.085	.264
Matters to me	.774	-.237	.095
Fun	.819	-.277	.064
Appealing	.787	-.329	.091

Extraction method: Principle component; Rotation method; Oblimin with Kaiser

the manipulations were successful. Age, gender, and weekly Web usage were not significantly correlated with either aggravation or approach and thus were dropped from further analyses.

Sample likelihood plots showed patterns of a normal sharing. An equal number of observations (32 per cell) were collected from each action group, and thus we had a balanced design that protected against any potential violations of assumptions in an ANOVA analysis (Hildebrand, 1986). Product involvement, age, gender, and hours spent weekly on the Internet were considered as potential control variables. An ANOVA analysis would be necessary with these control variables as covariate if they have a strong linear correlation with the dependent variable of aggravation. Such a correlation coefficient would have to be at least 0.30 according to Cohen's standard of a medium effect (Cohen, 1988). We examined the correlation between aggravation and product involvement, hours spent on the Internet, age, and gender. Among them, only the correlation between product involvement and aggravation was significant ($p = 0.008$), with a correlation coefficient of -0.232. Since the strength of this correlation is under 0.30, it is not included as a covariate. Neither age nor, gender, nor hours is spent on the Internet, whose correlations were not significant.

A two-way ANOVA was performed treating appreciated as the dependent variable and manoeuvring of the attendance of continuous animation and unforeseen pop-up advertisings as fixed factors in a two-by-two design. Both continuous animation (F [1, 124] = 9.78, $P = 0.002$) and pop-up advertisings (F [1,124] = 7.87, $P = 0.006$) has a significant effect on appreciated aggravation at $p < 0.01$. No interaction effect emerged (F [1,124] = 0.026, $p = 0.872$). Table 4 shows the ANOVA results.

To corroborate the direction of the influences of these two factors, we experience from descriptive statistics that those who were exposed to versions with continuous animation appreciated the site as significantly more annoying ($M = 2.9557$) than did those who were not ($M = 2.1484$). We also scrutinize that those who were exposed to pop-up advertisings appreciated the site as significantly more annoying ($M = 2.9141$)

Table 4: ANOVA for Effects of Continuous Animation and Pop-up Advertisings on Aggravation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial η^2
Corrected Model	a	3	12.561	5.892	.001	.125
Intercept	833.681	1	833.681	391.045	.000	.759
MANIM	20.855	1	20.855	9.782	.002	.073
MPOP	16.772	1	16.772	7.857	.006	.060
MANIM* MPOP	5.556E-02	1	5.556E-02	.026	.872	.000
Error	264.359	124	2.132			
Total	1135.722	128				
Corrected Total	302.042	127				

[a]R Squared = 0.125 (Adjusted R Squared = 0.104)

Table 5: Mean Comparison of Appreciated Aggravation Conditioned upon Manipulated Factor

Manipulated factor	Condition	Mean	S.D.	t	df	Sig. (two-tailed)
Animation	Present	2.9557	1.7684	3.057	126	0.003
	Absent	2.1484	1.1559			
Pop-Up advertisings	Present	2.9141	1.7069	2.722	126	0.007
	Absent	2.1901	1.2706			

than did those who were not (M=2.1901). Separate t-tests comparing means further verified our conclusion from the above ANOVA analysis. Related statistics are shown in Table 5.

We thus conclude that both hypotheses H1 and H2 were supported in this study. To test hypothesis H3, a Pearson correlation analysis was performed between appreciated aggravation and Ast. Aggravation was significantly ($p<0.001$) and negatively correlated with Ast with a Pearson correlation coefficient of -0.613. To validate that such a strong correlation was not the artefact of a large sample, we constructed a confidence interval to see whether zero falls within that interval. If zero does fall within the confidence interval, we cannot reject the null hypothesis of the correlation being zero (Hildebrand, 1986).

The confidence interval of [r-t* standard error, r+t* standard error] was created. With 99 percent confidence interval (Hildebrand, 1986, p. 141, Formula 3.1.37) and the table value of the t distribution with 120 degrees of freedom (p. 757, Table 4), the t statistic is 2.62. The standard error is 0.061. Thus, The 99 percent confidence interval is [-0.773, -0.453], which does not include zero. Thus, we conclude that the negative correlation between aggravation and Ast statistically significant. Hypothesis H3 was supported in this study.

Though not formally hypothesised, the direct impact of continuous animation and pop-up advertisings on Ast was also examined via an ANOVA model where Ast was treated as the dependent variable. Table 6 shows the results.

Table 6: ANOVA for Effects of Continuous Animation and Pop-up Advertisings on Attitude Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig	Partial η^2
Corrected Model	20.628[a]	3	6.876	4.817	.003	.109
Intercept	3663.626	1	3662.626	2566.419	.000	.956
MANIM	10.214	1	10.214	7.155	.009	.057
MPOP	9.563	1	9.563	6.699	.011	.054
MANIM* MPOP	1.410	1	1.410	.988	.322	.008
Error	168.448	118	1.428			
Total	3843.000	122				
Corrected Total	189.076	121				

Dependent Variable: Approach [a]R Squared = 0.109 (Adjusted R Squared = 0.086)

Table 7: Effect size on Aggravation

Treatment Factor	Sig.	η^2	Qualitative Description	Cohen's Standard	
Continuous Animation	.002	.073	Medium	Large	η^2= .1379
Pop-Up Advertisings	.006	.060	Medium	Medium	η^2= .0588
				Small	η^2= .0099

Once again, no interaction effect emerged ($p=0.322$). Both factors have a negative effect on Ast. Those who were exposed to energetic had a less favourable approach toward the site ($M= 5.1913$) than those who were not ($M= 5.7541$). Those who were exposed to pop-up advertisings also had a less favourable approach toward the site ($M= 5.2063$) than those who were not ($M= 5.7571$). Both relationships were statistically significant at $p= 0.009$ and $p= 0.011$ respectively for animation and pop-up advertisings. To put these statistically significant findings in a proper prospective, we include a discussion on effect size, which is "an index of degree of departure from the null hypothesis" (Cohen, 1969, p. 10). In a fixed experiment, it can be measured through the "variance-accounted-for" indicator η^2, which was produced by the ANOVA analysis. Cohen (p.77) observed that the "difficulty arising from the use of PV (percentage of variance) measures lies in the fact that in many, perhaps all, of the areas of performance science, they turn out to be so small!" Based on his subjective averaging of PVs in performance-science literature, Cohen offered a convention of various effect-size measures as a general guideline in performance were used by many researches that reported effect sizes in their studies, and they were restated in the second edition of this book (Cohen, 1988). With these considerations in mind, table 7 presents a summary report of the effect sizes of each promotional technique examined in this paper and their relative strength in Cohen's convention.

We note the two techniques examined in this study had a medium to strong-medium effect on appreciated aggravation. Given Cohen's (1969) standard, these effect sizes were in line with other behavioural-science research results. Though the decision whether to accept or reject a null hypothesis is solely based on statistical significance, reporting effect sizes enables readers to evaluate study and sample reliability, and facilitates meta-analyses as needed in future research (Wilkinson, 1999).

Discussion and Future Research

This investigational study examined the correlation between appreciated aggravation and approach toward the Network. Specifically, we focused on the use of pop-up advertisings and continuous animation for in house presentation of information on discounts, special offers, and announcements. This study examined the effect of using such techniques as delivery mechanisms to reach out to visitors already at the site. Both factors were found to significantly influence appreciated aggravation. In turn, aggravation is a significant forecaster of approach toward the site. Even though aggravation is not only factoring in determining approach toward the Network, we showed that it had a significant negative correlation with approach. To Web marketers and site designers, it means that they should never overlook factors contributing to appreciate aggravation while exploring factors that may contribute to customer perceptions in the positive direction. A recent study found that customers have a generally negative approach toward advertising through intrusive means of short messages delivered to their mobile phones without their prior consent (Tsang, Ho, and Liang, 2004).

The results of our current study also validated observations in industry surveys (Johnson et al., 1999) and practitioners' advice (Nielson, 2000). The insinuation of the findings from this study is that practitioners need to exercise caution in deploying certain Web advertising techniques. Companies selling products or services online may want to reassess using pop-up advertisings and incessant animation as delivery mechanisms to communicate information to customers visiting their networks. Nielson (2004) advises that users have learned to stop paying attention to anything that looks like an advertisement through what he calls sign sightlessness, animation avoidance, and pop-up purges. This presents new challenges to Web marketers and site designers.

We presented our participants with the situation of an exchange with a Network. We believe that such an initial exchange plays a significant role in an e-store's ability to attract users and convert them to buyers. We believe that for ready-to-buy visitors, the effect of online advertising may vary. They may be hardly annoyed by the advertisings if they directly do what they want. They may be excited about an offer in the advertisings and buy something right away. They may also be aggravated by the annoying advertisings and quite using site altogether. Among an e-commerce site's functions of presales product introduction, sales, transaction, and post sales service and support, we focused on the first-stage contact of a potential customer to the Network. We examined techniques that may impact a visitor's approach toward the site, which may subsequently influence a visitor's intention to revisit the site and become a buyer. Whether similar results will be seen in the inhabitants of ready-to-buy shoppers leftovers to be studied in future research.

As we have discussed earlier, we studied the effect of pop-up advertisings and energetic site signs as delivery mechanisms of same-company announcements, promotions, and discounts, but not for third-party advertisements. Such content may be more pertinent to customers searching for general product information than ready-to-buy shoppers. However, our results cast doubts on whether these mechanisms are truly effective. Nonetheless, we distinguish the use of cross-site advertisings, which are most likely used by portals and online publishing sites of generate revenue (as part of their business model). A recent study by Yoo, Kim, and Stout (2004) focused on just this type of cross-site energetic sign advertisings and found that energetic signs promoted better attention-grabbing capabilities and higher recalls, as well as a more favourable approach toward the advertising than static sign advertisings. In the meantime, Yoo et al. recognise that too much animation, though eye infectious, and may reduce advertising effectiveness due to the possible negative affective responses such as aggravation or annoyance. We also suspect that results could be very different from our current study in search-engine sites due to the fact that users visiting those sites have an explicit intention to leave them once they find a link of attention, be it a text link or picture advertising. What influences such cross-site advertisings may have remains to be examined in further studies.

A possible restraint of the study was the use of student samples. Students are deemed appropriate participations in that they make a significant piece of the Internet population ("GVU's 10th WWW Survey," 1998). One of the arguments for using a homogenous sample such as undergraduate's college students in that it makes it easier to attain internal validity (Greenberg, 1987). While the use of students may intimidate external validity, that threat mitigated by the fact that our student population was from a university in a densely populated suburban area. Such student may be more representative of the general population and may be more appropriate for customer performance studies than more traditional college students that attend universities in remote rural areas (James and Sonner, 2001).

The use of an experimental approach with a custom-tailored version of a Network in this study is another limitation. If a real-life Network was used, visitors might have a different reaction to the promotional techniques. Our research design called for manipulation of the two factors while holding everything else constant. To implement such a design with multiple versions of a real-life Network would have been prohibitively costly. On the other hand, we argue that an experimental study has its advantage in its ability to validate causal relationships between the treatment influences and the dependent variable. Investigational research, though limited in scope, goes beyond the prognostic power of observational research. In completely randomised design fixed-factor experiments, the differences in dependent relative variables can be reasonably attributed to the participants' membership in different treatment groups, and thus a causal effect between the treatment factor and the dependent variable can be validated (Huck, Cormier, and Bounds, 1974).

In spite of the limitations addressed above, we were confident by the findings of this study. To answer the question whether the fundamental association between executional factors and attitudinal outcome exist online, experiments than can be used in cross-group comparisons are required. Such research is now common in the literature (Coyle and Thorson, 2001; Li and Bukovac, 1999; Yoo et al., 2004), and our study represents an addition to this line of research that explores the influences of different combinations of elements online.

Further research should explore the influences of the use of such promotional techniques in combination with influences of situational factors, such as portal sites vs. e-store sites, surfers vs. Buyers, on visitor perceptions and approach.

Additional investigation should also examine the impact of other media presentation factors in e-business. In summary, this study extended and validated existing theories in advertising research in the Web framework and considered new content and format factors that may influence visitor perceptions and approach. It is necessary to take an exact and scientific look at the various components that go into doing business online in order to help electronic business develop in a arrangement, efficient, and effective way (Koufaris et al., 2001). Our study joins the pursuit that is beginning to explore the influences of presentation formats and system attributes on customer perceptions and approach, which in turn may impact the bottom line of firms who conduct business online.

Key words

Pop-up Advertisings (Pop-ups), Aggravation, Online Customers (e-commerce), e-store, Network.

References

Aaker, D. A., and Bruzzone, D. E. "Causes of Aggravation in Advertising." *Journal of Marketing*. 49, (1985): 47-57.

Bauer, R.A., and Greyser, S. A. *Advertising in America Customer view.* Boston: Harvard University Press, 1968.

Berthon, P., Pitt, L.F., and Watson, R. T. "The World Wide Web as an advertising medium: Toward an understanding of conversion efficiency." *Journal of Advertising Research.* 36 (1), (1996): 43-54.

Bhatnagar, A., Misra, S., and Raw, H.R. "On Risk, Convenience, and Internet Shopping Performance." *Communications of the ACM.* 43 (11), (2000): 98-105.

Brown, S.P., and Stayman, D.M. "Antecedents and Consequences of Approach toward the Advertising:

A meta-analysis." *Journal of Customer Research*. 19 (1), (1992): 34-51.

Buchholz, L.M., and Smith, R.E. "The Role of Customer Involvement in Determining Cognitive Response to Broadcast Advertising. *Journal of Advertising*. 20 (1), (1991): 4-17.

Burke, R.R. "Do you see what I see? The Future of Virtual Shopping." *Journal of the Academy of Marketing Science*. 25 (4), (1997): 352-360.

Chen, Q., and Wells, W.D. "Approach toward the site." *Journal of Advertising Research*. 39 (5), (1999): 27-38.

Choices II. Retrieved from Simmon's Market Research Database, 2000.

Cohen, J. *Statistical Power Analysis For The Performanceal Sciences*. (2nd Ed.). Hillsdale, NJ; Erlbaum, 1988.

Coyle, J. R. and Thorson, E. "The Influences of Progressive Levels of Interactivity and Vividness in Web Marketing Sites." *Journal of Advertising*. 30 (3), (2001): 65-77.

Ducoffe, R. H. "How Customers assess the Value of Advertising." *Journal of Current Issues and Research in Advertising.* 17 (1), (1995): 1-18.

Ducoffe, R. H. "Advertising Value and Advertising on the Web." *Journal of Advertising Research.* 36 (5), (1996): 21-34.

Eighmey, J. "Profiling user responses to business Network." *Journal of Advertising Research.* 37 (3), (1997): 59-66.

Gefen, D., Karahanna, E., and Straub, D. W. "Trust and TAM in Online Shopping: An integrated Model." *MIS Quarterly*. 27 (1), (2003): 51-90.

Greenberg, J. "The college sophomore as guinea pig: Setting the record straight/ Student guinea pigs: Porcine predictors and particularistic phenomena." *The Academy of Management Review.* 12 (1), (1987): 157-159.

Greyser, S.A. "Aggravation in Advertising." *Journal of Advertising Research*. 13 (1), (1973): 3-10.

"GVU's 10th WWW user Survey." Retrieved from <http:// www.cc.gatech.edu/> user_survey-1998-10.

Hildebrand, D.K. (1986). "Statistical Thinking for Performanceal Scientists. Boston: Duxbury Press.

Holbrook, M.B. "Emotion in the Consumption Experience: Toward a new model of the Human Customer. In R.A. Perterson et al. (Eds.). The Role of affect in Customer Performance: Emerging Theories and Applications (17-52). Lexington, MA: Heath Publishing, 1986.

Huck, S.W., Cormier, W.H., and Bounds, W.G. *Reading Statistics and Research*. New York: Harper and Row, 1974.

Huizingh, E.K.R.E. "The Content and Design of Networks: An Empirical Study." *Information and Management.* 37, (2000): 123-134.

James, W.L., and Sonner, B.B. "Just say no to Traditional Student Samples." *Journal of Advertising Research.* 41 (5), (2001): 63-71.

Jarvenpaa, S. L., and Todd, P. T. "Customer Reactions to Electronic Shopping on the World Wide Web." *International Journal of Electronic Commerce*. 1 (2), (1997): 59-88.

Johnson, M., Slack, M., and Keane, P. "Inside the Mind of the Online Customer: Increasing Advertising Effectiveness *Jupiter Research*. Vol.18, 1999. Retrieved Form <Http:// Www.Jupiter.Com>

Koufaris, M. "Applying the Technology Acceptance Model and Flow Theory to Online Customer Performance." *Information System Research.* 13 (2), (2002): 205-223.

Koufaris, M., Kambil, M. A., and Labarbera, P. A. "Customer performance in Web-based commerce: An Empirical Study." *International Journal of Electronic Commerce.* 6 (2), (2001): 131-154.

Laczniak, R. N., and Carlson, L. "Examining the Influence of Approach-Toward-The-Advertising on Brand Approachs." *Journal of Business Research*. 19 (4), (1989): 303-311.

Li, H., and Bukovac, J. L. "Cognitive Impact of Sign Advertising Characteristics: An Experimental Study." *Journalism and Mass Communication Quarterly.* 76 (2), (1999): 341-353.

Lohse, G. L., and Spiller, P. "Electronic Shopping." *Communications of the ACM.* 41 (7), (1998): 81-86.

Mitra, A. (2003). "Cybernetic Space: Bringing the Virtual and the Real Together." *Journal of Interactive Advertising.* 3 (2). Retrieved from <http://www.jiad.org>.

Nielsen, J. *Multimedia Guidelines*. Jakob Nielsen's Alertbox. 1995. Retrieved from <http://www.useit.com/alertbox>

Nielsen, J. "Top Ten Mistakes in Web Design." Jakob Nielsen's Alertbox, 1996. Retrieved from <http://www.useit.com/alertbox>

Nielsen, J. "User Interface Directions for the Web." *Communications of the ACM*. 42 (1), (1999): 65-72.

Nielsen, J. "Is navigation useful?" Jakob Nielsen's Alertbox. 2000. Retrieved from <http://www.useit.com/alertbox.

Nielsen, J. "Making Web advertisements work." Jakob Nielsen's Alertbox. 2003. Retrieved from <http://www.useit.com/alertbox>

Nielsen, J. Top ten mistakes in Web design (Rev. Ed.). Jakob Nielsen's Alertbox, 2004. Retrieved from <http://www.useit.com/alertbox.

Novak, T. P., Hoffman, D. L., and Yung, Y. "Measuring the Customer Experience in Online Surroundings: A Structural Modelling Approach." *Marketing Science.* 19 (1), (2000): 22-42.

Olney, T. J., Holbrook, M. B., and Batra, R. "Customer responses to Advertising: The Influences of Advertising Content, Emotions, and Approach toward the Advertising on Viewing Time." *Journal of Customer Research*. 17, (1991): 440-453.

Palmer, J.W., and Griffith, D.A. "An Emerging Model of Network Design for Marketing. *Communications of the ACM.* 41 (3), (1998): 45-51.

Rodgers, S., and Thorson, E. "The Interactive Advertising Model: How users appreciate and process Online Advertisings." *Journal of Intercativce Advertising.* (1), 2000. Retrieved from <http://jiad.org/voll/nol/rodgers>

Rosen, D.E., Puriton, E., and Lloyd, S.J. "Network Design: Building a Cognitive Framework." *Journal of Electronic Commerce in Organisations*. 2 (1), (2004): 15-28.

Singh, S. N., and Dalal, N. P. "Web Homepages as Advertisements." *Communications of the ACM*. 42 (8), (1999): 91-98.

Tsang, M.M.S., and Liang, T. "Customer Approach Mobile Advertising: An Empirical Study." *International of Electronic Commerce*. 8 (3), (2004): 65-78.

Vijayasarathy, L.R. "Psychographic Profiling of the Online Shopper." *Journal of Electronic Commerce in Organisations*. I (3), (2003): 48-72.

Westland, J.C., and Au, G. "A Comparison of Shopping Experience across Three Competing Digital Retailing Interfaces." *International Journal of Electronic Commerce.* 2 (2), (1998): 57-69.

Xia, L., and Sudharshan, D. "An Examination of the Influences of Cognitive Interruptions on Customer On-Line Decision Processes. Paper presented at the *Second Marketing Science and the Internet Conference*. Los Angeles, 2000.

Xie, F.T., Donthu, N., Lohtia, R., and Osmonbekow, T. "Emotional Appeal and Incentive Offering in Sign Advertisements." *Journal of Interactive Advertising*. 4(2), 2004. Retrieved from <http://www.jiad.org>

Yoo, C.Y., Kim, K., and Stout, P.A. "Assessing Influences of Animation in Online Sign Advertising: Hierarchy of Influences Model." *Journal of Interactive Advertising*. 4(2), 2004. Retrieved from < http:// www.jiad.org>.

Zaichkowsky, J.L. "Measuring the Involvement Construct." *Journal of Customer Research*. 12 (3), (1985): 341-352.

Appendix: Scale Items for Measures Taken in this Study

[Appreciated Aggravation] Circle the number that best indicate your agreement or disagreement with each statement (anchored by l, definitely disagree, and 7, definitely agree).

This Network is frustrating.	1	2	3	4	5	6	7
This Network is performance.	1	2	3	4	5	6	7
This Network is annoying.	1	2	3	4	5	6	7

[Approach toward the Site] Please use the description words listed below to indicate your overall impression of this site (1, negative, and 7, positive).

Bad	1	2	3	4	5	6	7	Good
Unfavourable	1	2	3	4	5	6	7	Favourable
Dislike	1	2	3	4	5	6	7	Like

[Product Involvement] We would like to know how interested you are in cameras, camcorders, or photography in general. Please use the series of descriptive words listed below to indicate yours level of interest in such products.

Important	1	2	3	4	5	6	7	Unimportant
Irrelevant	1	2	3	4	5	6	7	Relevant
Means a lot to me	1	2	3	4	5	6	7	Means nothing to me
Unexciting	1	2	3	4	5	6	7	Exciting
Dull	1	2	3	4	5	6	7	Neat
Matters to me	1	2	3	4	5	6	7	Does not matter to me
Boring	1	2	3	4	5	6	7	Interesting
Fun	1	2	3	4	5	6	7	Not fun
Appealing	1	2	3	4	5	6	7	Unappealing
Of no concern to me	1	2	3	4	5	6	7	Of concern to me

[Manipulation Checks] Please check what you saw at this site. Check all that apply.

Continuously Running Animation	Check this box if the site displays any animation that is continuously running on the screen. In case you need a definition, animation means an active or moving image.
Pop-Up Advertising (Pop-Up Windows)	Check this box if the site uses any unexpected pop-up windows for promotional messages or advertising.

[Demographic] Answers on this survey are anonymous. We appreciate your response to the following questions.

1. How many hours a week, on average, do you spend on the Internet?

   0 ☐ 1-3 ☐ 4-6 ☐ 7-10 ☐ More than 10 hours ☐

2. Your age: 16-24 ☐ 25-30 ☐ 31-40 ☐ over 40 ☐

3. Your gender: F ☐ M ☐

The Manager and Conflict Management

Ruhi Bakhare

Abstract

The article deals with conflict management as the absolutely essential skills managers should possess. The author examines in detail ingredients of conflict, causes and sources of conflict, types of conflict, and resolution of conflicts. Concluding the article she suggests key managerial actions and structures to minimize conflict. With ample examples and illustrations comprising many tables and models including Conflict Process Model, the author dexterously establishes her argument that the skills in resolving conflicts could be promoted easily and effectively if the managers would be conscious of the knowledge of conflict management.

Conflict is a natural disagreement resulting from individuals or groups that differ in attitudes, beliefs, values or needs. It can also originate from past rivalries and personality differences. In organizations a conflict can take many forms and can stem from many sources i.e. conflict may arise between individuals, between groups or in any organizational level.

"A conflict is a process, in which two elements exist at one given time together and they oppose each other or are incompatible." It can also be defined as a process that begins when one party perceives that another has negatively affected, or is about to negatively affect something that the first party cares about. To be more specific, it is a process in which person A deliberately tries to offset the efforts of person B by some form of blocking that will result in frustrating B in attaining his goals or furthering his interests.

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The Ingredients of Conflict

Needs: - Conflicts arise when we ignore others' needs, our own needs or the group's needs. Be careful not to confuse needs with desires (things we would like, but are not essential).

Perceptions: - People interpret reality differently. They perceive differences in the severity, causes and consequences of problems. Misperceptions or differing perceptions may come from:

self-perceptions, others' perceptions, differing perceptions of situations and perceptions of threat.

Power: - How people define and use power is an important influence on the number and types of conflicts that occur. This also influences how conflict is managed. Conflicts can arise when people try to make others change their actions or to gain an unfair advantage.

Values: - Serious conflicts arise when people hold incompatible values or when values are not clear. Conflicts also arise when one party refuses to accept the fact that the other party holds something as a value rather than a preference.

Feelings and Emotions: - Many people let their feelings and emotions become a major influence over how they deal with conflict. Conflicts can also occur because people ignore their own or others' feelings and emotions. Other conflicts occur when feelings and emotions differ over a particular issue.

Though conflict is often cast in the role of the villain, it has long been recognized that it is not inherently pathological or destructive. It is pervasiveness indicates that it has many positive outcomes. The following are some of the positive consequences of conflict:

- Major stimulant for change
- Avoiding group thinking
- Fostering creativity and innovation
- A minimum level of conflict as optimal
- Raising and addressing problems
- Energizing work on appropriate issues
- Motivating others to participate
- Helping people to make use of differences

The following are the negative consequences of conflict:

- Creating stress in people
- Diversion of energy
- Instability and chaos
- Hampering productivity
- Lowering morale
- Causing more and continued conflicts
- Causing inappropriate behaviours.

Causes and Sources of Conflict:

Interest Conflicts: These refer to the actions and emotions by which people become involved to gain or protect their needs.

Information Conflicts: They are caused by lack of information or differences in same information.

Relationship Conflicts: They are due to differences of personality and emotions, as well as misperceptions, stereotypes and prejudices.

Structural Conflicts: They emerge over differing ideas concerning process, rules and power to control time and space such as in land boundaries, distribution of goods, or resource use issues.

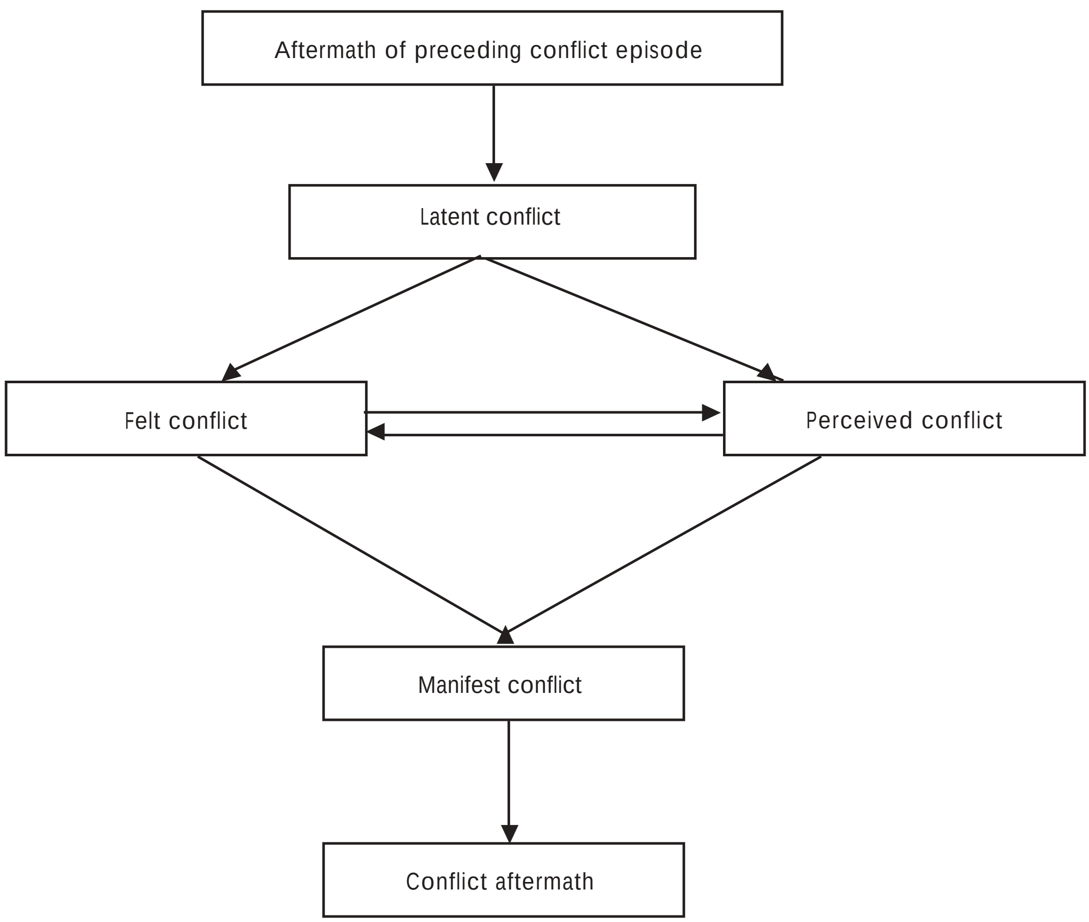
Value Conflicts: They refer to clashes between cultural, social or personal beliefs or different world views and traditions.

Each of us tends to be better at and more comfortable with certain types of behaviour in conflict situations. This does not mean that we always respond in the same way. In terms of the five modes just described, however, most individuals tend to make predominant use of one or a few of the modes, while making relatively less use of the remainder. Each of the modes has value; none is intended to be good, bad, or preferable in all situations. One worthwhile goal for group members is to increase their repertoire of responses to conflict, with the flexibility to use various modes in different situations and in appropriate ways.

Conflict management is the principle that all conflicts cannot necessarily be resolved, but learning how to manage conflicts can decrease the odds of nonproductive escalation. Conflict management involves acquiring skills related to conflict resolution, self-awareness about conflict modes, conflict communication skills, and establishing a structure for management of conflict in your environment.

Dr. L.R.Pondy, in his book called "Organizational Conflict: Concepts and Models" has mentioned the following conflict process:

Pondy's Conflict Process Model



Here the process indicates the series of events. Each conflict is made up of a sequence of interlocking conflict episodes.

- The aftermath of the preceding conflict episodes sets the stage for those that follow. Past experience with the antagonistic party sets expectations and to a certain extent determines the response to new episodes.
- Latent conflict refers to the underlying conditions for conflict. Scarcity of resources, that drive for autonomy versus the need for control and divergence of personal or unit goals are examples of such underlying conditions.
- Perceived conflict occurs with the awareness of the existence of the latent conditions. In other words it is

awareness by one or more parties of the existence of conditions that create opportunities for conflict to arise.

- Felt conflict is an emotional involvement in a conflict creating anxiety, tension, frustration, or hostility.
- Manifest conflict is expressed through behavior. The expression may be as low key as apathy or as dramatic as over hostility or aggression. Whether perceived conflicts and felt conflicts become manifest depends partly on the availability of resolution mechanisms such as administrative review procedures or appeal processes. If the disagreement is strategic in nature especially involving unit goals, then conflict is likely.
- The conflict aftermath then becomes an environmental factor for the next episode. If the conflict is resolved, the parties may move towards a cooperative relationship.

Types of Conflict

Conflict

- Individual Conflict
  - Inter Individual
  - Intra Individual
- Group Conflict
  - Inter Group
  - Intra Group
- Organizational Conflict
  - Inter Organizational
  - Intra Organizational

Intra individual Conflict: This type of conflict is internal to the person and is probably the most difficult type to analyze. This leads to types of conflicts:

1. Goal Conflict: - It occurs when two or more competing goals exist.
2. Role Conflict: - It is the result of divergent role expectations.

Inter Organizational Conflict: These are the conflicts within an organization. The types of inter organizational conflict are:

1. Management Vs Government
2. Inter Management
3. Inter Union
4. Union Vs Government
5. Union Vs Management

Types of Managerial Actions that cause Workplace Conflicts

1. Poor Communications

a. Employees experience continuing surprises, they aren't informed of new decisions, programmes, etc.

b. Employees don't understand reasons for decisions, and they aren't involved in decision-making.

c. As a result, employees trust the "rumour mill" more than management.

2. The Alignment or the Amount of Resources is Insufficient. There are:

a. Disagreement about "who does what"
b. Stress from working with inadequate resources

3. **"Personal Chemistry,"** including conflicting values, perceptions, interests or actions among managers and employees, for example:

a. Strong personal natures don't match.
b. We often don't like in others what we don't like in ourselves.

4. **Leadership Problems**, including inconsistent, missing, too-strong or uninformed leadership (at any level in the organization), evidenced by:

a. Avoiding conflict, "passing the buck" with little follow-through on decisions.
b. Employees see the same continued issues in the workplace.
c. Supervisors don't understand the jobs of their subordinate.

Strategies for determining what the conflict is about and how it is being addressed?

Interest Based Framing

Interest-based framing describes conflicts in terms of interests, rather than positions. Often, interests are compatible, even when positions are not. Thus interest-based framing enables the parties to identify win-win solutions to problems that might not have been evident when the issues were described in terms of the parties' positions.

Fairness-Based Framing

In fairness-based framing, the parties approach the conflict as an effort to obtain what is rightfully theirs. In doing this, they base their arguments on principles of fairness which are accepted by the larger society, including their more reasonable opponents.

Needs-Based Framing

This approach frames a conflict as a collective effort to fulfill the fundamental human needs of all parties. By eliminating the tensions that arise when these needs go unmet, the approach can sharply reduce the level of conflict.

Joint Reframing/Assisted Reframing

When opponents in a conflict each define, or frame, the conflict in very different terms it can make cooperative problem solving very difficult. An exercise in joint reframing can help each side see the conflict as the other side sees it, which can help both sides confront the situation in a more constructive way. It can even be helpful to get an outside observer to help one side alone assess the conflict to be sure their view is reasonably fair and accurate.

Integrative (or Win-Win) Reframing

Conflicts can usually be defined in a variety of ways. When conflicts are being approached as unavoidable win-lose situations, it is often useful to ask whether it is possible to redefine the situation so that integrative (or win-win) solutions can be obtained. This is especially important when the original problem definition leaves no acceptable alternatives for the opponent. Although integrative reframing is not always possible, often it is possible to reframe at least part of the conflict in this way.

Mirror Imaging

Mirror imaging is a strategy which parties can use to assess the reasonableness of their behaviour. It asks the parties to look at themselves the way others see them and make appropriate changes if they do not like what they see. Often if disputants will look at themselves honestly, they will sometimes notice that they are doing the same kinds of things—name calling, deception, and rumor spreading, for example—that they fault their opponents for doing. Once this is understood, parties can change their behaviour to appear more reasonable, without altering or undermining their true interests at all.

Accepting, Rather than Challenging the Situation

All grievances and complaints do not have to be framed as conflicts. Sometimes it is wiser for the parties to conclude that the issue is not important enough to justify the cost of confrontation. In such cases, the issue can be resolved by simply "agreeing to disagree" or accepting the situation as another disagreeable, but unavoidable, fact of life.

Power Sharing

Power sharing is a strategy for resolving disputes over who should have the most powerful position in the social hierarchy. Instead of fighting over who should have power over whom, power sharing relies upon the joint exercise of power. If conflicts can be reframed to focus on how such power sharing might take place, they can become much more constructive.

Goal Clarification

Being clear about one's goals before acting is essential for disputants and third party interveners. After identifying the nature of the problem, figuring out what one wants and what a good end result would be is essential for determining how to respond to any conflict situation.

Finding and Borrowing Eloquent Statements of the Common Core Issues

One way to clarify the core issues is for the parties to review eloquent statements from prominent individuals who have struggled with similar problems and found a compelling way to state the core issues. If one of these statements seems to reflect their situation it could be adapted to the new context and used as an effective way to frame the conflict.

Understanding the Usefulness of Conflict

Although many people and cultures assume conflict is bad, conflict is actually necessary to the healthy functioning of social groups, as it provides a way for interests to be balanced and mutual needs met. If the utility of conflict is understood, then mechanisms can be developed for allowing conflict to occur in a controlled and constructive way.

Opening Lines of Communication

Successful communication requires that the parties have a way of contacting one another which they feel comfortable using. This means that they should know what to do if they want to pass a message to other parties and that the other parties will carefully attend to the messages that they receive.

Constituent Communication

Constituent communication techniques enable a group's negotiators to convey information obtained through their small group negotiation or communication efforts to the larger group of constituents.

Establish Personal Relationships

People who have personal relationships are more likely to be able to communicate effectively and understand each other than those who do not. Again, though this is not a panacea, it helps to try to establish personal relationships with people on the other side of a conflict when such do not exist.

Typically managers respond to conflict by using any of the following styles:

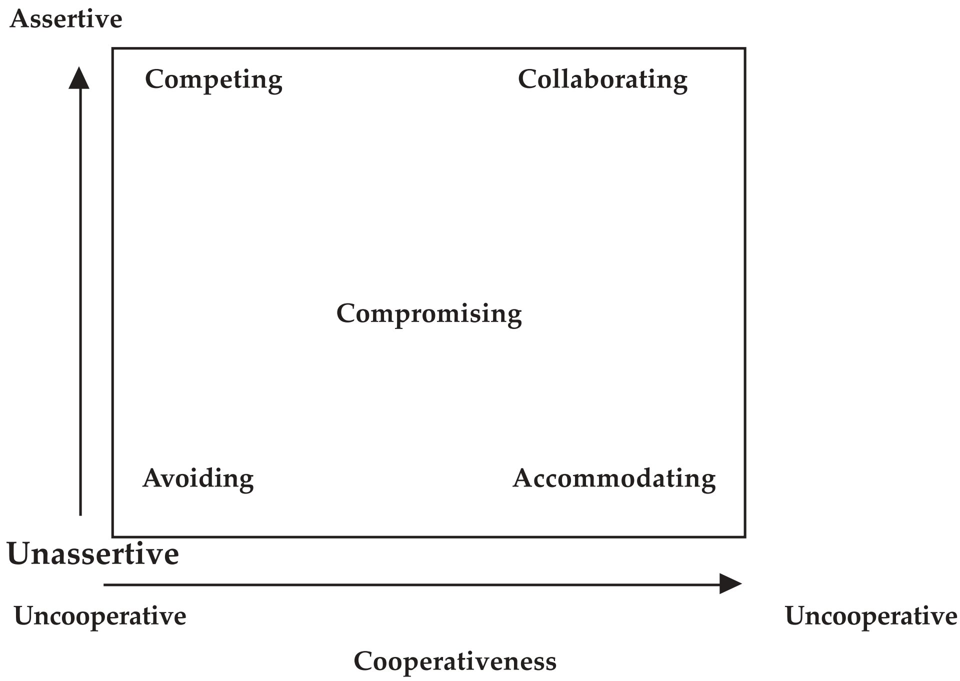
- Competing
- Avoiding
- Accommodating
- Compromising
- Collaborating.

Each of these modes can be characterized by two scales: assertiveness and cooperation. None of these modes is wrong to use, but there are right and wrong times to use each. The following sections describe the five modes. The information may help each team member to characterize her/his model for conflict management.

Compromising

The compromising mode is moderate assertiveness and moderate cooperation. Some people define compromise as "giving up more than you want," while others see compromise as both parties winning. Times when the compromising mode is appropriate are when you are dealing with issues of moderate importance, when you have equal power status, or when you have a strong commitment for resolution.

Conflict Resolution Styles



Source: Thomas & Kilmann (1974)

Compromising Skills

- Negotiating
- Finding a middle ground
- Assessing value
- Making concessions

Accommodating

The accommodating mode is low assertiveness and high cooperation. Times when the accommodating mode is appropriate are to show reasonableness, develop performance, create good will, or keep peace. Some people use the accommodating mode when the issue or outcome is of low importance to them. The accommodating mode can be problematic when one uses the mode to "keep a tally" or to be a martyr.

Accommodating Skills

- Forgetting your desires
- Selflessness
- Ability to yield
- Obeying orders

Competing

The competing conflict mode is high assertiveness and low cooperation. Times when the competing mode is appropriate are when quick action needs to be taken, when unpopular decisions need to be made, when vital issues must be handled, or when one is protecting self-interests.

Competing Skills

- Arguing or debating
- Using rank or influence
- Asserting your opinions and feelings
- Standing your ground
- Stating your position clearly

Avoiding

The avoiding mode is low assertiveness and low cooperation. Many times people will avoid conflicts out of fear of engaging in a conflict or because they do not have confidence in their conflict management skills. Times when the avoiding mode is appropriate are when you have issues of low importance, to reduce tensions, to buy some time, or when you are in a position of lower power.

Avoiding Skills

- Ability to withdraw
- Ability to sidestep issues
- Ability to leave things unresolved
- Sense of timing

Collaborating

The collaborating mode is high assertiveness and high cooperation. Collaboration has been described as "putting an idea on top of an idea on top of an idea…in order to achieve the best solution to a conflict." The best solution is defined as a creative solution to the conflict that would not have been generated by a single individual. With such a positive outcome for collaboration, some people will profess that the collaboration mode is always the best conflict mode to use. However, collaborating takes a great deal of time and energy. Therefore, the collaborating mode should be used when the conflict warrants the time and energy. Times when the collaborative mode is appropriate are when the conflict is important to the people who are constructing an integrative solution, when the issues are too important to compromise, when merging perspectives, when gaining commitment, when improving relationships, or when learning.

Collaboration Skills

- Active listening
- No threatening confrontation
- Identifying concerns
- Analyzing input

Key Managerial Actions / Structures to Minimize Conflicts

1. **Regularly review job descriptions**. Get your employee's input to them. Write down and date job descriptions. Ensure:

   a. Job roles don't conflict
   b. No tasks "fall in a crack."

2. **Intentionally build Relationships with all Subordinates.**

   a. Meet at least once a month alone with them in office
   b. Ask about accomplishments, challenges and issues

3. **Get regular, written Status Reports** and includes:

   a. Accomplishments
   b. Current issues and needs from management
   c. Plans for the upcoming period.

4. **Conduct Basic Training** about:

   a. Interpersonal communications
   b. Conflict management
   c. Delegation.

5. **Develop procedures for routine tasks and include the employees' input.**

   a. Have employees write procedures when possible and appropriate.
   b. Get employees' review of the procedures.
   c. Distribute the procedures.
   d. Train employees about the procedures.

6. **Regularly hold management meetings**, for example, every month, to communicate new initiatives and status of current programmes.

7. **Consider an anonymous suggestion box in which employees can provide suggestions.**

Ignoring Employee Conflicts can be Dangerous

Managers often ignore conflicts between employees hoping they will disappear or resolve themselves. Clashes between co-workers often begin as work-related issues then spiral into personal and emotional conflicts. Long-term disagreements can actually damage your company's culture, employee morale and overall productivity.

Unfortunately, in this tight labour market, employees who might have left for another job if a conflict arose are unable to do so. This often results in escalating emotional situations in the workplace and more employee issues for managers.

Employee conflicts rarely involve just two parties and often entangle and polarize others. When employees begin passing information back and forth and taking sides, it ceases to become merely a conflict and turns into a company "sporting" event. Co-workers begin to take an active part, but only one person can be the winner.

Because it's hard to quantify or define these types of conflicts, managers are hesitant to act. Here are some signals that a bonfires conflict exists and requires action:

- A work-related conflict between two employees was never resolved.
- It is a "well-known fact" that two parties do not like each other.
- The two employees go out of their way to avoid or antagonize one another.
- Many employees seem to have an opinion about the conflict and are sharing their thoughts with others in the office.
- Other employees have asked their manager to resolve it.
- A change in behaviour is visible in one or both employees.

Failure to act gives other employees the impression that management is avoiding the conflict. Other consequences can be emotional issues for the employees directly involved, triggering stress-related absences or serious health issues.

A lack of confidence in their ability to resolve conflict is the main reason managers do not get involved. If the conflict is not an illegal harassment or discrimination issue, consider the following two-step approach.

Deal with both Employees separately:

- Acknowledge awareness that the conflict exists.
- Ask each employee how he or she would like to be viewed within the organization.
- Tell them candidly how they are viewed currently.
- Describe how the conflict affects the business (productivity, lost time, etc.)
- Ask if they are truly interested in returning to a non-conflict situation, and if they are willing to take actions to do so.
- Describe consequences of not resolving the conflict.

Working with the Employees together:

- Have the employee's list situations in which they must work together.
- Get agreements on the behaviours they will exhibit (cordial tone of voice, a commitment to fully communicate, and no overt body language such as eye rolling, making faces).
- Ask if they will agree to discontinue all discussions of the conflict with others at work.
- Make decisions about how progress will be measured: biweekly short meetings, etc.
- Create an issue resolution process for them to use. Going behind each other's backs for help will not be tolerated.
- Give appropriate praise for their participation in the conflict resolution process. This attention will help replace the attention they get as either the "victim" or the "perpetrator."

There are resources available if managers feel uncomfortable conducting employee sessions of this nature. Employee

Assistance Programmes or human resources consultants can help guide employers through the process. Attorneys usually reserve their Alternative Dispute Resolution skills for issues when the process is an alternative to legal action and rarely are involved in non-litigious employee conflicts.

Employees at all levels in the organization can fall victim to conflicts with coworkers Left unresolved, these conflicts can damage careers and interfere with team-based work groups. Whether the conflict is based on perceived personality conflicts, differences in work styles or perceptions about work performance, acknowledging and addressing the conflict is part of a manager's responsibility and duty.

Conflict Management Strategies

Sometimes conflicts can produce functional as well as dysfunctional effects. If allowed to continue, it will have a disruptive influence over the entire organizational activities, employees go off the track, targets may be missed and so entire organization may have to pay for such costly lapses in the long run. So it is the duty of a manager to identify and solve such conflicts. Often managers can use the following strategies to solve the conflicts:

- **Physical Separation: -** If the warring factions or parties are physically separated, the likelihood of open hostility and aggression is reduced. This strategy can be applied when the two groups are not required to interact while achieving targets.

- **Avoidance: -** Another way may be to withdraw from a conflict when it takes place. The withdrawal may be from a situation or from relationship with the other group.

- **Compromise: -** This is a traditional way of putting out fires. Here there is no clean winner or loser and the decision arrived at is probably not ideal for either group. This strategy can be used very effectively when the goal sought can be divided equitably.

- **Liaison Groups / Intermediaries / Integrators**: - To arbiter differences between two warring factions a full time integrator can be appointed. He must understand each group's problems and should be able to rally both groups towards a mutually agreeable solution.

- **Member Rotation**: - Exchange of people between interdependent departments creates an atmosphere where the newcomer can exchange his views with the others. As group members understand each other better, they tend to learn some of their perceptual distortions. Thus a manager can reduce the chances of conflict.

- **Reduce Interdependence**: - The chances of disagreement and conflict are more in situations where employees have to work in an interdependent fashion and share scarce resources. In such conditions, a manager can apply this technique i.e. reduce the interdependence by moving from reciprocal to sequential or from sequential to pooled interdependence.

- **Super Ordinate Goal**: - A super ordinate goal is a common goal that appeals to all the parties involved and cannot be accomplished by the resources of any single party separately. Thus they demand interdependence and cooperation between departments. Thus this leads to minimization of the conflict situations in the organization.

- **Identifying a Common Entity**: - A conflict can temporarily be solved through creating a common enemy for both the parties. A strong enemy is a great unifying force; in the face of a common threat and overriding common purpose of victory or survival, the conflicting claims of the group fall into the background and are swallowed up into the single, measurable, overriding end of winning conflicts.

- **Authoritative Command**: - Management uses its formal authority to resolve the conflict and then communicates its desires to the parties involved.

- **Altering the Structural Variables**: - Changing the formal organization structure and the interaction patterns of conflicting parties through job redesign, transfers, creation of coordinating positions, and the like.

- **Integrated Problem Solving**: - This strategy tries to find a solution that incorporates the requirement of both the parties. Both parties work together to define the problem and identify mutually satisfactory solutions. A minimum level of trust between parties is essential for this strategy to produce results.

- Managers should give guidance to his employees, like:
  - Attack the problem, not the person.
  - Focus on what can be done, not on what can't be done.
  - Encourage different points of view and honest dialogue.
  - Express your feelings in a way that does not blame.
  - Accept ownership for your part of the problem.
  - Listen to understand the other person's point of view before giving your own.
  - Show respect for the other person's point of view.
  - Solve the problem while building the relationship.

Research Analysis

We have conducted a research on conflict management in 20 firms in and around Nagpur, in order to know the practical procedures followed in conflict management.

Research Design

Research Objectives

- To know the practical inputs about the Conflicts, types and its nature arising in an Organization
- To understand the problems and benefits of conflicts in an organization
- To know the managerial actions those cause workplace conflicts and the role of Manager to handle those conflicts in an organization
- To know the situations in which conflicts become dangerous in the organization
- To understand how to identify the conflicts and qualities of manager help in solving those conflicts
- To know the strategies adopted by the managers in managing the organizational conflicts

Research Methodology

a) **Sampling Technique:** The sampling method used for the study was simple random sampling.

b) **Method for selecting Sample:** The addresses of respondents (Managers) were drawn randomly from the industrial directory, yellow pages, and from some websites.

c) **Sampling Size:** The sample size for the survey was 20.

d) **Type of Research:** Quantitative research in and round Nagpur.

Sources of the Data:

- The data is collected through a questionnaire containing various questions about the conflict management practices in the organization.
- The data also collected through discussing and interviewing the managers in various organizations.

Application Conflict Management Strategies

Conclusion

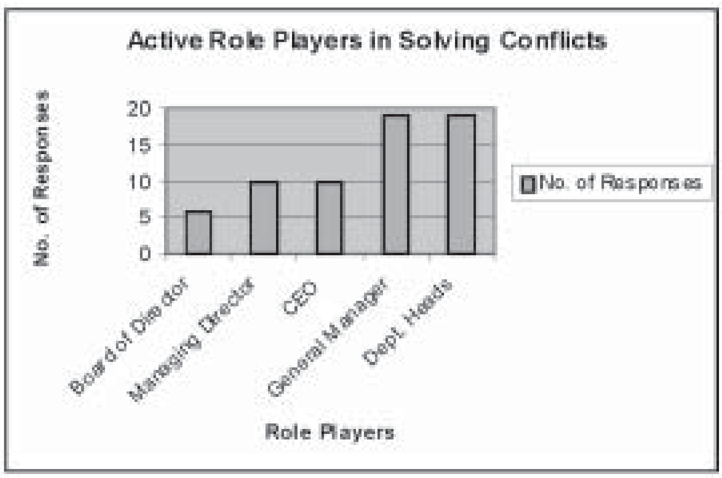
Based on our thorough study of conflict management by referring various authors' books, research papers, journals etc and also based on research conducted by us, I came to the conclusion that:

- A manager plays a crucial role in managing the various conflicts in the organization.
- Main reasons for conflicts are difference of opinion and misbehaviour of employees.
- Most of the organizations have inter personal conflicts, inter organizational conflicts, inter group conflicts and top management conflicts.
- The main ingredients of a conflict are perceptions, emotions and feelings and power.

Analysis

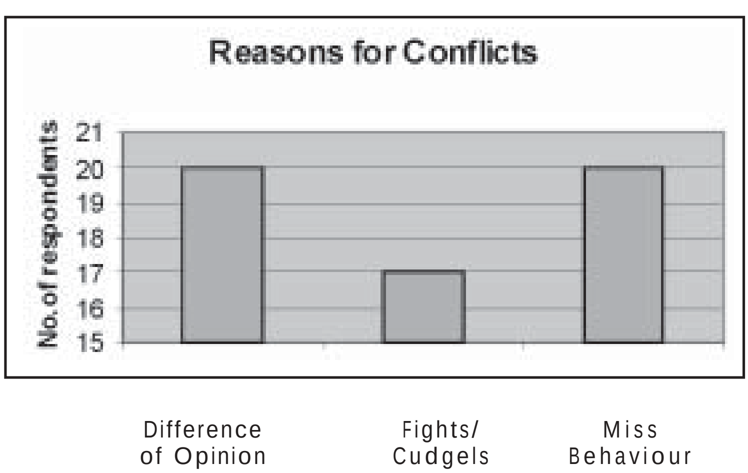
1. Active Role players in solving the Conflicts

Role Players	No. of Responses
Board of Director	6
Managing Director	10
CEO	10
General Manager	19
Dept. Heads	19



2. Reasons for Conflicts

Sl.No.	Particulars	No. of Respondents
1.	Difference of opinion	20
2	Fights/Cudgels	17
3.	Miss behaviour	20

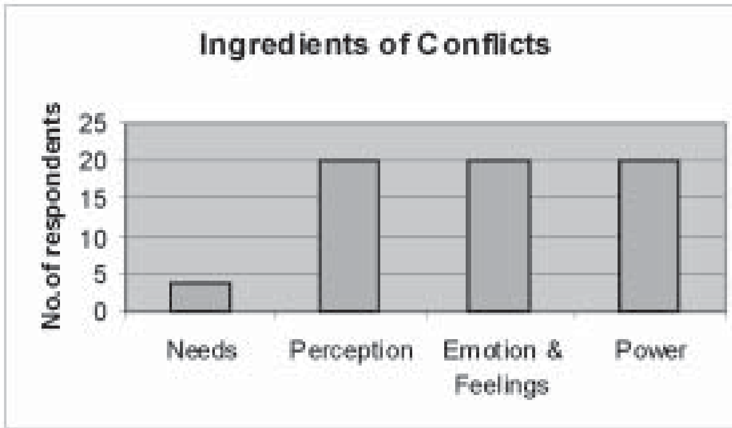


3. Types of Conflicts in the Organization

Sl.No.	Particulars	No. of Respondents
1	Employee-role	5
2	Interpersonal	17
3	Inter-organizational	14
4	Intrapersonal	10
5	Inter group	16
6	Staff-Management	11
7	Line Management	6
8	Top Management	17

4. Ingredients of Conflicts

Sl.No.	Particulars	No. of Respondents
1	Needs	4
2	Perception	20
3	Emotion and Feelings	20
4	Power	20



5. Managerial Actions to cause Workplace Conflicts

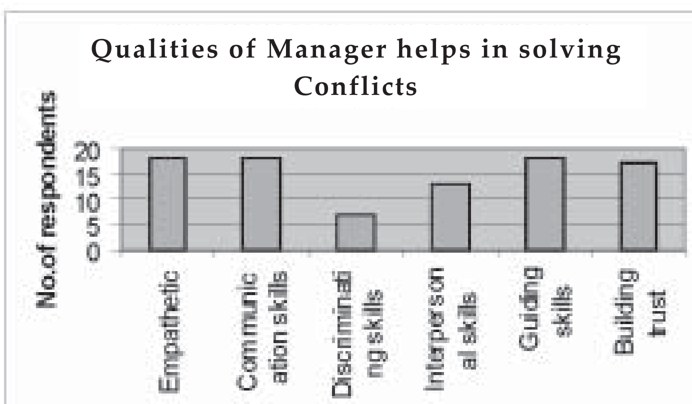
Sl.No.	Particulars	No. of Respondents
1	Poor communication	14
2	Leadership problems	18
3	Improper delegation	19
4	Insufficient resources	15

6. Ways to deal with Conflicts

Sl.No.	Particulars	No. of Respondents
1	Avoid	20
2	Competing	15
3	Compromising	20
4	Collaborating	9

7. Qualities of Manager which helps in solving Conflicts effectively

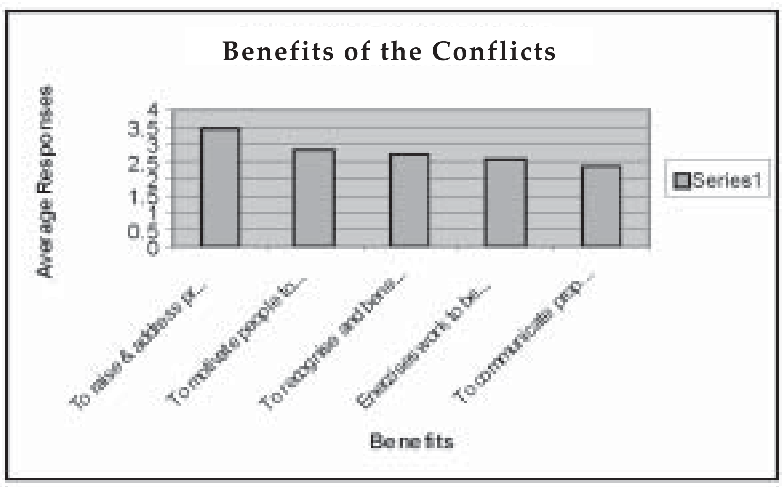
Sl.No.	Particulars	No. of Respondents
1	Empathetic	18
2	Communication skills	18
3	Discriminating skills	7
4	Interpersonal skills	13
5	Guiding skills	18
6	Building trust	17

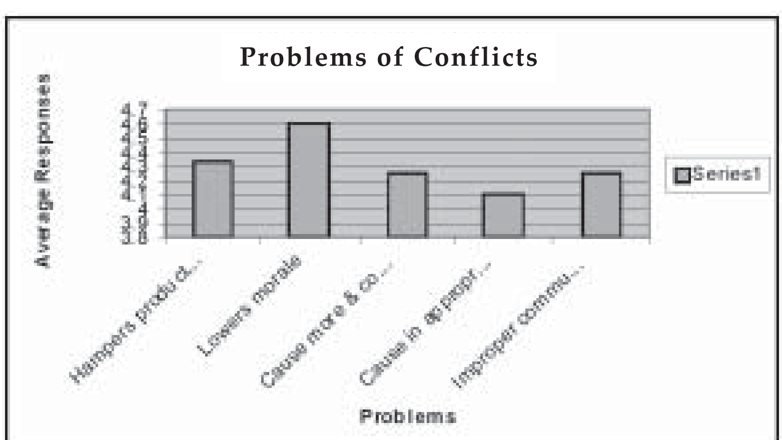


8. Application Conflict Management Strategies

Strategies	No. of Responses
Physical Separation	12
Avoidance	14
Compromise	16
Setting Super ordinate goal	10
Authoritative command	16
Altering structural Variables	15
Member Rotation	12

9. Managers Response: Whether Conflicts are beneficial Or Problematic to the Organization?





- Most of the managers in the organizations feel that conflicts have more negative impact than positive impact on the organizational operations.
- The managerial actions which cause work place conflicts are leadership problems and improper delegation of authority.
- Most of the managers try to avoid the conflicts or compromise between the warring parties.
- The important qualities of a manager in solving the conflicts are empathy towards others, communication skills, inter personal skills, guiding skills and building trust among the employees.

The main strategies adopted by the managers in solving the organizational conflicts are, avoidance, compromise, authoritative command over the conflicting employees, altering structural variables, member rotation etc.

Key Words: Conflict Management, perception, power, values and feelings and emotions.

References

Ka Wai Chan, Xu Huang and Peng Man Ng. "Managers' Conflict Management Styles and Employee Attitudinal Outcomes: The Mediating Role of Trust." *Asia Pacific Journal of Management.* March 29, (2007): 277-295.

Online article by Oliver Ross on "Managers must understand three resolution methods." <http://tampabay .bizjournals.com/ phoenix/stories/2007/07/30/ smallb3.htm> l, last accessed on 25/05/10.

Online article by Dina Beach Lynch, Esq. "Five Habits of Highly Effective Conflict Resolvers." <http:// conflict911.com/cgi-bin/links/jump.cgi?ID= 11547>, last accessed on 25/05/10.

Online article by Susan M. Heathfield, "Workplace Conflict Resolution: People Management Tips." <http://conflict911.com/cgi-bin/links/ jump.cgi?ID =11018>, last accessed on 25/ 05/10.

Prof. L.R.Pondy. "Organizational Conflict: Concepts and Models." The Mcgraw Hill publication.

Kenneth, W. Thomas. "Toward Multi-Dimensional Values in Teaching: The Example of Conflict Behaviours." The Mcgraw Hill Publication.

R.H.Kilmann and K.W.Thomas, "Four Perceptive on Conflict Management: An Attributional Framework for Organizing Descriptive and Normative Theory." The Mcgraw Hill Publication.

Online article by Tracy Douglass. "Managing Conflict in a Female Dominated Workplace." <http://conflict911.com/ cgi-bin/links/jump.cgi?ID=11023>, last accessed on 25/05/10.

Online article by Kamil Kozan, "Interpersonal Conflict Management Styles of Jordanian Managers. "<http://www.stfrancismagazine.info/ja/ Conflict%20Resolution%20Cross-Cultural%20 Perspectives.pdf>, last accessed on 25/05/10.

Online article, "Conflict Management." <http://www. oppapers.com/essays/Conflict-Management/ 148290?topic>, last accessed on 25/05/10.

Attuned to Changes: Maruti-Suzuki in India

Soumyadeep Sinharay

Abstract

More than 25 year old, Maruti-Suzuki, which changed the way Indians used to travel, has been able to be a dominant player in automobile market. There have been significant changes in the business environment of India since 1980s. But still catering to this diversified people of the country, it stands apart from other global manufacturers in India. Several key strategies at crucial points of time have helped it achieve this position. After outlining the changes in the business environment in India, this case study reveals some of those strategies followed by Maruti-Suzuki over these years.

Till the 1980s, the automobile industry in India was in line with the overall policy of State intervention in the economy. Vehicle production was closely regulated by an industrial licensing system that controlled output, models and prices. The cars were built mostly by two companies, Premier Automobiles Limited and Hindustan Motors Limited. Premier Padmini by Premier Automobiles Limited and Ambassador by Hindustan Motors were the major players in the 1980s. However, the Indian market got transformed after 1983 following the relaxation of the licensing policy and the entry of Maruti Udyog Limited into the car market.

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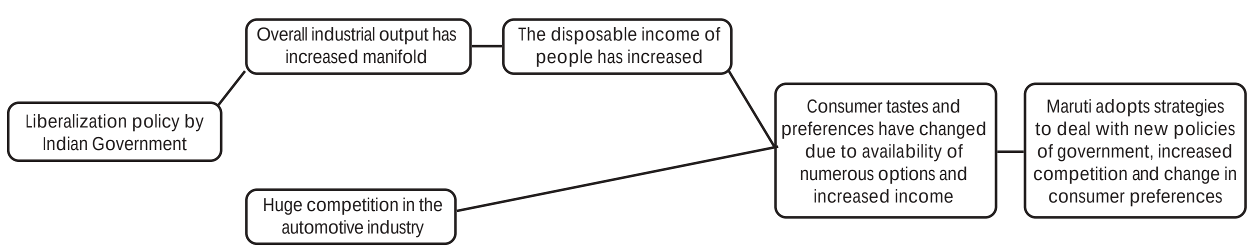
Maruti Udyog Limited was established in February 1981 through an Act of Parliament, to meet the growing demand of a personal mode of transport caused by the lack of an efficient public transport system. It was established with the objectives of modernizing the Indian automobile industry, producing fuel efficient vehicles to conserve scarce resources and producing indigenous utility cars for the growing needs of the Indian population. A license and a Joint Venture agreement were signed with the Suzuki Motor Company of Japan in Oct 1983, by which Suzuki acquired 26 percent of the equity and agreed to provide the latest technology as well as Japanese management practices. Suzuki was preferred for the joint venture because of its track record in manufacturing and selling small cars all over the world. There was an option in the agreement to raise Suzuki's equity to 40 percent, which it exercised in 1987. Five years later, in 1992, Suzuki further increased its equity to 50 percent. In 2002, the government decided to hand over management control in Maruti Udyog Ltd (MUL) to Suzuki Motor Corporation (SMC) for a consideration of ₹1,000 crore. At that time the government held 49.76 percent equity in Maruti, with SMC holding 50 percent and the remaining 0.24 percent being held by an employee's trust. SMC acquired controlling stake in the country's leading car manufacturer by way of the government renouncing its subscription to a ₹400 crore rights issue of MUL. After the rights issue, SMC ended up having a 54.20 percent stake in the company, with the Centre's share falling to 45.54 percent. In June 2003, the government sold a 27.5 percent stake in Maruti to the public at a price of ₹125 per share to garner ₹ 993 crore (₹ 9.93 billion). As of May 10, 2007, Govt. of India sold its complete share to Indian financial institutions. With this, Govt. of India no longer has stake in Maruti Udyog.

For the first time, car market leader Maruti Suzuki India Limited has sold over one lakh units in a month. The Company's total sales were 102,175 units in May 2010. This included 12,134 units of exports. The previous highest in total monthly sales was 96,650 units, sold in February 2010. The company had sold a total of 79,872 vehicles in May 2009. In May 2010, the company sold 90,041 units in the domestic market, up 27.2 percent over corresponding month last year. This is the highest ever domestic sales in a month. The previous highest monthly domestic sale was 84,765 units, in February 2010. The company registered highest ever domestic sales in A2, A3 and C segments respectively.

Case Objective

This case highlights the changes in the business environment in India which have affected Maruti Suzuki and also evaluates the strategies adopted by Maruti Suzuki in response to these changes. The study is mainly confined to the period from 1990 to 2008.

Fig. 1: Decision Framework



The policies of the government can have a direct or an indirect effect on Maruti. Policy such as a cut in the excise duty has a direct effect on Maruti. The indirect effects are as follows:

- The liberalization policy of the government has led to overall growth of economy and the GDP of the country. This had increased the disposable income in the hands of people and hence their purchasing power and preferences.
- Also, due to the entry of large number of players in the automotive industry, the competition has become manifold. The consumers have numerous options within a given segment and each company competes for increasing its market share.

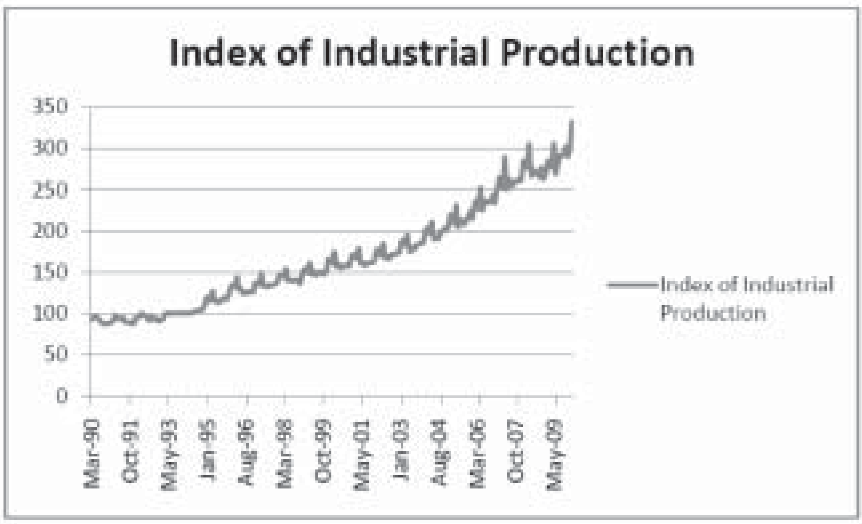
Major Changes in the Business Environment Since 1990 – Indian Automobile Sector

Economic Growth

Rise in the Industrial and Agricultural Output indirectly helps Indian Auto Industry

Industrial and agricultural output increase has reflected in higher GDP and overall growth of the economy. Higher GDP means more purchasing power. Sales of vehicles for domestic and commercial consumption have seen high growth. The following graph plots the Index of Industrial Production over the last two decades. We can observe the effect of the liberalization policy on the manufacturing sector. We can observe an upward trend since 1990.

Fig. 2: Index of Industrial Production (Data Source – CMIE)



As far as agriculture is concerned, though the share of agriculture in the GDP has been decreasing, in absolute terms the agricultural output has been increasing over the years leading to increase in purchasing power of rural India.

Rise in the Per capita income increases two/four wheeler sales

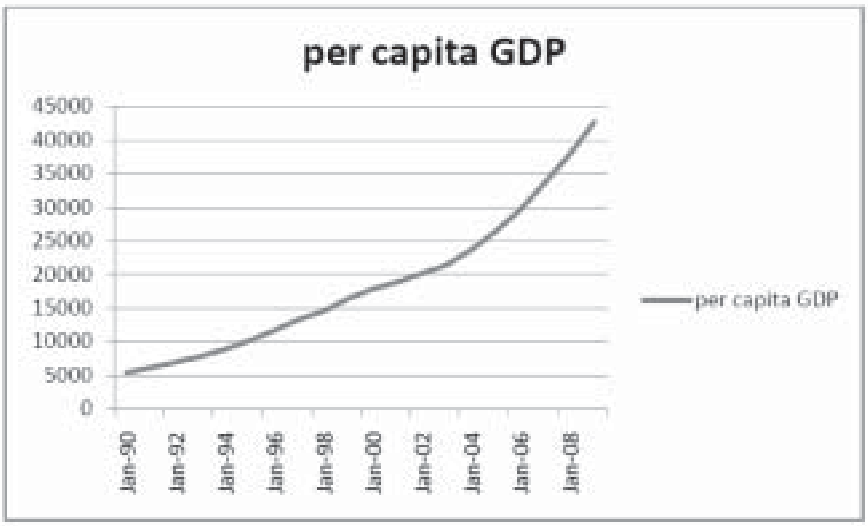
The following is the plot of the per capita GDP of India from 1990 to 2008. We can see an almost exponential growth in the per capita GDP which indicates that the standard of living of people has improved drastically over the last two decades.

Industrial growth in the 70s, IT boom in the 1980s and BPO boom in the 1990s have transformed the Indian middle class. The rising industrial and agricultural output has led to the increase in per capita income. Rising working population and middle class urbanization has been taking place over the years. Also, there has been an increasing disposable income in the rural agricultural sector. The present generation is able to earn the same levels of salary that their parents were earning after years of work. This has pushed up the demand for two and four wheelers.

Rising working class and middle class contribute to increased demand of automotive

Post 1980s, a surging economy has created millions of new jobs in the private sector. This has led to a lot of prosperity in the working class and the middle income households. They are able to provide for food, clothing and education and also are able to think of owning luxuries like vehicles. According to the Planning Commission report, between the year 2003 and 2009, 130 million people would have been added to the working population.

Fig. 3 – Per Capita GDP (Data Source – CMIE)



Changes in Society

The boom in the Indian economy has led to the rise of a new affluent middle and upper-middle class who have a large spending power. Purchasing power and mindset of people has changed in India. With the increasing level of income of urban people, the small cars are not considered to be luxury item any more. Increased awareness among consumers has increased expectations. The concept of value for money has strongly evolved over the last few years. Thus the ability to innovate has become critical. With consumer preferences changing, inter product substitution is taking place. Mini cars had started being replaced by compact or midsized cars. Mini segment continued losing market share. Growth has been mainly led by the Compact and Mid-range segments. Additionally, in terms of engine capacity, the Indian passenger car market is moving towards cars of higher capacity. In the early 1990s Maruti Suzuki had only three models to offer i.e. Maruti 800, Omni and Gypsy. Maruti 800 is now perceived as an entry level car for those who are upgrading from a two wheeler to a four wheeler and cannot afford to invest more money on a car. Also, due to the huge increase in fuel prices people buying cars have started considering fuel efficiency of the car as one of the important factors while deciding which car to buy. Also post liberalization within a given budget people have numerous competitive options from various companies each has its own gamut of merits and demerits. So, there has been a tremendous increase in the competition in the automotive industry and this has indirectly influenced the tastes and preferences of the consumers. Banks and other financing companies started providing car loans at reasonable interest rate. Also the terms and conditions for Auto loans have been relaxed. Various auto companies have tie ups with banks for auto loans. A consumer can just walk in a showroom and avail loan and buy a car.

Changes in Government Policies

Until the early 1990s, the automotive sector in India was highly protected. This was in the form of steep import tariffs and measures that restricted the participation of foreign companies. Hindustan Motors (HM) and Premier Automobile (PAL) that were set up in 1940's dominated the vehicle market and industry. In the 1950s, the arrival of Tata Motors, Bajaj Auto, and Mahindra and Mahindra led to steadily increasing vehicle production in India, while the 1960s witnessed the establishment of the two-and three-wheeler industry in India. However, the automotive industry witnessed tremendous growth after the entry of Maruti

Udyog in the 1980s. In 1983, the government permitted Suzuki - for some time, the only FDI player - to enter the market in a joint venture with Maruti - a state operated enterprise at the time. Ten years later, as part of a broader move to liberalize its economy, India de-licensed passenger car manufacturing and opened it up further to foreign participation. That brought a wave of FDI to India's vehicle industry. Import barriers have been progressively relaxed. Today, almost all of the major global players are present in India. The policy framework surrounding the Indian automotive industry has evolved from a heavily regulated one until the 1970s, to a partially liberalized one in the 1980s, and to a liberalized one from 1991 onwards. This strongly indicates that the government policies have played a clear role in the growth of India's automotive industry. Hence, to obtain an insight into the role of government in industry development in general and that of the Indian government in the development of India's automotive industry (including auto components) in particular is necessary. In line with the overall purpose, we will identify and understand the government policies those have influenced the development of Indian automotive industry. Some important policy decisions in the liberalization phase (1991 onwards) and their influence on the development of India's automotive industry are as follows:

- In 1991-93, de-licensing of all automotive segments led to higher industry growth. India has been moving up in its world ranking for production of commercial vehicles and cars. Production of vehicles in India crossed the 10 million mark in 2006. The New Industrial Policy of 1991 abolished the licensing requirement for commercial vehicles, public transport vehicles, automotive two wheelers, three wheelers and automotive components and ancillaries. However, passenger car was de-licensed in 1993. Now, no license is required for setting up of any unit for manufacture of Automobiles except in some special cases.

- In 1997, automatic approval for FDI up to 51 percent equity led to increased competition and rising industry standards. 17 new ventures involving foreign players had come up after 1993.

- In 2002, automatic approval for FDI up to 100 percent equity stimulated the demand and increased internationalization. 100 percent Foreign Direct Investment (FDI) is permissible under automatic route in automotive sector including passenger car segment. FDI in Indian automotive sector grew at a CAGR of 77 percent over the period 2004-05 to 2007-08.

- In 2002, higher incentives and push for local R&D increased spending on R&D. The import of technology or technological up gradation on the royalty payment of five percent without any duration limit and lump sum payment of US $ 2 million was also allowed under automatics route. This liberalization has helped this sector to restructure itself, absorb newer technologies, and keep pace with the global developments realizing its full potential. Local R&D centers were announced by Maruti Suzuki and Hyundai.

- Since July 2004, 150 percent deduction of R&D expenses from taxable income has been allowed. This scheme is valid till March 2012.

- In 2006, the government reduced excise duty on compact cars from 24 percent to 16 percent, giving a clear signal that it wants to encourage investment in this segment and develop India into a global manufacturing hub for small cars. This move by the government presented both challenges and opportunities for Maruti.

The automatic approval of 100 percent FDI in 2002 has led to a huge increase in the FDI trend in Indian automotive industry.

Change in Competitive Environment

Since independence the production of vehicles in India has grown exponentially: from a mere 10,000 vehicles in 1950, to over 10 million by 2006. The production trend indicates distinct transitions, with each successive transition

Fig. 4 – FDI in India's Automotive Sector (in million USD) (Data Source – GOI)

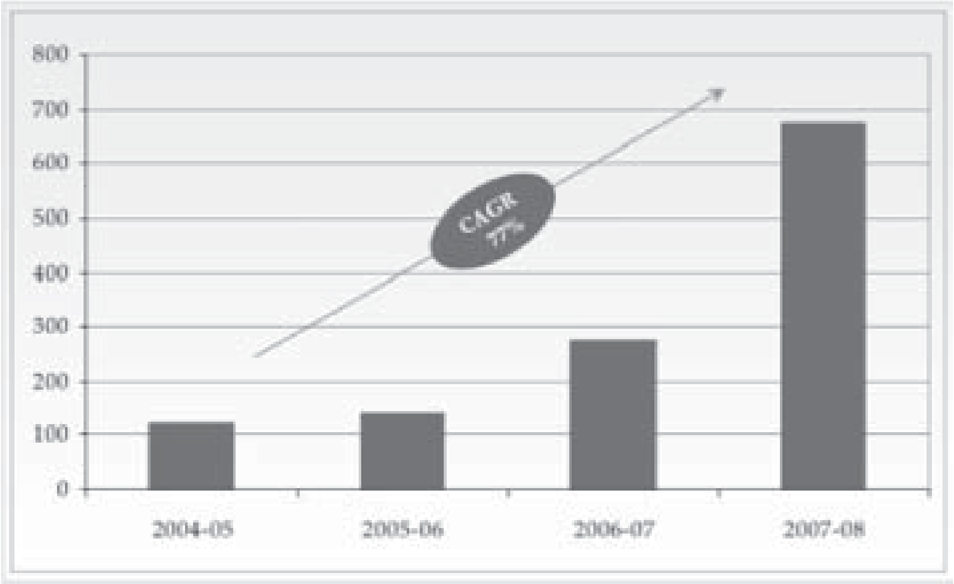


Fig. 5 – Total Production of Vehicles in India (in Million units) (Source: ACMA)

demonstrating a higher production growth. Economic liberalization in 1991 has served as a launch pad for the current growth.

As a result of the liberalization, now there are numerous players in the automotive sector give rise to huge competition for market share.

The government's decision to cut the excise duty on the manufacture of compact cars in 2006 by eight percent has led to major automotive players in India to foray in this segment. Two major requirements for a car to be classified as a compact car according to the government of India is that its engine capacity should not exceed 1200 cc and its length should not exceed 4000 mm. So companies started

Fig. 6 – Automobile Market Segmentation (Source – Internet)

Companies	Segments
Ashok Leyland	LCVs, M&HCVs, buses
Asian Motor Works	M & HCVs
Bajaj Auto	Two and three wheelers
BMW India	Cars and MUVs
Daimler Chrysler India	Cars
Eicher Motors	LCVs, M & HCVs
Fiat India	Cars
Force Motors	MUVs and LCVs
Ford India	Cars and MUVs
General Motors India	Cars & MUVs
Hero Honda Motors	Two wheelers
Hindustan Motors	Cars, MUVs and LCVs
Honda	Two wheelers, cars and MUVs
Hyundai Motors	Cars and MUVs
Kinetic Motor	Two wheelers
Mahindra & Mahindra	Three wheelers, cars, MUVs, LCVs
Maruti Suzuki	Cars, MUVs, MPVs
Piaggio	Three wheelers, LCVs
Royal Enfield Motors	Two wheelers
Skoda Auto India	Cars
Suzuki Motorcycles	Two wheelers
Swaraj Mazda Ltd	LCVs, M & HCVSs, buses
Tata Motors Cars	MUVs, LCVs, M&HCVs, buses
Toyota Kirloskar	Cars, MUVs
TVS Motor Co	Two wheelers
Volvo India	M & HCVs, buses
Volkswagen India	Cars
Yamaha Motor India	Two wheelers

designing cars in the premium hatchback segment and to take the benefit of the cut of eight percent excise duty they designed the premium hatchback so that it classifies as a compact car. If we see the engine capacities of some of the newly launched cars we see that they have an engine capacity of 1197 cc and lengths just below 4000 mm. Hyundai launched i20, Honda launched Jazz and Fiat launched *Punto.* Maruti in response launched Ritz with an engine capacity of 1197 cc and redesigned the engine of Swift (which originally had a 1300 cc engine) so that it falls in the compact car category.

Other Changes

Growth in the Road Infrastructure increases Demand for Vehicles

Indian highways and roads have improved a lot in quality and connectivity in the last 20 years. Projects like the Golden

Quadrilateral aim to make even remote areas accessible by road. Some of the National Highways are of international standards. This has made road transport a viable, cost effective and speedy option both for goods and passenger traffic.

Urbanization changes the Face of Indian Auto Industry

Joint families in towns and villages have given away to migration of the younger generation to cities in search of better opportunities. The new-age educated migrants and nuclear families (many with double income couples) have a higher purchasing power. Presently, the rate of spread of urbanization is 30 percent.

Exhaustive Range of Options in Price and Models of Automotive

Indian consumer in 70's and 80's had to choose between Premier Padmini or an Ambassador. Now there are at least 123 different models of cars from 30 odd manufacturers available. The prices of the compact cars like Tata's Nano have made the world sit up and take note of the truly unbeatable price points.

Attractive Finance Schemes for Purchase of Automotive

Most nationalized and foreign banks have very tempting finance options and low interest rates for purchase of cars and two wheelers. There are specialized companies that finance the commercial vehicles. All this has made the dream of owning a vehicle an easy reality.

Strategies of Maruti Suzuki Limited

Maruti was the undisputed leader in the automobile utility-car segment sector, controlling about 84 percent of the market till 1998. With increasing competition from local players like Telco, Hindustan Motors, Mahindra and Mahindra and foreign players like Daewoo, PAL, Toyota, Ford, Mitsubishi, GM, the whole auto industry structure in India has changed in the last decade and resulted in the declining profits and market share for Maruti. At the same time the Indian government permitted foreign car producers to invest in the automobile sector and hold majority stakes. In the wake of its diminishing profits and loss of market share, Maruti initiated strategic responses to cope with India's liberalization process and began to redesign itself to face competition in the Indian market.

Cost Reduction and Operational Efficiency

After their fall in market share in the late 1990s, cost reduction strategies were adopted. Cost reduction is being achieved by reaching an indigenization level of 85-90 percent for all the models. This would save foreign currency and also stabilize prices that fluctuate with exchange rates. However, change in the mindset was not as fast as required by the market. Maruti planned to reduce costs, increase productivity, quality and upgrade its technology (Euro I&II, MPFI). In addition the increase in capacity led to economies of scale. Joint initiatives taken by Maruti and its team of suppliers had generated over 29 percent cost reduction over three years for Maruti. Less than 20 percent of a car is manufactured in-house. The rest is accounted for by 215 suppliers and hundreds of second and third tier of vendors who, in turn, supply to them. With the programme of organizational redesign, rationalization of cost and enhanced productivity, Maruti bounced back to competition with 50.8 percent market share and 40 percent rise in profit for the FY2002-2003. Shown below are the man-hours per vehicle from 2001 to 2007.

Catering to all Segments (Market Penetration Strategy)

Maruti caters to all segments and has a product offering at all price points. It has a car priced at ₹1, 87,000 which is one of the lowest offers on road. Maruti gets 70 percent business from repeat buyers who earlier had owned a Maruti car. Their pricing strategy is to provide an option to every customer looking for upgradation in his car. Their sole motive of having so many product offering is to be in the consideration set of every passenger car customer in India. Here is how every price points are covered.

Fig. 7 – Man-Hours per vehicle (Indexed to 2001-02) (Source: MUL Annual Report 2006-07)

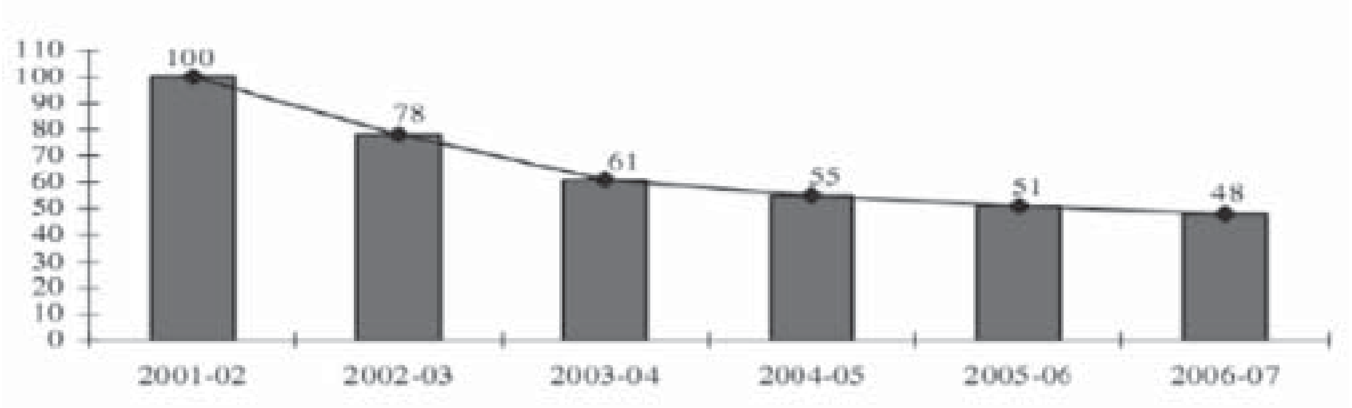
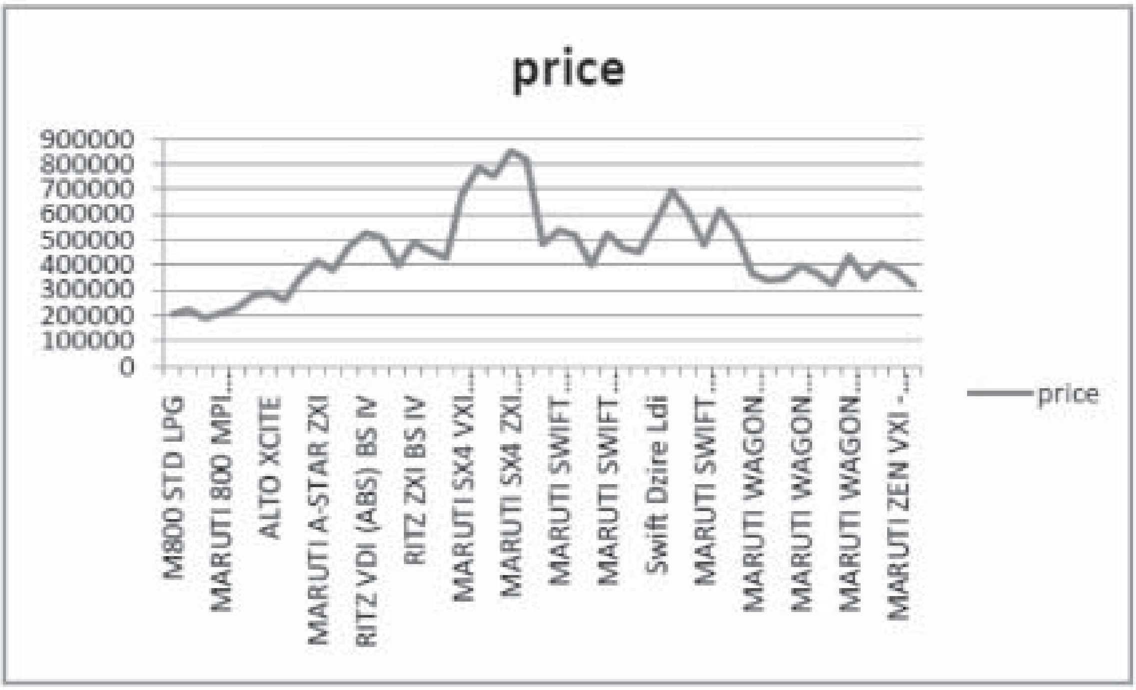


Fig. 8 – Price Ranges Catered by Maruti (Data Source – Maruti Website)



Diversification of Business (Diversification Strategy)

Maruti has successfully developed different revenue streams without making huge investments. It has ventured into MDS, N2N, Maruti Insurance and Maruti Finance. These help them in making the customer experience hassle free and helps building customer satisfaction.

Maruti Finance

In a market where more than 80 percent of cars are financed, Maruti has strategically entered into this and has successfully created a revenue stream for Maruti. This has been found to be a major driver in converting a Maruti car sale in certain cases. Finance is one of the major decision drivers in car purchase. Maruti has tied up with eight finance companies to form a consortium. This consortium comprises Citicorp Maruti, Maruti Countrywide, ICICI Bank, HDFC Bank, Kotak Mahindra, Sundaram Finance, Bank of Punjab and IndusInd Bank Ltd. (erstwhile-Ashok Leyland Finance).

Maruti Insurance

Insurance is a major concern of car owners. Maruti has brought all car insurance needs under one roof. Maruti has tied up with National Insurance Company, Bajaj Allianz, New India Assurance and Royal Sundaram to bring this service for its customers. Maruti Insurance is a hassle-free way for customers to have their cars repaired and claims processed at any Maruti dealer workshop in India.

True Value

It is an initiative to capture used car market. A significant development is MUL's entry into the used car market in 2001, allowing customers to bring their vehicle to a 'Maruti True Value' outlet and exchange it for a new car, by paying the difference. They are offered loyalty discounts in return. This helps them retain the customer. With Maruti True Value customer has a trusted name to entrust in a highly unorganized market and where cheating is rampant and the biggest concern in biggest driver of sale is trust. Maruti has created a system where dealers pick up used cars, recondition them, give them a fresh warranty, and sell them again. All investments for True Value are made by dealers. Maruti has built up a strong network of 172 showrooms across the nation. The used car market has a huge potential in India. The used car market in developed markets was 2-3 times as large as the new car market.

N2N

Car maintenance is a time-consuming process, especially if you own a fleet. Maruti's N2N Fleet Management Solutions for companies, takes care of the A-Z of automobile problems. Services include end-to-end backups/solutions across the vehicle's life: Leasing, Maintenance, Convenience services and Remarketing.

Maruti Driving School (MDS)

Maruti has established this with the goal to capture the market where there is inhibition in buying cars due to inability to drive the car. This brings that customer to Maruti showroom and Maruti ends up creating a customer.

Customer Centric Approach

Maruti's customer centricity is very much exemplified by the five times consecutive wins at J D Power CSI Awards. Maruti dealers and employees are answerable to even a single customer complaint. There are instances of cancellation of dealerships based on customer feedback. Maruti has taken a number of initiatives to serve customer well. They have even changed their showroom layout so that customer has to walk minimum in the showroom and there are norms for service times and delivery of vehicles. The Dealer Sales Executive, who is the first interaction medium with the Maruti customer when the customer walks in Maruti showroom, is trained on greeting etiquettes. Maruti has proper customer complaint handling cell under the CRM department. The Maruti call center is another effort which brings Maruti closer to its customer. Their Market Research department studies the changing consumer behaviour and market needs. Maruti enjoys seventy percent repeat buyers which exemplifies their claim of being customer friendly. Maruti is investing a lot of money and effort in building customer loyalty programmes. With the advent of good highways, Maruti was sensitive to the needs of long distance commuters. Wagon R Duo, which runs on both petrol and LPG, was launched in July 2006. It has been accepted well by customers.

Maruti executed a plan to launch new models for different segments of the market. In its redesign plan, Maruti launches a new model every year, reduce production costs by achieving 85-90 percent indigenization for new models, revamp marketing by increasing the dealer network from 150 to 300 and focus on bulk institutional sales, bring down number of vendors and introduce competitive bidding. There has also been a shift in business focus of Maruti. When Maruti commanded the largest market share, business focus was to "sell what we produce." The earlier focus of the whole organization was on production but now the focus has shifted to “marketing and customer focus.” This can be observed from the changes in mission statement of the organization: 1984: “Fuel efficient vehicle with latest technology,” 1997: “Creating customer delight and shareholders wealth.” Focus on customer care has become a key element for Maruti. Increasing Maruti service stations with the scope of one Maruti service station every 25 km on a highway, was another major step. To increase its market share, Maruti launched new car models, concentrated on marketing and institutional sales. Institutional sales, currently contributes to seven-eight percent of Maruti’s total sales. Maruti has dealt with this change in perception and preferences of people by offering a range of cars in the hatchback segment and some in the mid-range segment and also in SUV. It currently manufactures the following hatchbacks in different price ranges to suit a wide range of customers with different preferences – Maruti 800, Alto, Estilo, Wagon-R, A-Star, Ritz, and Swift. In the mid-range segment it has Swift Dzire and SX4. It has also launched an SUV with the brand name of Grand Vitara. Changes have been made from time to time based on market responses or consumer tastes and preferences. Different models have been modified and given facelifts from time to time so that they remain competitive in the market.

Disinvestment and IPO

In 2002, Suzuki Motor Corporation (SMC) took over management control of Maruti Udyog Ltd (MUL) from the government for a consideration of ₹1,000 crore. At that time the government held 49.76 percent equity in Maruti, with SMC holding 50 percent and the remaining 0.24 percent being held by an employee’s trust. SMC acquired controlling stake in the country’s leading car manufacturer by way of the government renouncing its subscription to a ₹400-crore rights issue of MUL. After the rights issue, SMC ended up having a 54.20 percent stake in the company, with the Centre’s share falling to 45.54 percent. In June 2003, the government sold a 27.5 percent stake in Maruti to the public at a price of ₹ 125 per share to garner ₹ 993 crore (₹ 9.93 billion). Suzuki’s control meant Maruti did not have to mind the whims and fancies of ministers and bureaucrats. Decisions became quicker. The response to changing market conditions and technological needs became faster. They flowed fund in India for the major revamp in MUL. Suzuki also built a two-wheeler facility in India for manufacturing motorcycles and scooters through a joint venture, in which Maruti has 51 percent stake. Disinvestment had helped by removing the red tape and bureaucracy factor from its strategic decision making process. When GOI was a major stakeholder in the MUL, strategies which lead to investment have had a bureaucracy factor in it but after the disinvestment strategy followed is a top down approach with a fast implementation.

Changes in Management Practices after Suzuki took over

When the management control was in the hands of the government, decision making was a slow process because each decision was subjected to a large number of approvals from the ministers and bureaucrats. The management style used was bureaucratic. After Suzuki took over the management control, decision making became fast. Suzuki used a top down approach. This change was a welcome change because it was very important for Maruti to respond quickly to the changes in business environment and remain competitive. After Suzuki took over, it implemented Japanese cost reduction strategies and effective supply chain management to remain competitive. It also flowed funds into Maruti and initiated major revamp projects for capacity expansion and new technology.

Vehicle Maintenance Services Market (Diversification Strategy)

In 1999, management of Maruti observed that while car companies were moving from products to services, trying to capture more of the total lifetime value of a car, Maruti was just making and selling cars. If a buyer spends ₹ 100 on a car during its entire life, one-third of that is spent on its purchase. Another third went into fuel. And the final third went into maintenance. So Maruti decided to take a big share of this final one-third spent on maintenance. For this they started conducting free service workshops to encourage consumers to come to their service stations. Maruti has increased its authorized service stations to 1567 across 1036 cities. Every regional office is having a separate services and maintenance department which look after the growth of this revenue stream.

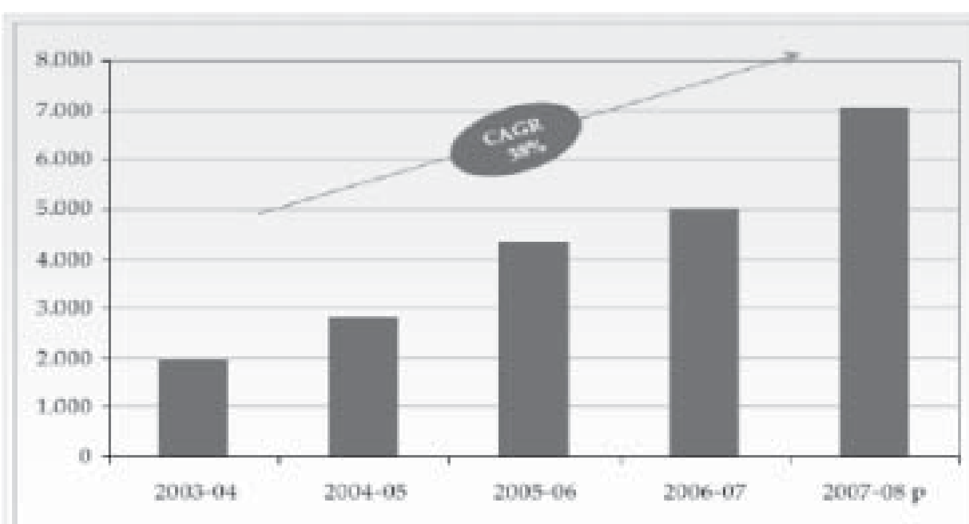
Diesel Foray (Market Penetration Strategy-Expansion of Manufacturing Facilities)

A diesel engine plant at Manesar was built to produce world class diesel engines and transmissions for cars. The plant is under a joint venture company, called Suzuki Powertrain India Limited (SPIL) in which Suzuki Motor Corporation holds 70 percent equity the rest is held by Maruti Suzuki India Limited. This was done in line with its plan to become a major player in diesel vehicles in a couple of years and meet the growing demand of diesel cars in India. Tata dominated the diesel car market in India. Maruti had an insignificant presence in diesel vehicle. The plant has a capacity to produce one lakh diesel engines. This reduced the imported component in Maruti vehicles, making them more competitive in the Indian market. Now, Maruti has diesel variants in almost all its models.

Increasing Exports (Market Development Strategy)

In August, 2003 Maruti crossed a milestone of exporting 300,000 vehicles since its first export in 1986. The top ten destination of the cumulative exports have been Netherlands, Italy, Germany, Chile, U.K., Hungary, Nepal, Greece, France and Poland in that order. Maruti has entered some unconventional markets like Angola, Benin, Djibouti, Ethiopia, Morocco, Uganda, Chile, Costa Rica and El Salvador. The Middle-East region has also opened up and is showing good potential for growth. Some markets in this region where Maruti is are Saudi Arabia, Kuwait, Bahrain, Qatar and UAE. The markets outside of Europe that have large quantities, in the current year, are Algeria, Saudi Arabia, Sri Lanka and Bangladesh.

Fig. 9 – Total Automotive Export (in Million USD) (Data Source – RBI)



Maruti exported more than 51,000 vehicles in 2003-04 which was 59 percent higher than last year. In the financial year 2003-04 Maruti exports contributed to more than 10 percent of total Maruti sales. Maruti has also entered into a deal with Nissan, where Nissan has contracted to buy A-Star and retail it in Europe under their brand name *"Pixo."* Maruti has made A-Star Euro-V compliant and one of the most fuel efficient vehicles and exports it to different countries.

Fig. 10 – Market Share of Passenger Car in India (Source – Maruti Website)

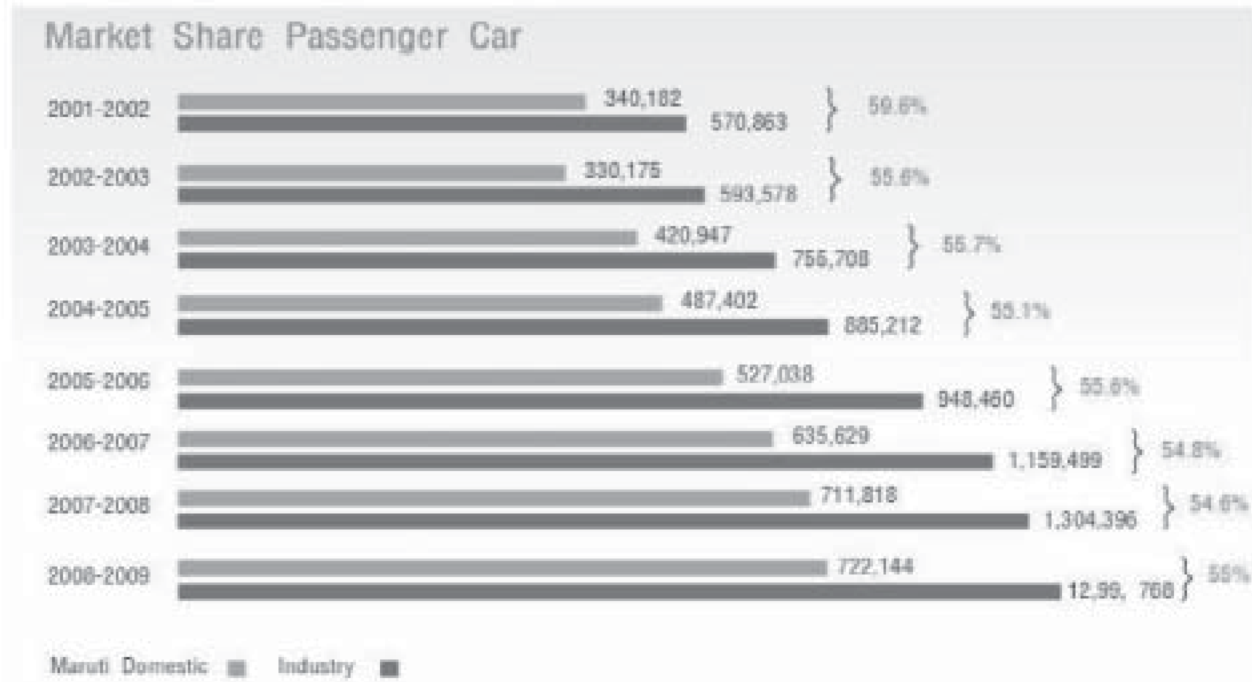
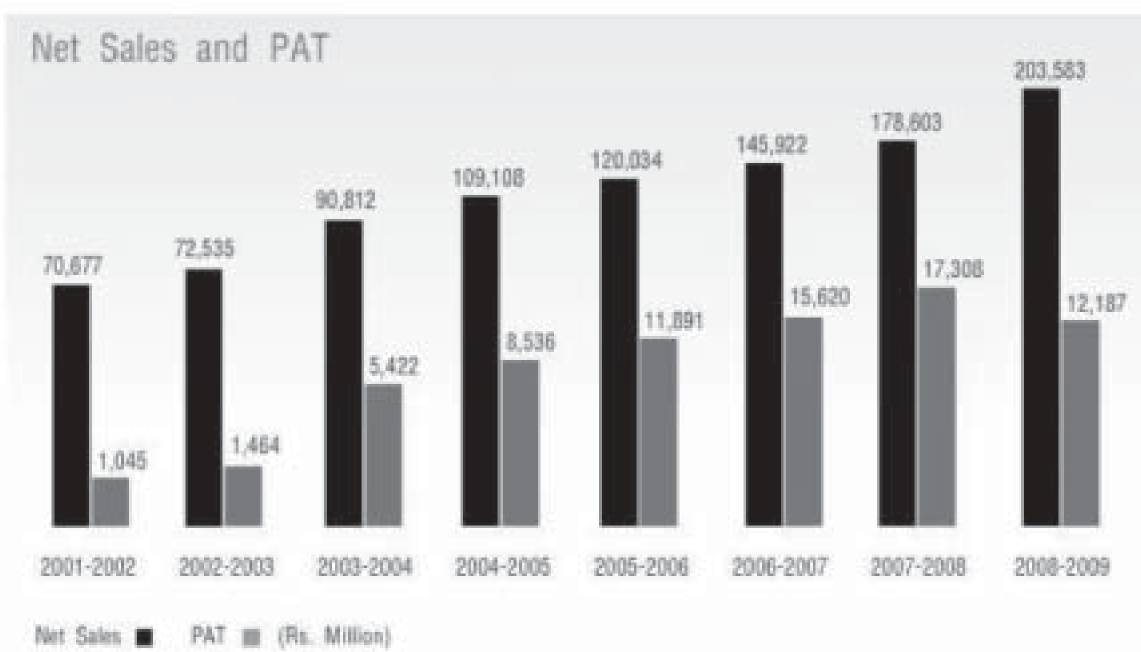


Fig. 11 – Net Sales and PAT of Maruti Suzuki India Limited Ltd
(Source – Various Annual Reports of Maruti-Suzuki)



Conclusion

Correct Strategy at correct time has always kept the boat of Maruti ahead from any other player in the automobile business. In spite of tough competition from various domestic and foreign companies Maruti has maintained a dominant market share. The market share of Maruti is shown since 2001.

Maruti has successfully increased its profits year after year. Shown below are the net sales and PAT of Maruti since 2001.

Thus whether it is the market share or net sales Maruti is always moving ahead year on year.

Recommendations

Competition in the compact car segment is expected to further intensify with more players launching compact cars. New players are consistently entering the market. Latest was Nissan which is launching Micra, its sub compact car in India. Maruti has to be cost effective and should offer competent products to remain competitive. There should be regular inflow of new brands or newer models of same existing brands in the market by Maruti.

Movement to make our planet green is the new way in which the car companies are positioning themselves. Maruti should concentrate on producing cars running on low cost fuel such as LPG and CNG. Also it should foray into the world of Hybrid technology to make more environment friendly cars. Low cost sedan and SUVs are the next highly demanding market in India. Like Indigo CS Maruti's Sift Dzire is the hottest selling model in this segment. Maruti should focus more on these types of cars in near future. Low cost SUV Tata's Sumo is also targeted to the cab segment. Maruti has no presence in that segment, alone Vitara cannot push up the sales as it is priced in the higher range. Also due to the cheap labour in Indian markets, Maruti should try to increase its exports of compact cars to gain hold over international markets.

Keywords: Strategy, Maruti-Suzuki, Automobile.

References

Campbell, D. Harvard Business School Case - "Changan Automobile Co. Ltd." 9-107-006, 2008.

Farhoomand, A. Asia Case Research Center - The University of HK - "Cheery Automobile Company: Evolution of Chinese Automotive Industry." HKU676, 2007. <http://www.marutisuzuki.com><http://www.marutisuzuki.com/pdf/MarutiSuzuki_Citigrp_14Mar08.pdf>

Paul, Y. J. Kim. Asia Case Research Center - The University of HK - "Hyundai and KIA: Automobile Branding in China." HKU633, 2007.

Schlesinger, L.A. Harvard Business School Case - "Automobile Dealer Sales and Service: Critical Incidents." 9-690-061, 2000.

Salesforce Compensation: Game Theory

Pankaj M. Madhani

Abstract

In current era of intense competition, management of salesforce compensation is becoming increasingly complex and challenging task for HR (Human Resources) managers as sales compensation is influenced by many internal and external factors. This paper has described an example of how game theory can be applied to important research issues in the interdisciplinary area of HR and marketing functions such as salesforce compensation. This paper has outlined different structure of compensation offered by owner of firm and the possible outcomes of different compensation systems. As per the game theory, the owner of the firm is better off with variable compensation when sales people behave honestly.

In current era of intense competition, management of salesforce compensation is becoming increasingly complex and challenging task for HR (Human resources) managers as sales people are demanding more and more reward. In this paper, game theory is introduced in order to provide an idea of how it can be useful to an important area of salesforce compensation - an interdisciplinary area of HR and marketing functions. Paper also focuses on salesperson's outlook to honesty and applies the game-theoretic framework to understand and integrate key organizational influences on ethical decision making.

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Benefits of Effective Salesforce Compensation

Apart from recruitment or retrenchment strategy, the sales compensation plan should also be viewed as a fundamental sales management tool to aid in achieving desired results for HR managers. Pay is in general provided by sales organization to their salesforce for services rendered (i.e., time, effort and skill of sales people).The purpose of sales compensation is to:

1. Recognize the role fulfilled by organization's sales people to achieve, maximize and retain sales revenues from customers.

2. Align pay opportunities of salesforce with long term revenue objectives of the organization by creating environment of mutual trust, confidence and success between the organization and its sales people.

3. Attract, retain, and motivate sales people of the organization.

4. Provide members of the salesforce with credible performance measures that compliment, and may even replace, the need for employee supervision.

Sales people compensation should be distinguished from other employee pay structures because sales people have a direct and measurable impact on the organization's revenue performance. This impact provides the opportunity to the organization to directly link a sales person's individual performance as it relates to developing a positive impact on the organization by:

1. Enhancing and supporting the organization's marketing and selling plans,

2. Communicating expectations of sales performance,

3. Influencing the efforts and behaviours of sales people engaged in the selling process by rewarding them based on performance outcomes, and

4. Contributing to the culture of the sales organization.

When designed correctly, the sales compensation plan has a positive impact on sales people, customers, and organization results viz.

Sales people

Increased Motivation,
Improved Sales Focus,
Improved Cross-Channel/Functional Coordination, and
Sales Talent Retention.

Customers

Increased Customer Acquisition,
Increased Customer Account Penetration, and
Improved Customer Satisfaction and Loyalty.

Organization Results

Top-Line Sales Growth,
Profitable Product/Business Mix, and
Increased Return on Selling Resource Investment (ROSI).

Sales Compensation: Fixed Pay versus Variable Pay

Sales compensation comprises two core elements:

1. Fixed pay (Salary) - It's also known as 'base pay.' Fixed pay is non discretionary in nature and does not vary according to performance or results achieved by salesforce. Fixed pay compensation is usually determined by the sales organization's overall pay philosophy and compensation structure.

2. Variable pay (Commission) - It's also known as 'pay at risk.' Variable pay changes directly with the level of performance or results achieved. Variable compensation is a one-time earning that must be re-established and re-earned each performance period. Variable pay can be short term or long term. Short-term incentive pay is designed to focus and reward performance over a period of one-year or less. While, long-term incentives pay, is designed to focus and reward performance over a period longer than one year.

Game Theory Model: Basic Concepts

Game theory is preliminary concerned with how individuals or players make individual decisions when they are aware that their final actions or outcomes affect each other and when each individual takes this into consideration. A formal game theory model consists of the following elements: a set of players, a set of actions and strategies for each player, a

Box 1: Basic Game Theory Concepts

Term	Definition
Player	A rational and self- interested decision-making entity.
Strategy	A rule that tells the player which action to prefer at each instant of the game.
Outcome	The result of every possible sequence of actions performed by the players.
Payoff	The personal satisfaction obtained from a particular outcome of game.
Equilibrium	The “best” combination of choices in the game.

description of the order of play and the information available to any player at any point in the game, the outcome that results from every possible sequence of actions by players, a ranking of each outcome to every player (the player’s payoffs), and a solution (or equilibrium) concept (Rasmusen, 1989). Box 1, below defines basic terms of game theory.

In the game theory model, players are decision-making entities. All strategic players are assumed to be rational. Generally, this means that players want to get as much (satisfaction, happiness, money) for themselves as possible (self-interested), and are quite smart in figuring out how best to accomplish this aim (rational) despite the complexity of the game. A strategy is defined as a rule that tells a player of the game which path or action to choose at each instant of the game. As such strategy is a complete set of instructions or directions that tells a player what actions to pick in every conceivable situation regardless of whether or not that situation will be reached.

Strategies are of different types, viz. pure strategy and mixed strategy. A pure strategy is a detailed action plan that tells the player of the game about what action to take under every contingency and provides a complete blueprint of how a player will play a game. A mixed strategy tells the player of the game how to choose randomly between different actions and consists of a wide range of probability distribution over the full set of pure strategies. In this paper, game theory model is considered from pure strategy perspectives only. The outcome of the game theory model that results from every possible sequence of actions by players is described in terms of payoff. The outcomes to each player depend on the choices made by other players.

Each player receives a payoff in each outcome. These payoffs can be expressed in monetary or non-monetary terms and represent the level of satisfaction obtained. In every set of game it is important to predict the strategies which will be chosen by the players of the game. The methodology used for predicting strategy choices by players of the game is called the solution or equilibrium. An equilibrium, in general, is a strategy combination (a set of strategy choices by each player) consisting of a best strategy for each of the players in the game. The equilibrium concept is a rule that defines what is meant by the best. The most practical and widely accepted equilibrium concept is the ‘Nash equilibrium.’ A strategy combination is a ‘Nash equilibrium’ if, given the other players’ strategy choices in that set of game, every player is choosing his best response (the choice of strategy which maximizes his payoff).

Game Theory Model and Salesforce Compensation

Following assumptions are made in game theory model of salesforce compensation.

Assumptions:

1. In the simplest format of the game the firm consists of two players, the owner of marketing firm and one salesperson.

2. The owner of firm can choose to compensate the salesperson with variable compensation i.e. straight commission or fixed compensation i.e. salary.

3. Owner of firm makes a decision about the types of incentives to offer his agent or sales person. (i.e. the

owner of a marketing firm has to decide on the compensation package he will offer to his sales person).

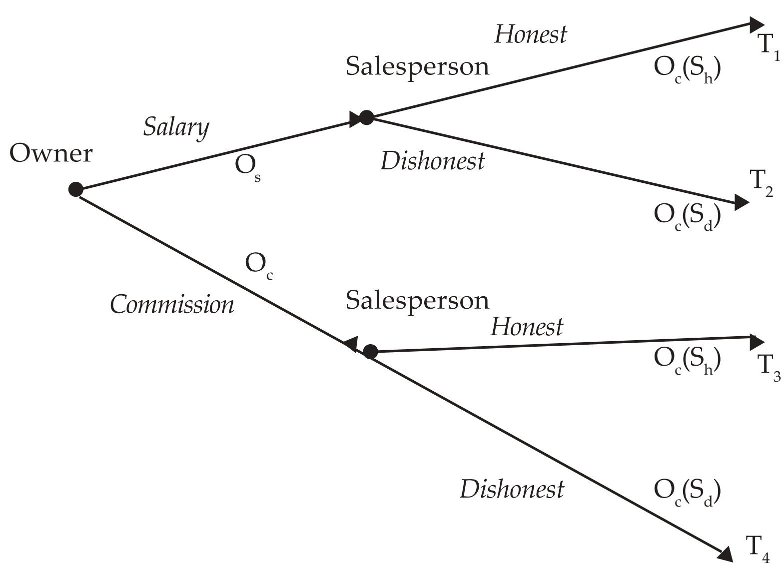
4. Agent or salesperson, after seeing the package of incentive scheme, chooses high or low effort level. Agent's action is not observable for the owner of the marketing firm.

5. Higher efforts by salesperson in the sales job influenced by long term perspectives represent honest behaviour while lower efforts by salesperson influenced by short term goals represent dishonest behaviour.

6. Once the compensation structure is introduced by the owner of marketing firm, the salesperson can choose either to represent the product honestly or dishonestly (i.e. ethically or unethically).

Above restrictive assumptions are considered in order to present a clear picture of decision choices and final outcomes of the game. The owner of marketing firm begins the game by making a decision regarding the compensation system. This is described by the choice between the 'salary' branch and the 'commission' branch emanating from the owner's decision node as explained below in Fig. 1 and Fig. 2. This places the salesperson at one of two decision nodes, where he makes a decision to be honest or dishonest. The terminal nodes (T1, T2, T3 and T4) indicate the point where the game ends. It ends with one of four possible outcomes. The payoff from each outcome to the owner is described by O and the payoff from each outcome to the salesperson is described by S. The subscripts indicate the actions chosen (salary, commission, honest, dishonest), by each player which leads us to each outcome. Parenthesis indicated payoff of the other player influencing overall payoff.

Fig. 1: Decision Tree and Payoff for Owner

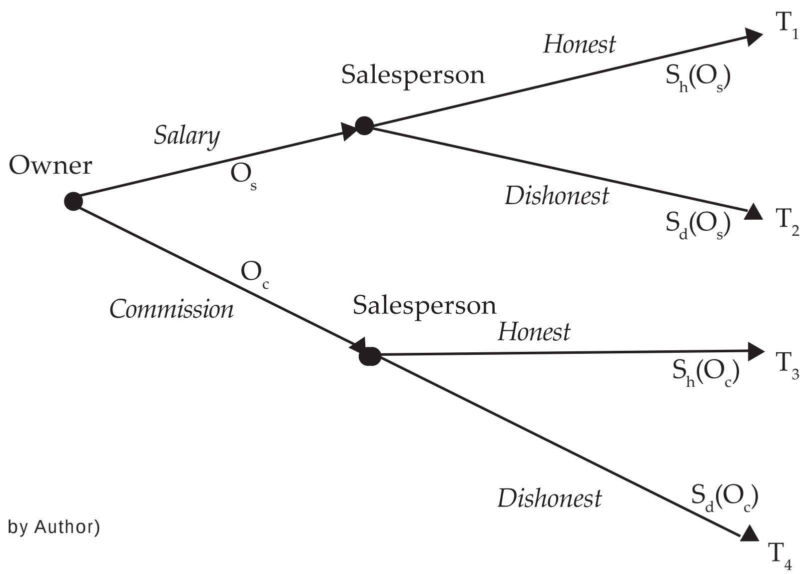


(Source: Diagram developed by Author)

Principal-Agent Model or Agency Model

A principal-agent problem arises when one economic agent – the agent – takes an action that affects another economic agent – the principal. A principal-agent problem has a moral-hazard component when the principal is unable to observe the action of the agent (and unable to force the agent to act according to his interests). Major causes of moral hazard

Fig. 2 - Decision Tree and Payoff for Salesperson



(Source: Diagram developed by Author)

problem are: The principal cannot observe the agent's action (hidden action) and problem arises after the contract. Agency models of salesperson behaviour have assumed that owners cannot observe sales effort (Basu, Lal, Srinivasan, and Staelin, 1985). Hence, in this paper assumption is made that, the salesperson cannot sign a binding contract with the owner to be honest. Each player of the game i.e. owner and salesperson ranks the outcomes according to their own preferences.

A Static or Sequential Move Game of Salesforce Compensation

This paper describes sequential move game with three cases of preference ranking along with repeated game model as suggested by Leclair and Thorne (1994). In each case, the assumption is made that the greatest payoff to owner comes when commission is used and the salesperson chooses to be honest. This assumption is motivated in large part by the literature indicating that salespersons respond to incentives provided by commission-based compensation plans (Anderson and Oliver, 1987; Cravens, Ingram, LaForge, and Young, 1993) and that honest behaviour leads to repeat purchases (Dion and Banting, 1988; Dwyer, Schurr, and Oh, 1987). Honest behaviour is also preferred to dishonesty if the owner compensates the salesperson with a straight salary. The least preferred outcome for the owner is dishonest behaviour under straight commission. This is reflected in the higher income made by the salesperson and the potential loss of repeat purchases and long-term relations from the owner point of view. These assumptions can be written formally as:

$O_c\,(S_h) > O_s\,(S_h) > O_s\,(S_d) > O_c\,(S_d)$

The owner's preference ranking for outcomes are the same in each of the three cases.

In each case below, the salesperson prefers to be dishonest when compensated with commission. This reflects the belief that unethical behaviour increases when commission is used (Dubinsky and Ingram, 1984). It is also assumed that the salesperson prefers to be honest when commission is used over any outcome when salary is used. This reflects the increases in repeat purchases, despite the lower chance of making initial sales. These assumptions can be written formally as:

$S_d\,(O_c) > S_h\,(O_c) > S_h\,(O_s)$ And

$S_d\,(O_c) > S_h\,(O_c) > S_d\,(O_s)$

In the cases below, initial assumptions regarding the salespersons' preferences for two outcomes resulting from salary compensation is changed.

Case 1.

Assume following outcomes for the game:

$O_c(S_h) > O_s(S_h) > O_s(S_d) > O_c(S_d)$ and
$S_d(O_c) > S_h(O_c) > S_h(O_s) > S_d(O_s)$

Given the owner of the firm chooses commission, the salesperson prefers to be dishonest, because

$S_d(O_c) > S_h(O_c)$

However, given the owner of the firm chooses fixed salary, the salesperson chooses to be honest because

$S_h(O_s) > S_d(O_s)$

Finally, the owner of the firm chooses to compensate using fixed salary, because

$O_s(S_h) > O_c(S_d)$

The outcome is that the owner of the firm receives his second highest payoff while the salesperson receives his third highest payoff. The owner's equilibrium strategy is salary. The salesperson's equilibrium strategy is to choose the honest if the owner chooses salary and to choose the dishonest if the owner chooses commission. Payoff matrix for this case is given at Table 1.

This result is interesting because, under above assumptions regarding preferences, both the owner and the salesperson would prefer the outcome where the owner chooses commission and salesperson chooses honesty to the outcomes of the equilibrium strategies. In this case, the owner of the firm would receive his highest payoff and the salesperson would receive his second highest payoff. If another strategy combination can make one better off without making the other worse off, then the equilibrium strategy combination is said to be inefficient. Thus, the equilibrium strategy combination is inefficient. In each of the next two cases, the equilibrium outcome is also inefficient. The problem is that, given his preferences, the salesperson cannot commit to being honest. Once the owner of the firm chooses commission, the salesperson is better off by choosing to be dishonest.

Case 2.

Assume $O_c(S_h) > O_s(S_h) > O_s(S_d) > O_c(S_d)$
and $S_d(O_c) > S_h(O_c) > S_h(O_s) = S_d(O_s)$

This does not change the choice of the owner of the firm. However, the salesperson is indifferent between being honest and dishonest when salary is used for compensation. Each choice is part of either one of two equilibrium strategy combinations. The outcome may either provide the owner with his second-highest or third-highest payoff. Payoff matrix for this case is given at Table 2.

Table 1: Payoff Matrix

Salesperson / Owner	Honest	Dishonest
Commission	(3,2)	(0,3)
Fixed Salary	(2,1)	(1,0)

(Source: Tabulated by Author)

Table 2: Payoff Matrix

Salesperson / Owner	Honest	Dishonest
Commission	(3,2)	(0,3)
Fixed Salary	(2,1)	(1,1)

(Source: Tabulated by Author)

As in case 1, each equilibrium is inefficient. Both owner and salesperson can be better off if the salesperson can credibly commit to being honest under commission. This situation is interesting because it may provide a role for codes of conduct/ethics. The owner of the firm would like the indifferent salesperson to choose to be honest because it increases his payoff ($O_s(S_h) > O_s(S_d)$) via long-term and repeated sales.

To motivate honesty by the salesperson, the owner may introduce a code of conduct or ethics code. One interpretation of the code is that it changes the salespersons payoff ranking to bring it back to $S_h(O_s) > S_d(O_s)$. Such ethics code provides a guide to the salesperson about which choice should be made when indifferent towards ethics.

Case 3

Assume $O_c(S_h) > O_s(S_h) > O_s(S_d) > O_c(S_d)$ and

$S_d(O_c) > S_h(O_c) > S_d(O_s) > S_h(O_s)$

In this case, the salesperson will always choose to be dishonest, regardless of the owner's choice of compensation plan, because $S_d(O_c) > S_h(O_c)$ and $S_d(O_s) > S_h(O_s)$. The salesperson prefers dishonest behaviour despite the choice of compensation plan. The result is that the owner of the firm receives his third-best payoff and the salesperson receives his third-best payoff. Payoff matrix for this case is given below at Table 3. This is quite interesting because there seems to be no way to motivate honest behaviour on the part of the salesperson and to reach the mutually best outcome.

Table 3: Payoff Matrix

Salesperson / Owner	Honest	Dishonest
Commission	(3,2)	(0,3)
Fixed Salary	(2,0)	(1,1)

(Source: Tabulated by Author)

Analysis of the Static or Sequential Move Game of Salesforce Compensation

The game theory model allows for other broad factors, such as personal ethics and organizational influence viz. organizational climate and culture, to affect decision making of salesperson. The compensation of salespeople is an important component of organizational strategy and is influenced by corporate culture, training and leadership. For instance, the acceptance and internalization of corporate norms and reflections of personal ethics and values may influence a salesperson's predisposition to being honest which could result in different payoff rankings and equilibria.

For example, if

$S_h(O_c) > S_d(O_c) > S_h(O_s) > S_d(O_s)$

The salesperson will never be dishonest regardless of the choice of compensation schemes. Because different individuals have different personal ethics, a HR manager should acquire as much knowledge about the salespeople as possible before deciding on a compensation plan. This also emphasizes the importance of recruiting and selection activities by HR professionals in marketing firm.

A Dynamic or Repeated-Game Model of Salesforce Compensation

Dynamic (repeated) game theory can enhance our understanding of these important marketing ethics issues in salesforce compensation. A repeated game involves the same "one-shot" game being repeatedly played, by the same players. It is assumed that, the repetition of the same game never ends and players rank the outcomes each period as they do in case 3. That is,

$O_c(S_h) > O_s(S_h) > O_s(S_d) > O_c(S_d)$ and

$S_d(O_c) > S_h(O_c) > S_d(O_s) > S_h(O_s)$

Although each case results in inefficient choices, in case 3 the salesperson prefers to be dishonest despite the choice of compensation system. An important consequence of the repeated game is that many more strategies become available to each player and these strategies are more complex. For instance, the owner of the firm may choose to alternate between commission and fixed salary each period. In a strategy called 'unrelenting strategy' where the owner of the firm chooses a commission system in the first period and continues to pay commission unless the salesperson becomes dishonest, in which case the owner of the firm may pay fixed salary forever. The repetition of the game allows the owner of the firm may observe previous behaviour of the salesperson.

In each period the game is played, the previous behaviour of the salesperson can be inferred by the owner of the firm from his own choices regarding compensation and historical payoffs in preceding periods. Even if the payoffs in each period were to depend on a random external variable as well as the actual choices, by observing the behaviour of the salesperson over many periods the owner of the firm can be more confident that low payoffs are the result of dishonest sales practices and not the random variable. If certain that the salesperson has used unethical practices in the past, the owner 'punishes' the salesperson by reverting to fixed salary compensation forever when the unrelenting strategy is used.

Given the owner of the firm chooses the 'unrelenting strategy,' the salesperson should not choose a strategy which calls for being dishonest in any period. The salesperson is tempted to be dishonest in each period, because it increases his payoff ($S_d(O_c) > S_h(O_c)$). Resisting this temptation makes sense because doing otherwise would result in the loss ($S_d(O_c) > S_d(O_s)$) each period forever as the reversion to salary generates the same outcome each period as in the one-shot sequential-move game.

One strategy which the salesperson can employ is simply to be honest each period. Let us call this strategy the 'honest strategy.' While introducing this new strategy the preferences of the salesperson are not changed. Given the 'honest strategy' by the salesperson, owner of the firm chooses the 'unrelenting strategy,' since the owner's highest payoff is obtained each period forever. Hence, the 'unrelenting strategy' by owner of the firm and 'honest strategy' by salesperson form an equilibrium strategy combination and results in efficient choices of commission and honesty each period. This is without even the threat of firing the worker for dishonest behaviour and without motivating a change in salesperson preferences. That is, efficient choices may arise without explicit mechanisms which rectify unethical behaviour. In the 'one-shot' sequential-move game this outcome was not possible in any of the three cases.

Analysis of the Dynamic or Repeated Game Model of Sales Compensation

There are many equilibria in the repeated game. For example, if the owner of the firm chooses to pay salary each period (a naive strategy), the salesperson's best choice is to be dishonest each period (an opportunistic strategy), because $S_d(O_s) > S_h(O_s)$. Also, given that the salesperson is dishonest each period, the owner's best choice is to compensate using fixed salary, because $S_d(O_s) > S_d(O_c)$. These strategies are thus part of another equilibrium. The outcome in this equilibrium is no better than it was in the simple 'one-shot' game. In fact, the existence of multiple equilibria is realities in organizations as it provides reason to believe that different organizations will have different ethical climates and organizational culture (Victor and Cullen, 1988). Factors, such as corporate culture, codes of conduct, credibility in commitment, and leadership, may influence players to choose one equilibrium strategy over another.

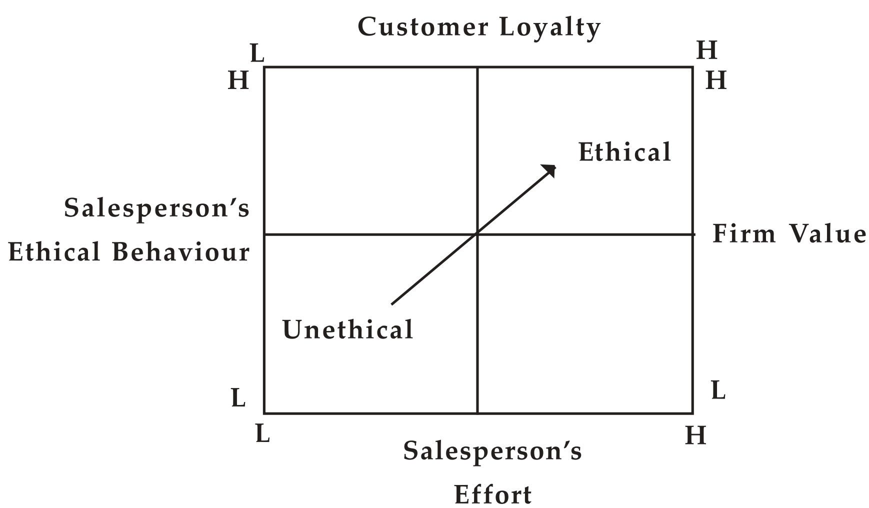
Salesforce Compensation and Ethical Issues

When sales compensation plans are not aligned with corporate strategy of the organization, sales people often work their own plan, to the organizations' disadvantage. They spend their time, efforts and energy on what they believe will generate the most commission or sales reward rather than focusing on what provides the best value to the customer and, in the long run, to the business. They might focus excessively on one product, for example, and neglect others that are more strategic to the company. They might sell items with lower margins that increase their commission amount, but generate less profit. Or they might focus on existing customers instead of courting new ones. Worst of all they may ignore customers' real needs in favour of sales that have a very short-term benefit, for example increasing their earning potential through variable pay i.e. commission.

If sales person working on 'commission' only basis takes short term view of sales by putting low efforts and working dishonestly or unethically and focus only on immediate gain (i.e. commission), he will solely be guided by quick sales and will not be interested in building long term customer relationship and customer loyalty. In this situation value of firm decreases as future cash flow and profitability declines because of lack of repeat sales and decline in customer loyalty. This phenomenon is explained in Fig. 3.

In Fig. 3, 'Unethical' quadrant represents unethical or dishonest behavior by salesperson characterized by low level of efforts for short term goals or quick gains. This is also reflection of low customer loyalty and lower value of firm. 'Ethical' quadrant represents ethical or honest behaviour by salesperson characterized by high level of efforts for long term relationship and goals for sustainable gains. This is also reflection of high customer loyalty and higher value of firm. Here value of firm is considered as PV (Present Value) of future cash flow discounted at cost of capital.

Fig. 3: Variable Compensation: Relationship between Ethical Behaviour and Firm Value



The role of the organizational influences on ethical decision making is very important. For e.g. corporate climate and culture, and top management values are major influences on the ethical decision making process (Ferrell and Gresham, 1985; Hunt and Vitell, 1986). By such organizational influences, if salesperson is motivated to act ethically or honestly by putting high efforts for building long term customer relationships and customer loyalty. Increased customer loyalty represents repeat purchase by customers, higher cash flow, higher profitability and ultimately higher value of the firm. Fig.3 above shows this transformation by moving from 'Unethical' quadrant to 'Ethical' quadrant.

Kreps (1990) offers a unique perspective on reputation and corporate culture by applying the work of Tom Schelling (1960). As explained earlier, there are multiple equilibria in game theory outcome, one where the salesperson chooses to be honest each period, the other where the salesperson chooses to be dishonest each period. Suppose the organizational culture reflects a commitment to customer satisfaction. When salespeople are influenced by this culture, they may be more likely to choose to be honest in their relationships with customers.

A well-defined ethics programmes in the organization could assist in the learning process. For example, suppose the owner of firm develops an organizational training programme in ethics and establish a code of conduct. Both the ethics training and code of conduct would shape, reflect, and formalize the corporate culture. Neither the training in ethics nor the code is contractual in the nature, but each provides a powerful mechanism to the firm for communicating the ethical expectations of the corporate culture to sales people.

Ethical decision-making must permeate the organization. This may mean that owners should provide ethical leadership. Since corporate culture represents a set of implicit contracts, it may be difficult to change. This may help explain why written codes are often used as a driver for initiating change in culture. Culture must be communicated and reinforced. This can be accomplished in a variety of ways, including new employee orientations, sensitivity training, or through top management's actions. All these outcomes or actions are the product of experience, can be learned, and help owners and salespeople co-ordinate in a better way on one equilibrium strategy combination for compensation over another.

Conclusion

The purpose of the paper is to outline the contributions that game theory can make to our understanding of salesforce compensation and ethics issues. This paper has described an example of how game theory can be applied to important research issues in the interdisciplinary area of HR and marketing functions such as salesforce compensation. This paper has outlined different structure of compensation offered by owner of firm and the possible outcomes of different compensation systems. As per game theory, owner of firm is better off with variable compensation when sales people behave honestly. To understand ethical issues related with outcomes of sales compensation systems, both 'one-shot' or sequential-move and 'dynamic' or repeated game theory models were used.

References

Anderson, E. and Oliver, R. "Perspectives on Behaviour-Based Versus Outcome Based Salesforce Control Systems." *Journal of Marketing.* October, No.51, (1987): 76-88.

Basu, A., Lal, R., Srinivasan, V., and Staelin. R. "Salesforce Compensation Plans: An Agency Theoretic Perspective." *Marketing Science.* No.4, (1985): 267-291.

Cravens, D., Ingram, T.N., LaForge, R.W., and Young, C.E. "Behaviour-Based and Outcome-Based Salesforce Control Systems." *Journal of Marketing.* No.57, Winter, 57-70.

A. and Banting, P.M. "The Purchasing Agent, Friend or Foe to the Salesperson." *Journal of the Academy of Marketing Science.* Fall, No. 16, (1988): 16.

Dubinsky, A. and Ingram, T. "Correlates of Salespeople's Ethical Conflict: An Exploratory Investigation." *Journal of Business Ethics.* No.3, (1984): 343-353.

Dwyer, F.R., Schurr, P., and Oh. S. "Developing Buyer-Seller Relationships." *Journal of Marketing.* April, No.51, (1987): 11-27.

Ferrell, O.C. and Gresham, L.A. "Contingency Framework for Understanding Ethical Decision Making in Marketing." *Journal of Marketing.* Summer, No.51, (1985): 87-95.

Hunt, S.D. and Vitell, S. "A General Theory of Marketing Ethics." *Journal of Macro Marketing.* Spring, No.6, (1986): 5-16.

Kreps, D.M. "Corporate Culture and Economic Theory." In *Perspectives on Positive Political Economy.* J.E. Alt and K.A. Shepsle, eds., Cambridge University Press, Cambridge, MA: 1990.

LeClair, Daniel and Debbie Thorne. "Salesforce Compensation and Ethical Issues: A Game-Theoretic Approach." in *Marketing: Foundations for a Changing World*. Brian Engelland and Denise T. Smart, eds., Evansville, IN: Southern Marketing Association, (1995): 146-150.

Rasmusen, E. *Games and Information.* Blackwell, Oxford, UK: 1989.

Schelling, T. *The Strategy of Conflict.* Oxford University Press, Oxford, UK: 1960.

Victor, B. and Cullen, J.B. "The Organizational Bases of Ethical Work Climates." *Administrative Science Quarterly.* March, No.33, (1988): 101-125.

Wireless with Wimax

Neha Vivek Nair

Abstract

Advances in wireless communication technologies have revolutionized the way we communicate and the way we do our day to day business. Wireless technologies are being adopted for many new applications to connect computers, allow remote monitoring and data acquisition, to provide access control and security, and to provide solution for environments where wires may not be the best solution. Wireless technologies like Wi Fi and Wimax are making ICT services both accessible and affordable to all while reducing the cost of operations for the service providers. Wimax is the new kid on the block which promises to redefine the way the world is networked. This paper presents an insight into the working of wimax, the technology that is used, features, performance, security and areas of concern for the growth of wimax. It also explores the service provider opportunities that exist for wimax both domestically and internationally and in both the licensed and unlicensed spectrum banks. The power of wimax is attracting widespread industry attention also. Wimax is a technology which has the potential to bridge the connectivity gap of rural and urban areas.

The internet began in the United States in the 1960s owned by the Department of Defense known as ARPANET. At that time nobody had the idea that it would become such a great revolution resulting in people using the internet day in and day out. In fact it is difficult to estimate how many people are online throughout the world.

There are different methods used to get connected to the internet. The most commonly used options are:

1. Broadband access
2. Wi Fi access
3. Dial up access

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Some decades back dial up method was the only tool to get access to the internet. But it was seen a tremendous decline with the growth and advent of broadband technologies which got a boost from different telecom industries. Till now it was all wired technology. But then the need of the hour was that even if a person moves away from his wired network he should have access to his data. Technology did not remain behind in this also and hence came the concept of WI FI. The main problem with broadband is that it is expensive and also there are many areas which are still not touched by broadband and hence cannot avail this facility. Dial up connections are good but speed of data transfer is a crucial issue. Hence WI FI got all the success that it needed but still it has a major limitation the hot spots are very limited and coverage is very sparse.

So why not have a new technology that would solve all the above problems. The new technology would provide the following:

1. Wireless technology
2. Broader coverage area
3. High speed of data transfer.

The answer to the above is WI Max. The technology is still trying to come into existence and is short form of Worldwide Interoperability for Microwave Access. It also has another name as IEEE 802.16. It is considered to be a broadband wireless network technology which poses a huge threat to the digital subscriber's lines.

Wimax Architecture

WI Max follows the standards of 802.16a, 802.16d and 802.16e. These three standards provide wimax with limited access, high speed and best quality in broadband service. Technically the media access controller layer (MAC) or the data link layer makes use of a scheduling algorithm for which any subscriber station has to compete but only once. After it is granted access into the network it remains in the network and is allotted a base slot for communication purpose. The time slot remains variable but the user is attached to the network. This concept of stability is missing from Wi Fi where all the stations compete in grabbing the attention of the access point through random basis. Moreover the 802.16e supports the use of small chips in the motherboard. In this scenario no external device would be required for wimax connectivity making it quite cheaper and quicker solution.

Wimax follows the principle of connection oriented services which takes care of the fact that only the Physical and MAC portion in the Data Link layer of the OSI model are affected. Hence there has to be a concept of scheduling amongst the communicating devices and wimax towers.

Wimax gives the options of two types of connections:

1. Frequency division duplexing (FDD)
2. Time division duplexing (TDD)

Wimax can give the best support feature if it gets implemented as a mesh topology. In case of mesh topology every node has a dedicated link to every other node in the network. This gives certain advantages such as privacy of data and reachability factor even if one node is currently not working properly. This would ensure that there is robust communication as mesh topology would provide multiple routes to choose from.

802.16a	802.16d	802.16e
For fixed outdoor applications. Limited residential broadband access	For fixed outdoor applications. Broadband access for residential users with high speed	For mobility applications. Portable broadband access for mobile customers
CPE: external box connected to the PC with an antenna	CPE: external box connected to the PC with built in antennae	CPE: PC card

(CPE: Customer Premise Equipment)

Wimax Security

In the recent times many concerns have been raised over the security aspects of data getting transmitted through the medium of wireless communications. Issues of eavesdropping and manipulation of data has always been a major drawback in the case of wireless communication. But Wimax has been able to steer clearly on these concerned issues by giving security a prime importance in the implementation. It uses the Advanced Encryption Standard (AES) for encryption purpose. In this algorithm an encryption key is taken and a counter as input to produce a bit stream of data. The bit stream is then XORed with the plain text to produce the cipher text. The receiver has to reverse the complete process to get the decrypted message.

Another important feature is that Wimax 802.16 e standard makes use of Privacy Key management protocol. This protocol is responsible to validate the user identity and it generates an authorization key used for encryption purpose. PKM protocol supports the use of RSA (Rivest, Shamir and Adlerman) public key cryptography concept. The public key is further put to use to authorize the user when it tries to establish a connection with the wimax tower.

Wimax for LOS and NLOS Environments

Wimax has optimized itself for LOS (Line of Sight) as well as NLOS (Non Loss of Sight) type of coverage. This is made possible because of the radio channel used in wireless communication. In case of LOS the radio link usually travels from the sender to the receiver in a path that is direct and free from any sort of obstructions whereas in case of NLOS link the signal has to travel through a path which has noise, scattering, diffractions and reflections. The signal also travels through multiple paths and signals usually undergo different attenuations. NLOS deployments are desirable because of number of advantages. Strict planning requirements and restrictions in the height of the antennae make it impossible for LOS type of arrangement. NLOS also reduces the installation charges since the CPE installation is easier in difficult locations also. The technology also makes it possible to make use of indoor CPE equipment. The two main concerns that come up in this case are overcoming the building penetration losses and covering reasonable distances with the lower transmit powers. Wimax makes this possible and the NLOS coverage can be further improved by using some of optional capabilities which wimax has.

Wimax Performance

Long Range: compared to the existing wireless technologies wimax has a support of communication range of 30 miles.

Low cost: the base stations would be set up on a low cost basis giving the facility and support of T1 connections. Wireless: no need of lying up of cables or designing wired networks from one building to another.

High bandwidth: wimax is capable of providing data rates up to 70 Mbps. There is a reduction in the latency factor related to wimax connections.

Current Wimax Scenario

Wimax gives you a combination of access, speed, coverage and reliability all at one go. Hence the next question would be the cost factors involved in a wimax application. Wimax deployments costs are cheaper compared to the DSL as they are wireless. This is a threat that they pose to the DSLs as they have still not covered many suburban and rural areas.

If we compare wimax with other wireless technologies even then the cost factor is less as wimax wants less number of towers to serve the purpose. Wimax is popular for two types of users. One type would be those users that wish to be connected using NLOS implementation or others using LOS propagation that wishes a group of users wanting a steady, high speed connection. Another concept that could be popular with wimax is related to having wimax towers city wise. One city can install a single wimax tower which would provide coverage to the entire region. This is already done with WI Fi.

If you wish to have wimax connection for personal use the scenario remains very much the same. An ISP has a wimax base station near your house. You need to have a wimax enabled computer. For this you need a CPE either external or maybe internal through a PC card. To get access to the wimax base station you will be provided with an encryption code. The base station will transmit data from your computer to the Internet and vice versa at lower rates compared to the cable modems. For a network the data would be transferred to a wimax enabled router and then the data can be broadcasted on different computers to that network.

Wimax Services

Wimax has got the capacity to give the next generation service broadband which is definitely more effective than the one today. Hence the application areas of wimax are of great concern.

Wimax covers a wide range of services like video, voice, data and mobile. Mobile wimax is on the greatest priority as of now in the current scenario. Since wimax has the two important factors required i.e. speed and bandwidth there is no stopping in providing the quad services. Moreover the concept of having wireless connection makes it easy to distinguish between a fixed connection and a mobile connection. Wimax is successful in bringing about effective benefits from voice, video and data transmissions and also add the required enhancements accordingly. For this the backhaul application becomes a big boon. The biggest advantage is for the rural areas which could not have imagined a high speed network connection if wimax had not evolved.

Future for Wimax

Rural India is still to imagine the benefits of high speed network connection. Even in sub urban areas of India the broadband penetration is considered to be very low which affects the small time business people who cannot afford the costs of leased connection. In such situations wimax can prove to be a boon.

It is possible to wimax to go hand in hand with WI fi so as to be able to transfer megabits of data to specific surrounding areas. Indian cities are getting the world wide global attention that is required for their IT roles. With modern communication methods and high build infrastructures the businesses would not remain restricted to the main cities but instead move on to different suburban areas also. Customers get the choice of their speed ranges with a guarantee. All this indirectly counts on promotion of small businesses which can further migrate to mobile applications too. It has become evident that wimax will play a major role in growth of developing countries like India. Having a systematic deliverable communication structure would be the first step in narrowing down the urban rural line.

Wimax is still considered to be in the growing stage especially in India. India has still not seen much of wimax except for cities like Bangalore and Pune. But wimax has found a place in fixed applications but still its mobile application use remains a topic for debate with its competitors. The first wimax mobile application was released in Italy this year. The technology should be adopted by the internet and mobile service providers who will be using the 3G spectrum. What actually lies in store for wimax will only be clear once it finds its way into the network!!!

References

IEEE (2007) IEEE 802.16m. System Requirements <http://www.wirelessman.org/tgm/docs/80216m-07_002r4.pdf>, October. <www.wimaxforum.org/technology/downloads/wimax_forum_wimax_forecasts_6_1_08.pdf>. <http://www.researchandmarkets.com/reports/835195> <www.mobileparadigm.com>

J.W. Porter and J.A. Thweatt. "Microwave Propagation Characteristics in the MMDS Frequency Band." IEEE International Conference on Communications, Volume 3, (2000): 1578-1582.

IEEE 802.16.3c-01/29r4, "Channel Models for Fixed Wireless Applications." <http://www.ieee 802 .org/16>

V. Erceg, ET. al. "An Empirical Based Path Loss Model for Wireless Channels in Suburban Environments." IEEE Selected Areas in Communications, Vol.17, No.7, July 1999.

Ravi, Kumar Jain. "Wireless Networking – Wi Fi and Wimax." <http://www.alvarion-usa.com/runtime/materials/pdffiles/WiMax_Leaflet.pdf> <http://www.wikipedia.org> <http://www.technewsworld.com/story/ 32322.html>

Captain, S. "Wimax: Wireless on Steroids." 2004. <http://www.intel.com/ebusiness/pdf/wireless/intel/80216_wimax.pdf>

ABQP:
Ladder to Success

Kapil Mittal, Dinesh Khanduja, and Prabhakar Kaushik

Abstract

Business success springs from differentiation that is tangible in a product or service. In a manufacturing organization, the success is directly proportional to the quality promised to the customer at an appropriate cost. But between quality promised and quality achieved there is one important word: 'how'? In a continuously changing world, companies increasingly seek to accomplish their most vital goals by adopting some newer development techniques. Producing and sustaining on such techniques is 'how' that makes all the difference. These newer development techniques are based on the top quality systems which have outstanding and proven rational qualities. In this paper, the author discusses various concurrent phases of APQP in the development of a product which shows how the goals of APQP in industries can be achieved and surpassed through the complimentary usage of this approach.

As the competition continues to get tougher, organizations worldwide are under continuing pressure to control costs, maintain high level of quality and meet customer expectation in a defined time (Pandey *et al.* 2000). Many authors argue for improved integrated product and process development (IPPD) methodologies. Olson *et al.* (2001), discussed the pattern of cooperation required between the functional groups of R&D, marketing and operations during various project phases. These authors found that a high level of cooperation between the functional groups was a critical factor that was related to project success for high levels of innovation. This finding is supported by Ancona and Caldwell (1990) and Anderson (1998), who noted that when technologies are challenging and time to market becomes even more important, deeper and more intensive cross functional integration is required. This paper deals with such a brilliant



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technique 'APQP' by the application of which high quality products with high productivity can be produce during production. APQP is described as a philosophy, methodology and breakthrough strategy for developing the products in an organization. The purpose of APQP is to produce a product quality plan which will support development of a product or service that will satisfy the customer (Wang, 2009). APQP is a process developed in the late 1980s by a commission of experts gathered from the big three US automobile manufacturers: Ford, GM and Chrysler (Driva, 1997). This commission invested five years to analyze the automotive development and production status in the US, Europe and especially in Japan. At that time, the success of the Japanese automotive companies was starting to be remarkable in the US market. APQP was formulated to ensure that product quality is maintained and customer requirements are met (Carbone, 2005). APQP also helps in standardizing procedures and reporting formats across new product projects. The methods and tools of APQP make good business sense. The quality standards have been widely adopted and used in many industries.

Phases of APQP

Organizations structure the APQP process according to their needs, but past history within an organization also impacts on the existing product development methodology. However, methods such as APQP are required in order to facilitate the flow of information across the organization, within projects, and from project to project, while at the same time reducing paperwork Ghalayini and Noble (1996). Griffin and Page (1996) points out that the power of APQP is better estimating during project planning by integrating all of the required development information early, rather than redesigning and reworking the new product during manufacturing. APQP is intended to ensure that both the planning and the reviews of the project information are done in accordance with quality standards and the project objectives (Bobrek and Sokovic, 2005). APQP consists of five phases (Figure 1). In this section, it is explained how the APQP methodology is integrated as a development methodology within an organization for developing a new product. The goal of APQP is to facilitate communication between all persons and activities involved in a program and ensure that all required steps are completed on time, with a high quality-of-event, at acceptable cost and quality levels.

Phase I (Plan and Define Programme)

Determining the customer needs and expectations is the first and the most important step of any APQP project because understanding of customer expectations forms the backbone of the project and makes the job easier during development. The team for an APQP project is a multidisciplinary team. Effective APQP requires the involvement of more than just one department. The team includes representative from engineering, manufacturing, material control, quality control, sales, field service, supplier and customer as appropriate. During the selection of the project team leader who is responsible for overseeing the APQP project, it is always advantageous to rotate the team leader during the APQP cycle. Feasibility study of the proposed project is made by reviewing the design and manufacturing requirements, and their availability in the organization. Cost, timing and constraints are also given consideration during feasibility review. Based on the type of the product, its complexity and customer expectations, a time plan is prepared which consists of the list of tasks, assignments and other events. To facilitate status reporting, each event is provided with a 'start' and a 'completion' date.

The inputs to first phase of APQP are voice of customer, market research, historical warranty and quality requirement, past experiences, product/process benchmark data, product reliability studies and other customer inputs. Based on these inputs, the outputs of this phase are design goals, reliability and quality goals, bill of material, list of special product characteristics. In an APQP project it is essential to do all work with the customer (final user) in mind. The inputs and outputs applicable to every particular project may vary.

Phase II (Product Design and Development)

The APQP team considers all design factors to ensure that the final product satisfies "voice of the customer." Some times the required product designs/drawings are provided by the customer itself but yet supplier has to check the feasibility of those designs/drawings according to existing equipments and the manufacturing process to be used. The designs of other necessary equipment like jigs and fixtures, inspection gauges and other necessary equipments are also prepared. After the planning and development of design/drawings, the team conducts a Design Failure Mode and Effect Analysis (DFMEA) study which indicates various modes in which a design can fail and the effects of failures on the final assembly.

The inputs to this phase are the outputs of the first phase i.e. plan and define program. The outputs of this phase are the DFMEA, design reviews, engineering drawings, material specifications etc.

Phase III (Process Design and Development)

Designing of manufacturing process consist of sequencing of various operations required in the manufacturing of the required product (Hart, 1993). After finalizing the sequence of manufacturing process a Process Flow Diagram (PFD) is prepared and then a Process Failure Mode and Effect Analysis (PFMEA) is carried out which checks the feasibility of the planned and designed process. A shop floor layout for the process is prepared keeping in mind the existing layout of the shop floor. The inspection equipment for all operation stages are designed and developed. The inspection equipments are corresponding to the dimension/ shape which is being produced at that stage. A proper Measurement System Analysis (MSA) which includes the gauge R and R (Repeatability and Reproducibility) is conducted. The purpose of gauge R and R study is to ensure that the measurement system is statistically sound. Gauge R and R study determine how much of the process variation is due to the measurement system variation. Simultaneously the working of the existing as well as the new equipments is checked by conducting various trials. A proper process capability study is carried out by conducting trials on manufacturing equipments which tells about the variations in the process. All the observations like the process descriptions, key product characteristics, inspection equipment and checking aids, process capability index, frequency of inspection, process audit method and frequency are enclosed in a single chart. This chart is known as control plan which is one of the very important outputs of the APQP project. This control plan is displayed on every work station for the convenience of the worker and engineers.

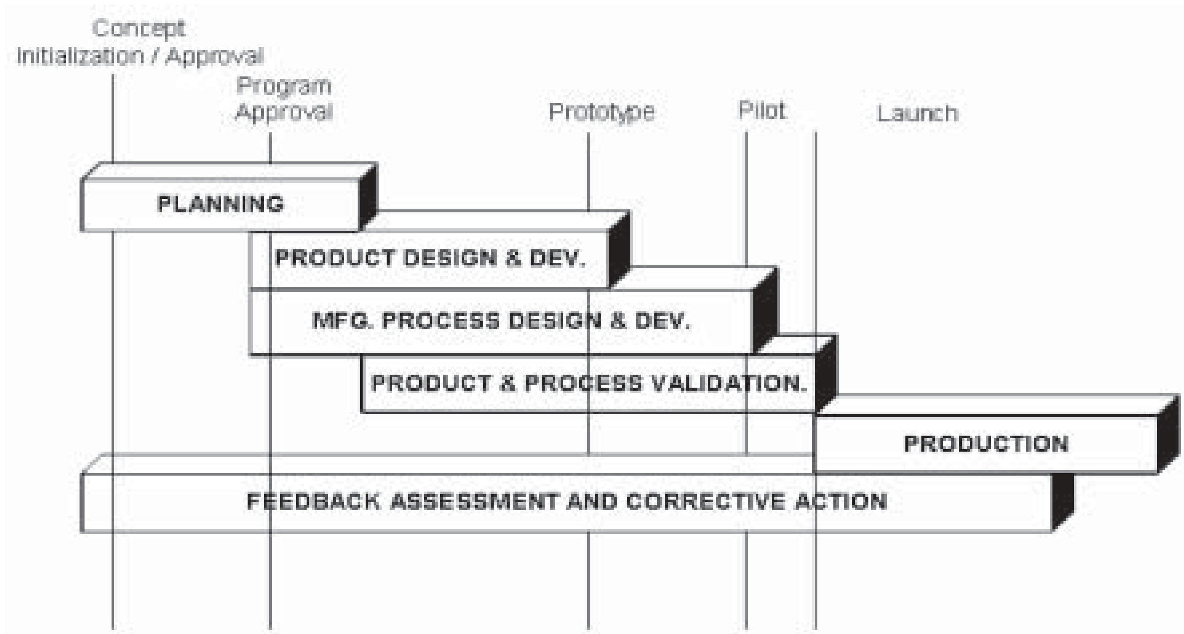
The inputs to this phase are the outputs of the second phase i.e. product design and development. The output of this phase are process drawings, PFD, shop floor layout, PFMEA, control plan, process work instructions, MSA, process capability plan and packaging standards.

Phase IV (Product and Process Validation)

During this phase the manufacturing process is validated by means of an evaluation trial run. The trial run is named as Production Part Approval Process (PPAP). It consists of continuous production of about 300 nos. of parts on the same equipments and by the same operators who will produce the parts during upcoming production period. The number of parts can vary depending upon the type and volume of the parts. The APQP team verifies that the control plan and process flow chart are being followed and the product meet the customer requirements. These 300 parts are sent to the customer for approval along with the documents listed as follows:

- Design records(Drawings)
- Engineering change note
- DFMEA
- PFMEA
- PFD
- Control plan
- MSA
- Material test reports
- Appearance approval report
- Checking aids
- Part submission warrant etc.

Figure 1- Five Phases of APQP



The input to this phase is the output of the third phase and the outputs are the PPAP parts and documents.

Phase V (Feedback, Assessment and Corrective Action)

During this phase the optimal solution for reducing variations or mean is determined and confirmed. The objectives of this phase are:

- To confirm the key process variation
- To test for improvement in centering
- To use of brainstorming and action workout
- To process optimization and confirmation experiments, and
- To enhance delivery and service performance.

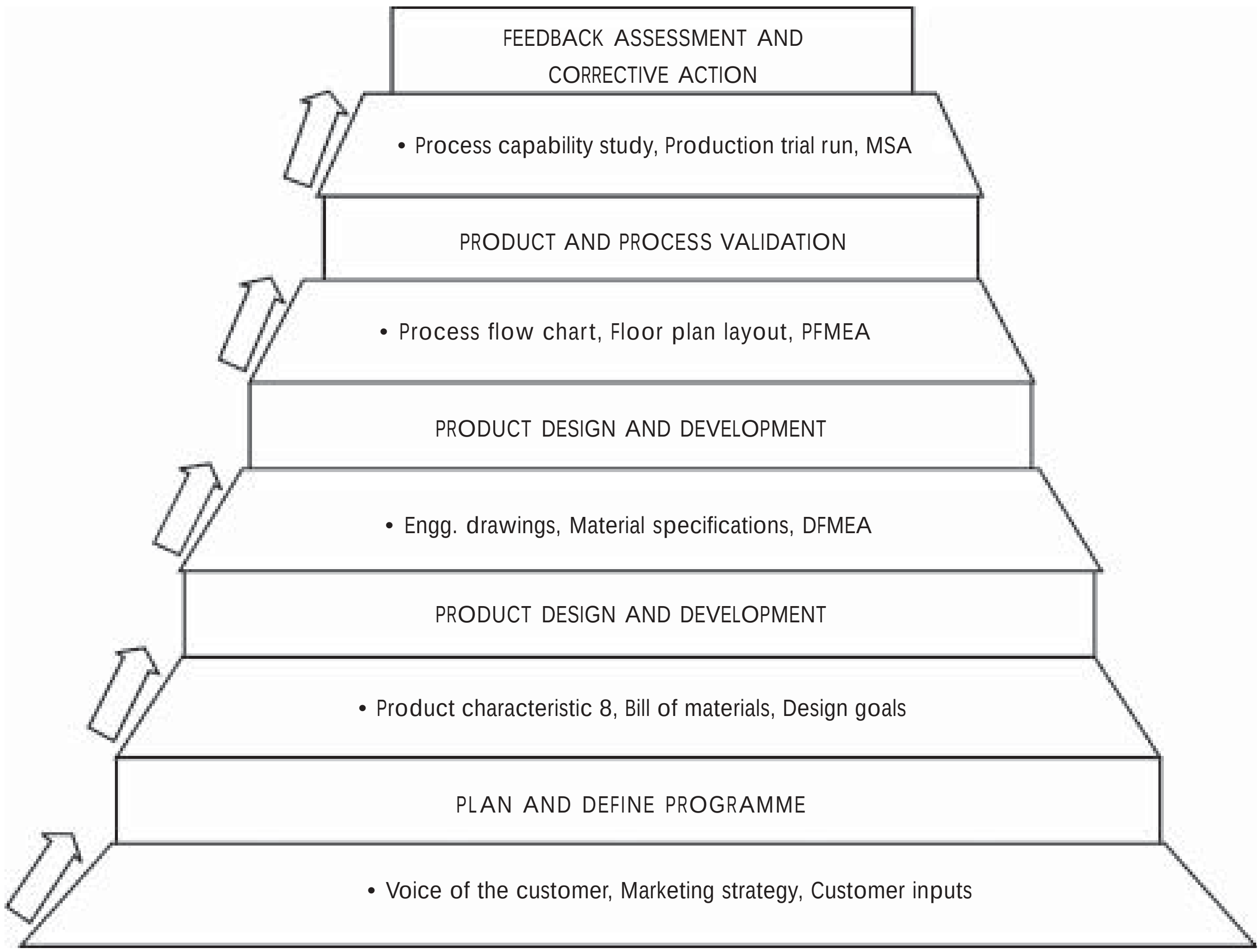
This phase helps to identify and quantify the key process variables and their influence on Critical to Quality (CTQ) factors. The step may involve the use of a variety of statistical methods and tools to determine high priority attrition variables and need to develop and/or redesign functions that impart product performance and success.

All the described phases of APQP are the simultaneous phases as shown in (Figure1). These phase need not to be started after completion of the previous phase. However the ending of the subsequent phase depends upon the ending of the previous phase.

Conclusion

APQP tools and methodology have evolved utilizing various domains associated with product development and process improvement. The evolution of APQP parallels the evolution of quality methods. It provides a comprehensive and flexible system for maximizing business success. It is like sowing good quality seeds for better tomorrow. It has been considered as a revolutionary approach to product and process improvement. This paper illustrates the key ingredients of APQP methodology. Use of this approach will make production effective and more productive with less effort and less rejection. Companies that wish to accelerate development of their own quality program can utilize the evolutionary phases explained in this paper to understand their current level of evolution and to implement focused actions that can quickly move

Figure 2 - APQP - A Ladder of Success



them past their competition. The APQP performance measurement is focused on the customer need and satisfaction. The author also proposes the APQP system as a ladder to success (Figure 2). Integrating the ladder of success with the proper performance measure can initiate new knowledge which will contribute to the improvement of an industry. The further study of APQP performance measurement in conjunction with the different quality tools is recommended.

References

Ancona D.G., and Caldwell D. "Improving The Performance of New Product Teams." *Research Technology Management.* 33 (1990): 25-29.

Anderson D.O. *Product Realization Process.* Louisiana Tech. University, Art., 1998. Available: <http://web.archive.org/web/20030404093913/2.latech. edu/~dalea/instruction/prp.html>

Bobrek M. and Sokovic M. "Implementation of APQP-Concept in design of QMS." *International Journal of Materials Processing Technology.* 162-163 (2005): 718-724.

Carbone T.A. "Integrating Operations and Product Development Methodologies for Improved Product Success using Advanced Product Quality Planning." *IEEE/ Advanced Semiconductor Manufacturing Conference.* 2005.

Driva, H. *The role of performance measurement during product design and development in a manufacturing environment.* Nottingham: PhD thesis, University of Nottingham, 1997.

Ghalayini A.M. and Noble J.S. "The Changing basis of Performance Measurement." *International Journal of Operation and Production Management.* 16 (1996): 63-80.

Griffin A. and Page A. L. "PDMA Success Measurement Project: Recommended Measures for Product Development Success and Failure." *Journal of Product Innovation Management.* 13 (1996): 478-496.

Hart, S. "Dimensions of Success in new Product Development." An Exploratory Investigation, *Journal of Marketing Management.* 9 (1993): 23-41.

Olson E.M., Jr. O.C., R. Ruckert W., and Bonner J.M. Patterns of Cooperation during New Product Development among Marketing, Operations and R&D: Implications for Project Performance, *Journal of Product Innovation Management.* I (2001): 258-271.

Pandey, P.S. Neuman R, Cavanagh, R. *The Six Sigma way: How GE, Motorola and other top companies are honing their performance.* McGraw Hill, New York, NY: 2000.

Wang, K.J., Jha V.S., Gong D.C., Hou T.C. and Chiu C.C., Agent based knowledge management system with APQP: implementation of semiconductor manufacturing service industry, *International Journal of Production Research*. 1(2009): 01-24.

Business Angel Investment in Unorganised Environment

Chimun Kumar Nath

Abstract

The formal venture capitalists are moving towards larger deals and shifting their investments to a later stage of development, creating an equity gap, business angels become more important in the financing of seed, early stage and second round phases. The paper identifies ways to stimulate business angel investment. Coping with the equity gap can mainly happen by stimulating syndication and by setting up co-investment schemes. Investor readiness, corporate orientation, business angel networks, business angel academies and the integrated finance concept can be considered as key concepts in coping with the information asymmetry problem.

It has been observed that the opportunities available in India, if can be duly utilized, may lead to creation of ample scope for Venture Capital Financing (VCF). The demonstration effect about VCF requires to be properly communicated to the potential entrepreneurs by various institutional complementarities in the country. Such effect not only calls for drawing experiences from other successful VCF promoting countries but also creating an environment of diffusion of social and human capital. India has enough potential for creation of human capital. The role of institutional complementarities is to organize and implement the various factors influencing the development of human capital *per se*. However, in India, it is basically the creation of social capital, which requires prudent consideration. The security of investment must be protected by way of mutual dependence between the demand and supply side. Role of NGOs cannot be ignored in creation of social capital. An intervention from Government of India through its various machineries is a must for creation of social capital. It is only when the human, social and financial capital meet together, a conducive atmosphere for VCF in the country shall emerge.

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It is worthy to reiterate that effectiveness of commercial banks in this context is limited because of the fact that they cannot come out of the system of traditional loan financing based on collateral. An entrepreneur having a technology back up, willing to start up own enterprise usually does not have collateral to get financial support from commercial banks. Under the situation for various positive reasons as referred to in above, the business angels are the right option for such budding entrepreneurs. At the same time the commercial banks are not empowered through various statutes affecting them to hold controllable volume of equities in the enterprises financed by them to have surveillance and control on them. This is one of the reasons to comment that the scope of the commercial banks in the state to invest in enterprises is limited. Banks are allowed to extend loans to industrial firms, but they cannot hold controlling amounts of equity in investee enterprises. This view has been upheld in a study on banking and venture capital in USA, (Pozdena 1990[1]).

Conceptual Framework

The traditional pecking order theory suggests that the financing source of choice is earnings retention, followed by external debt. External equity is the last resort. This traditional approach can, however, be confronted by the excessive demand for external equity, especially for start-ups. This demand can be explained by the absence of interest costs on the one hand, and fixed payback obligations on the other. Indeed, even if, as shown by a number of surveys, desired return on seed and early stage investments are excessive, varying from 25 percent to around 80 percent, one should keep in mind that these rates depend on expected revenues and do not constitute actual interest payments.

The business angel's stake in the company will depend on the perceived worth of the company and the amount of capital that she/he wants to disburse. The owners' preference for business angel financing is hence comprehensible to:

⇒ no fixed financial expenses have to be foreseen in the business plan

⇒ a smart partnership between the business angel and the entrepreneur might lead to higher future net value of the company as both parties are involved and committed

⇒ the business angel financing might open doors to second round venture capital or to classical debt financing

Therefore, despite the non-existence of empirical evidence linked to business angel financing in the matter, we might assume that the traditional finance pecking order seems to be reversed for start-ups, especially for high-tech start-ups. Business angel financing, in this sense, can no longer be considered as last resort as the literature tends to suggest (Aernoudt and Erikson, 2002; European Commission, 2002).

Indeed real entrepreneurs consider that not all money is the same. They take into account several criteria when they are considering different sources of finance for their ventures. To achieve a successful and profitable business development it is necessary to ensure that the right type of money is matched to the real risk involved. For a start-up, with no income until the product is fully developed and the first sales are made, debt finance is rarely the best source of external finance. Debt finance is usually secured on assets. The longer or the more uncertain the exit period, the higher the collateral required. Moreover, the riskier the project, the higher the anticipated reward that is needed to attract investors. As business angels focus more on the 'jockey' than on the 'horse' (Harrison and Mason, 2002), we can assume that business angels can be the real entrepreneurs' best choice.

Risk-Return Relationship

While the pecking order focuses on the demand side, the risk-return relationship concerns the supply side. On the formal venture capital scene, we see a persistent decline of the share of early stage investment.

Even in the way venture capitalists evaluate projects, they do not differ from banks. The classical discounted cash-flow method, together with the use of comparables is by far the most used evaluation method (Babson College, 1999).

More academic methods such as the option-based approach or the residual approach are hardly ever used. These conventional appraising methods do imply a bias towards projects characterized by a stable cash-flow projection in the short run. Start-up companies and projects with a long incubation period and a huge rate are therefore less attractive to the venture capitalist (Amit et al., 1998).

The fact that most venture capitalists perceive and appraise projects through the bankers' eyes is not surprising. Most of the fund managers are ex-bankers making a career move towards venture capital funds, often being part of the banking group. Moreover, in India, in contrast to the US, bankers are the most important source of finance of the risk capital sector. In North America, venture capital is raised from funds with longer investment horizons, mainly from institutional investors such as public and private pension funds and insurance companies rather than banks, which tend to be the largest investors in Europe (OECD, 2000; Botazzi, 2004).

These factors explain why the risk capitalists' view differs only slightly from a banking approach. This bankers' view is confirmed when we have a closer look at the number of SMEs at start-up and seed stage that receive venture capital finance and the amounts involved. We obtain an unsettling reality. In Europe, only one-fifth of all risk capital within the EU goes to businesses in their start-up or early stages of development.

It is really stunning as to why venture capitalists have such a noticeable preference for MBOs and mature companies. Investors should conform to the portfolio theory by spreading their assets over the different stages of the companies instead of concentrating on the big deals. The problem can be tackled by applying agency theory to the venture capital sector. Investors, and especially institutional investors, are rarely involved in the daily management of the fund. The fund manager is rewarded on basis of the carried interest principle and therefore prefers large, not labour intensive, deals with short-term exit opportunities. Consequently, the injection of public or private money into the market is not likely to solve the problem of shortage of risk capital for start-up and small amounts investments: quite the reverse in fact.

Using the venture capital fund model, simulation showed the positive impact of the fund's scale on the investment return for the managing partners in US. As the fund size increased, the attraction of investing small amounts of money in start-ups correspondingly diminished (Murray, 1999). Indeed, the cost of due diligence, audit and monitoring is not related to the size of the investment. Therefore, small projects are less interesting for venture capital. Hence, it is not surprising that seed investments are not the privileged customers of venture capital funds. Thus, the success of the overall risk capital market implies that seed capital becomes a less and less attractive option.

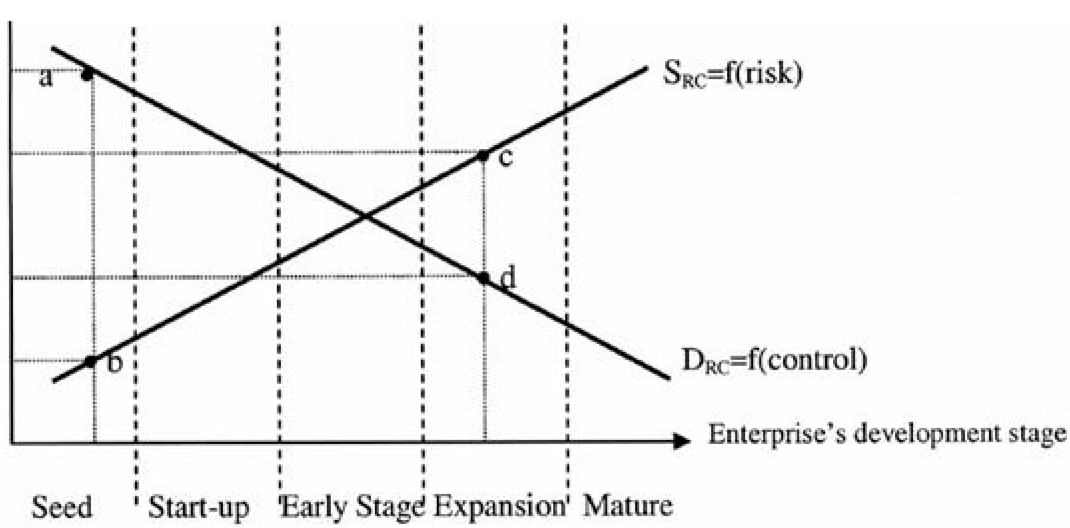
This theoretical approach is confirmed when we look at the markets. Although in India, for instance, studies have concluded that Indian SMEs are faced with huge problems in their seed, start-up and fast growth phases. In the slow growth and development phase, there is no longer an equity gap problem. Correspondingly, the IVCA stated in its annual report on the financing of small firms that it becomes increasingly difficult for SMEs to gain access to smaller amounts of financing. Although we can agree that provision of equity finance should be sufficient to meet the needs of enterprises, there is a problem of financing for (small) starters and fast (technology) growers as the supply of risk capital is mainly oriented towards the less risky segment of the market. Perhaps business angels can partly fill the 'small equity gap,' as they are more focused on small amounts. However, preliminary research seems to show a positive correlation between high performance and the size of the investment for both informal and formal capital (Mason, 1999). This leads us to the ironic findings that the more the venture capital market is booming; the more difficult it is to obtain start-up risk capital (Aernoudt, 2005).

On the other hand, the market does not always function at the lower end. This demand and supply analysis allows us to explain why the market does not function, especially at the lower end, i.e. start-up and early financing. Ironically, in the market segment where suppliers are not interested because of high costs and low returns, entrepreneurs are more receptive to external finance. In the growth phase, where venture capitalists become more interested in investing in the company, companies' enthusiasm for external finance diminishes. This real cost approach can help us in trying to understand the paradox. The different elements put together can graphically be illustrated in Figure 1:

The interest for risk capital is larger in the seed and start-up phase than for the later stage. Control is felt as less of an impediment to venture capital investment in the start-up than in a more advanced development stage and the benefits from management assistance are considered important. For the same reasons, demand for risk capital decreases with the evolution of the company. On the supply side of the market, we see the opposite. Venture capitalists try to avoid the risks and prefer big, less labour intensive, deals rather than the riskier phases.

Therefore, seed and start-up investments still encounter huge problems in finding venture capital. They are in a sellers' market (a4b). The few venture capitalists operating in this segment of the market use their position as an oligopoly to request higher return premium and apply stringent rules. A survey indicates that the desired return on seed investments is estimated at 100 percent (Leleux, 2000) and that they are very severe in the selection and due diligence (only one out of hundred proposals is retained).

Figure 1 - Supply and Demand for Risk Capital according to Enterprise's Development Stage



On the other hand, as venture capital markets are booming and fundraising is easy, venture capitalists are 'desperately' looking for projects to invest in at the expansion phase. In the expansion phase (fourth round financing), only a few companies are interested in opening their capital to venture capital funds. Given that most of these companies do generate cash flow, and conform with the empirically confirmed pecking order theory, companies in their expanding phase prefer self-financing and credit financing to risk capital. Risk capitalists and fund managers, sellers of money, prefer these expansion investments and given the buyers' market (c4d) they have to reduce their conditions. If venture capitalists want to find projects, they will have to accept a lower desired return and adopt an investment strategy that implies less control on the daily management. Therefore, not only the lower risks position, but also the bargaining position makes it easier for a company to obtain risk capital at appropriate conditions for expansion financing. In this sense, the internet bubble could lead to more realistic expectations both for venture capitalists (for their desired return) and for entrepreneurs (for their valuation expectations) and have a positive impact on the venture capital market for the years to come.

Nevertheless, it is still only in the (late) early stage that entrepreneurs and venture capitalists can conclude a deal at competitive market conditions. Risk capitalists Figure 1. Supply and demand for risk capital according to enterprise's development stage should in this not try to exploit the information asymmetry problem and real entrepreneurs should seek to benefit from the opportunities offered by the venture capital market rather than citing loss of control as the reason for their unwillingness to open their capital to external investors. One could of course argue that the lower expected return only reflects the lower risk linked to the development stage of the company. However, the very high differences cannot only be explained by the classical risk premium theory. The market structure and the accuracy of the information asymmetry are other elements to be taken into account. Desired return might correlate more with the bargaining position than with the risk position of the investor. Empirical research on this field is limited; Table 1 might clarify this position.

Therefore, although entrepreneurs are equity minded in their start-up phase, they are faced with big difficulties in obtaining risk financing under acceptable conditions. Consequently, only one out of three thousand starters in Europe conclude a start-up deal with a venture capitalist, whilst one out of ten could be considered as a potential venture capital backed company (Bannock, 2001). This confirms our ironic conclusion that a booming market can coincide with huge difficulty of access to finance for starters.

This approach allows us to understand why a big share of the venture capital market is oriented towards MBO financing. Entrepreneurs have no choice as both collateral and self-financing are missing. Suppliers have (almost) no risk as the track record is proven and try to realize a high return based on a good deal structure.

Measures to stimulate Business Angels

It is clear that despite the capital abundance, the market does not function at the lower end and that business angels might be best placed to fill the small and second equity gap.

However, as business angels are very different in their perception and functioning from formal investors, it does not make sense to try to extrapolate policy measures used to stimulate formal venture capital, such as injecting money into the markets through fund of funds or through guarantee schemes to business angels (Aernoudt, 1999). Stimulation of the use of informal capital in order to facilitate access to funds or money for enterprises needs a different approach.

Government should focus on the tax and regulative aspects. All administrative, tax and other regulations impeding the development of informal risk capital should be removed. However, in order to secure both,

Table 1 - Enterprise's Development Stage and Investors' desired Return

Development Stage	Seed	Start-up	Early Stage	Expansion	Mature
Desired return	80 – 100%	40 –70%	30 – 40%	25 –30%	20%
Market structure	mono/ oligopoly	oligopoly	competition	oligopsony	mono/ oligopsony
Risk level	very high	rather high	normal	limited	very limited

Source: Aernoudt, R (2005); "Executive Forum: Seven Ways to Stimulate Business Angels' Investments", Venture Capital, Vol. 7, No. 4, 359 – 371.

sufficient availability of funds and maximum spread of risk for the investor, new ways should be examined such as stimulating syndication and, even, public co-investment schemes.

The main problem however remains lack of information and awareness, both from the side of the entrepreneur and the side of the business angel. Indeed, different economic studies show that markets, including financial markets, can never work efficiently as there is always an information gap. One might assume that this information gap is particularly noticeable in the field of business angel financing. Although the problem of information asymmetry as such can never be completely solved, different techniques can enhance a better mutual understanding between the different partners. Different ways of increasing knowledge and awareness amongst entrepreneurs, business angels and public authorities must be explored.

In this context, a number of measures can be taken such as increasing investment readiness, stimulating potential through big companies, revealing the business angel vocation, setting up and increasing the efficiency of networks and encouraging financiers to work more closely together. Let us have a look at each of these approaches, which, of course, should be set up simultaneously.

Entrepreneurs, especially those running enterprises with growth potential and who are willing to grow, need greater understanding of venture capital and specialist advice on how to structure business plans to secure external equity finance. There is evidence that some firms hold back from seeking external finance because they are unsure about the practicalities and worried about the complications (DTI, 2001). An empirical study carried out in Australia confirmed that by making new ventures investor-ready the business-investor community avoids a substantial waste of money (Douglas, 2002).

We could speak of a gap in the market akin to the classic equity gap: there is an information gap between the demand for and supply of funding, due to the fact that entrepreneurs do not fully understand the range of financial options. There seems to be a certain amount of luck involved in the search for funding. Financial institutions should help in filling this information gap of what is available and under what terms and conditions. This investor-readiness gap not only applies to equity capital but also is relevant to all forms of finances. Going to a business angel with a story written as a pitch to a public sector development agency is the quickest way to be shown the exit door. Therefore, part of what needs to be done is to bring entrepreneurs to a point where they recognize how to tell the right story to the right investor at the right time.

Management skills and financing are abundant in most large companies. This is exactly what start-ups and SMEs are most missing. A precondition for considering large companies as the ideal partner for SMEs and as the stimulus for regional economies is entrepreneurial orientation (Lumpkin, 2002). This embraces five dimensions: innovativeness, pro-activeness, competitive aggressiveness, autonomy and a willingness to take risk.

The 'road to corporate entrepreneurship' is not, however, the same for all companies and more research is needed on the influence of contextual factors on the link between management instruments and entrepreneurial orientation. Fostering entrepreneurial orientation in large corporations might have a significant impact on the regional economy, both directly by its impact on their own performance, and indirectly by its enhanced support for SMEs.

While most of the researches in India are based on the impact of the entrepreneurial orientation of companies on their own performances, little research is being done on the link between entrepreneurial orientation and the role that large companies could play in helping start-ups and SMEs. As hands-on management and financing are the biggest obstacles for the development of SMEs, here are some examples of possible involvement of large companies in this area.

Large companies should help to fill the small equity gap. We should look for innovative ways to involve large companies in this stage of financing by encouraging them to participate actively in seed funds and by involving their executives in business angel activity. Most of the executives could indeed be seen as fulfilling all the characteristics of a business angel but only a few systematically invest in starting companies. Perhaps we should find better ways of converting these virgin angels into active informal investors.

Beyond the direct impact of smart money, we should explore ways of bridging the gap between formal or informal seed financing and venture capital financing. As venture capital becomes more and more an expansion phase financing and MBO business in Europe, with only a few seed funds left we are faced with an exit problem for the first-round financiers. Seed funds are not capable of following the second round, and traditional venture capitalists consider the risk still too high at this stage.

Corporate ventures could perhaps bridge this gap by setting up co-investment schemes with seed funds, especially in sectors, which have a link with the corporate investor. Currently corporate investors already represent around six percent of the annual equity raised in the venture capital market (Aernoudt, 2003), but there may be innovative ways of trying to stimulate large companies to invest in second-round financing, rather than investing in an MBO-dominated market. Converting corporate investors into smart money investors, including hands-on management, rather than leaving them in their role as 'followers' to the leading venture capitalist, can only achieve this. Recent market evolutions might help this conversion.

Making large companies more entrepreneurial and translating this into accurate financing for SMEs should be the real objective of corporate venturing. Making large companies more entrepreneurially oriented should at the same time be one of the best ways of involving them in the supply of premises, not as sponsors but as partners. The private sector tends to undersupply premises for SMEs given that rents are higher for retail and residential uses. Thus the public sector often gets involved in part-financing business incubators, science parks, office parks or industrial estates. Incubators have indeed developed very quickly in Europe but have been largely integrated into a non-profit culture. Their aim is to contribute to regional or local development (Aernoudt, 2004). These first-generation incubators have still a role to play, but, in addition, real incubators should hatch primarily fast-growing companies, which ensure the most added value and jobs. Incubators focused on spin-offs are in this sense crucial. Large companies could easily be involved in the financing of both structures as the traditional incubators might offer a low-risk low return approach whilst spin-off incubators might fit into their new entrepreneurial orientation. In this context incubators should develop links with business angels and business angel networks.

Business Angel Networks

One of the best ways to bridge the information gap between business angels and entrepreneurs is by setting up business angel networks. The business angel networks form a platform where SMEs and business angels can make contact. This platform can function through the internet, magazines or organizing fora. The networks give SMEs access to a new source of finance alongside bank financing and risk capital. The obstacle for the development of informal investment, apart from the crucial fiscal and regulative environment, is indeed the lack of good and well-presented projects. If there is any market failure, beside the specific issue of the business angel academy, it is on the investees' side and hence, on how to find (not to select) the potential projects. Investees have to be guided in the presentation, both written and oral, of their projects, and have to be brought into contact with business angels who might be interested in their projects. An experience in the UK and in The Netherlands showed that this market failure could remedied simply and easily by means of a 'dating agency' model and has led to the establishments of networks all over Europe.

Evaluation showed that the scale of the network, the regional scale of the operation, the quality of staff, the level of financial support, the location, the complementary activities and the long term support from the stakeholders are considered as the success factors for a sustainable business angel network (Mason and Harrison, 1996).

Syndication

Co-investment amongst business angels has not been extensively studied by academic research. Kelly and Hay (1996) look at risk reducing strategies of solo versus syndicated investors and establish a link between the characteristics of the investor, the referrals and performance of the investment. The same authors in a later paper (2000) found that syndication is higher between the most experienced angels. Van Osnabrugge (2000) presents similar results from a study on serial and non-serial business angels. Syndication is considered as a vehicle to acquire risk-reducing information, which is possible through consolidating the information possessed by informants, often co-investors. Therefore angels look for other individuals who could be co-investors and hence share the risk amongst each other (Aram, 1989). The risk aversion character of the business angel thus determines the pattern of co-investment.

Syndication is an increasingly relevant phenomenon within business angel investment for several reasons. First of all, the financial capabilities of solo business angels are limited: the median investment size is estimated between ₹ 60000 and ₹ 100000 (however ment only for India) - and the shift of venture capital funds towards larger deals is creating a 'second' equity gap. Secondly, it seems that syndicated groups invest more in early stage companies than solo investors (Kelly and Hay, 1996). Thirdly, syndicated investment with experienced investors is one of best instruments to learn the essentials of informal investing and hence to activate latent business angel's capital (Aernoudt and San Jose, 2005). In this sense, the promotion and facilitation of business angels' syndication should be high on the agenda of researchers and policy makers.

Co-investment Schemes

One of the main reasons to stimulate syndication is to increase the financial capacities of the solo business angel in order to allow him or her to cope with the second equity gap. In addition to syndication, one might examine whether the government could intervene by adding dumb public money to the smart business angels' money. Both liberals and socialists might be shocked for different reasons by the idea of giving money to (rich) business angels. However, one should not forget that not all business angels have deep pockets and that the best way to avoid business angels quitting the investment scene is to push them to spread risks. Indeed, a lot of business angels were obliged to continue to invest in projects where they had financed the first round as no other investor was ready to take over. This led to the concentration of financial means in only a few projects and reduced the spread of the risk. In case some of these projects went bankrupt, business angels lost a lot of money and some ceased their investor activity. One way of enabling business angels to spread the risk is by developing co-investment schemes where public money is invested together with the business angel investment and conditioned by the business angel's decision to invest.

Integrated Finance Approach

Integrated finance is a concept that aims to reduce the cost of finance for SMEs by pro-actively analysing the likely finance needs in the performance of a business plan or project. It seeks to achieve conditional offers from different finance providers against performance milestones. A venture capitalist can therefore commit himself in principle to an investment at a given point in a company's development. This, in turn, may offer comfort to a business angel who is asked to provide early stage capital. Further analysis of expenditure needs may identify requirements in principle for invoice discounting or asset finance at other points of development.

This pro-active financial modelling concept has a number of advantages: it demonstrates a command of financial requirements; it secures all the elements of appropriate finance in one exercise; it should reduce cost by removing elements of uncertainty and it presents a strong image of the company, thus enhancing its prestige. Implementing such an intelligent and analytical approach to funding SMEs is extremely difficult to achieve. It has not happened so far. Banks and other finance providers want to protect their margins and their so-called 'one-stop finance' is often a misuse of the term. A proper diagnosis of financial needs by product is beneficial but a key element of integrated finance thinking is competition between providers.

Many banks and finance providers already offer a complete range of products but offer them as a basket of services to customers in which some components may not be competitively priced. Hidden tariffs such as these increase costs undermine sustainability and adversely affect cash flow. Companies and entrepreneurs can only successfully exploit the potential of integrated finance if they are robustly prepared. A number of interventions have already been tried. Companies present their funding opportunity to a number of active finance providers including bankers, venture capitalists, grant providers and business angels.

Epilogue

It is clear that the market does not function at the lower end and that business angels are increasingly becoming the first investor for starting companies now that venture capitalists are moving towards the later stage, with a noticeable preference for MBOs, and towards bigger deals. Therefore renewed public attention is needed for the business angel phenomenon. This should not sanction public initiatives to take over from the failing market by launching expensive subsidy schemes, but should encourage governments to look into innovative ways to make the market work. In this context, coping with the information asymmetry problem has been considered crucial. Initiatives aiming at stimulating the syndication process, the investors' readiness, the location (and revelation) of the potential business angel, the involvement of big companies, the setting up and making more efficient of the business angel networks and the integration of financing resources can be considered as the best value for public money approach. If co-investment schemes are needed, the due diligence should be done at business angel level without involvement of the public financiers.

Key Words: Business Angels, Small Equity Gap, Venture Capitalist, Angel Network, Entrepreneurs, Seed Money.

Endnotes:

Pozdena, R.J. (1990) Banking and Venture Capital. Federal Reserve Bank of San Francisco Weekly Letter, June 1.

References

Aernoudt, R. "European Policy towards Venture Capital" *Venture Capital. An International Journal of Entrepreneurial Finance.* 1(1), (1999a): 47- 8.

Aernoudt, R. "Business angels, should they fly on their own wings? *Venture Capital." An International Journal of Entrepreneurial Finance.* 1(2), (1999b): 187-195.

Aernoudt, R. "Incubators: Tool for Entrepreneurship?" *Small Business Economics.* 23(2), (2004): 127-135.

Aernoudt, R. and Erikson, T. "Business Angel Networks; A European Perspective." *Journal of Entrepreneurial Finance.* 5(4), (2002): 277-286.

Aernoudt, R. and San Jose, A. "Early Stage and Corporate Venture - Two Worlds Apart?' *Venture Capital, an International Journal of Entrepreneurial Finance.* 5(4), (2003): 277-286.

Aernoudt, R., Roure, J. and San Jose, A. "Business Angels Schools, Unleashing the Potential for Business Angel Investment." *Venture Capital, an International Journal of Entrepreneurial Finance.* 7(2), (2005): 145-169.

Aernoudt, R. "Executive Forum: Seven Ways to Stimulate Business Angels' Investments." *Venture Capital, an International Journal of Entrepreneurial Finance.* 7(4), (2005): 359-371.

Amit, R., Brander, J. and Zott, C. "Why do Venture Capital Firms exist? *Theory and Canadian Evidence." Journal of Business Venturing.* 13(6), (1998): 441-467.

Aram, J. "Attitudes and Behaviours of Informal Investors towards Early-Stage Investments." *Journal of Business Venturing.* 4, (1989): 333-347.

Botazzi, L., Da Rin, M. and Hellman, T. "The Changing Face of the European Venture Capital Industry." *The Journal of Private Equity.* (2004): 26-53.

Brouwer, M. and Hendrix, B. "Two Worlds of Venture Capital: What Happened to US and Dutch Early Stage Investment?" *Small Business Economics.* 10, (1998): 333-368.

Douglas, E.J. and Shepherd, D. "Exploring Investor Readiness: Assessments by Entrepreneurs and Investors in Australia." *Venture Capital, an International Journal of Entrepreneurial Finance.* 4(4), (2002): 219-236.

DTI. *Enterprise, Skills and Innovation,* London: HMSO, 2001.

European Commission. *Benchmarking Report on Business Angels.* (Brussels: European Commission), 2002.

European Commission. SMEs Access to Finance, COM (2003) 713, *Communication to the Council and the European Parliament*. 2003.

Harrison, R. T. and Mason, C. M. (2002) Backing the Horse or the Jockey? Agency costs, information and the evaluation of risk by business angels, in: WD Bygrave, C.G. Brush, P Davidsson, J. Fiet, P.G. Greene, R. T. Harrison, M. Lerner, G.D. Meyer, J. Sohl and A. Zacharakis (Eds), *Frontiers of Entrepreneurship Research.* Babson College: Babson Park, MA, (2002): 393-403.

Kelly, P. and Hay, M. "Deal Makers: Reputation Attracts Quality." *Venture Capital.* 2(3), (2000): 183-202.

Kelly, P. and Hay, M. "Serial Investors and Early Stage Finance." *Entrepreneurial and Small Business Finance.* 5 (2), 1996, 159 -174.

Lumpkin, G.T. and Dess, G.G. "Linking Two Dimensions of Entrepreneurial Orientation to firm Performance." *Journal of Business Venturing.* 16, (2002): 429-451.

Mason, C. "The Rates of Return from Informal Venture Capital Investments: Some Evidence for the UK." *Conference Paper.* the ESRC Conference of Small firms Seminar group, University of Middlesex, Hendon [available at www. esrc.org] accessed on April 14, 2005.

Mason, C.M. and Harrison, R.T. "Informal Investment Business Introduction Services: Some Operational Considerations." in: R.T. Harrison and C.M. Mason (Eds) Informal. *Venture Capital: Evaluating the Impact of Business Introduction Services.* Hemel Hempstead: Prentice Hall, (1996): 27-58.

Murray, G. "Early-Stage Venture Capital Funds, Scale Economy and Public Support." *Venture Capital. An International Journal of Entrepreneurial Finance.* 1(4), (1999): 351-384.

Murray, G. The second 'Equity Gap': Exit Problems for Seed and Early Stage Venture Capitalists Ands Their Investee Companies." *International Small Business Journal.* 12(4), (1994): 59-76.

OECD. "Venture Capital: Supply vs. Demand issues." Paris: OECD, 2000.

Ploix, H. (2004) Baˆ le II et la Capital-investissement, in: Baˆle II: Gene`ve et enjeux, Revue d'e´conomie financie`re, Documentation franc¸aise.

Van Osnabrugge, M.S. "A Comparison of Business Angel and Venture Capital Investment Procedures." *Venture Capital, an International Journal of Entrepreneurial Finance.* 2(2), (2000): 91-109.

Quantitative Risk Measurement: Public Sector Banks

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Abstract

This paper deals with estimating the risk index of all public sector banks together (including SBI group) estimating that of SBI group separately. In the context of banking, framework of risk management broadly covers the areas of interest rate risk, liquidity risk, exchange risk and credit risk. Reforms have opened up new avenues for Indian banks along with new challenges. Under a protected environment for years Indian banks remained unconcerned about risk management but now things have changed. The deregulation of interest rates and exchange rates has changed the way Indian bankers have long been used to thinking and acting. Assessment of risk is one of the key steps in the overall risk management process. A number of risk assessment techniques have been developed which try to capture both qualitative and quantative aspect of risk. This paper uses the information provided from the balance sheet to assess the risk of Indian public sector banks by examining the relationship if any exists between risk index, asset size, capital adequacy and liquidity.

Financial sector reforms worldwide have resulted in sea change in the desired role, functions, operations competitiveness, rules and regulations and external environment faced by financial entities and more particularly in banks. Banking prior to 80's and banking now, presents a perfect study of contrast. Yesterday's compulsion no more appears in today's priority. What was important in those days has lost its signifance today. The line of demarcation between banks and other financial service institutions is slowly disappearing. Banks are now moving away from what is known as their traditional business to new service lines. In this process they are now exposed to more risks.



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Banks canalize funds from entities with surplus to those with a shortage. This intermediation activity of banks exposes them to various risks by default and not by design. For instance while extending credit they are automatically exposed to credit risk as a result of deterioration in the financial position of the counterparty. Similarly they are faced with market risk that include interest rate risk, price risk, and foreign exchange risk which arise out of differences in the timing of interest rate revision between assets and liabilities or from changes in the prices of securities or foreign exchange rates. They are also exposed to liquidity risk emerging from mismatched maturities of assets and liabilities. These specific risks generate variability in bank's cash flows a common definition of risk in banking circles. Excessive risk taking and adverse economic conditions are the key factors that lead to a bank's failure.

The price at which the banks mobilize and transfer funds depends essentially on two parameters the time for which the funds are made available and the credit worthiness of the person to whom the funds are made available. Considering that the long-term loans are priced higher than short-term loans and a high-risk borrower pays high interest rate, banks will have to take liquidity risk and/or credit risk to earn spreads. There is also a definite linkage between the various risks faced by banks. If a bank charges its client a floating rate of interest then in an increasing interest rate scenario the interest rate risk of bank will be less, consequently the payment obligation of the borrower increases. Other things remaining constant, the default risk increases if the client is not able to bear the burden of the rising rates. Thus there are many instances where we see that the interest rate risk leads to credit risk. This leads us to a conclusion that all the risks to which banks are exposed to are not in isolation each one is interrelated to each other and needs to be managed in a proper way by adopting a proper risk management system.

Risk Management Systems – Do they really Eliminate Risks?

Risk Management does not aim at risk elimination but enables banks to bring their risks to manageable proportions while not severely affecting their income. This balancing act between the risk levels and profits needs to be well planned. Apart from bringing the risks to manageable proportions they should also ensure that one risk does not get transformed into any other undesirable risk. This transformation takes place due to the interlink age present among the various risks. The focal point in managing any risk will be to understand the nature of the transaction in a way to unbundle the risks it is exposed to. As all transactions of the banks revolve around raising and deploying the funds, risk management gains more significance for them.

What Risk Management Means to Banks?

With reference to banks risk management can be defined as a process of managing especially interest rate risk, liquidity risk, exchange risk and credit risk whereby constantly and actively revising the asset–liability portfolio with the aim of maximizing profits. It is the art of ensuring that the maturity profiles of assets match that of liabilities. A liability once raised is typically funded into the creation of an asset. The liability has to be squared off: the depositor for example, has placed the deposit for five years. But the asset may have different maturity profiles. For example it might have gone into financing a long road project where the repayment is after 10 years. Thus this leads to maturity mismatch. In a bank however there are endless specific entries on the liability side and so on the asset side. The aggregation thereof then presents a complete picture of the banks mismatches.

Thus risk management system should also act as an advance warning system for the bank's sensitivity to adverse changes in the environment. A comprehensive risk management program should focus on banks profitability and long-term viability by targeting a net interest margin (NIM) ratio subject to some balance sheet constraints. Significant among these constraints are maintaining credit quality, meeting liquidity needs and obtaining sufficient capital. Minimizing the burden (non interest expense minus non interest income) and also gets integrated to meet the overall bank objectives. Due to the presence of a host of risks and their interlink age the risk management approach should always be multi dimensional. To manage the risks collectively risk managers should aim to manage the volume, mix, maturity, rate sensitivity quality and liquidity of assets and liabilities as a whole so as to attain a predetermined acceptable risk/reward ratio. The purpose of risk management is thus to enhance the asset quality, quantify the risks associated with the assets and liabilities and further manages them.

Assessing Banks Risk – Theoretical Background

The various risks that banks are exposed to affect their short term profits, long term earnings and their long run sustenance capacity. Risk management programme should primarily emphasize on proper assessment of the risks faced by the bank. Assessment of risk involves identifying the parameters on which would finally go into the assessment. While targeting any one parameter it is essential that its impact be observed on other parameters too. It is not possible to simultaneously eliminate completely volatility in both income and market value. If bank concentrates only on short-term profits then it will have an adverse effect on long term profits and vice versa.

Investigating financial statements is an important way through which risk assessment of banks can be done. One important and widely used technique is construction of ratios and comparing them over time or against competitors. This kind of investigation is known as ratio analysis. Widely accepted there are four general categories of ratios that are derived from financial statements: profitability, liquidity, leverage and activity ratios. For banks leverage can be described as capital adequacy ratio, which reflects the capital requirements of the bank. One important fifth category of ratio specifically for banks is the loan quality ratio. Though there are number of way's to analyze a banks financial statement. Return on equity analysis is very popular because it takes into consideration a number of aspects of banks performance as it is derived after all expenses have been taken care of. Return on Assets (RoA) analysis is a combination of business risk, income generation risk, and loan quality risk. Measuring the variability of Return on Equity (RoE) can also capture risk of a bank. The variability in RoE of a bank will take into consideration balance sheet risk, regulatory risk, technological risk, affiliation risk, operating efficiency risk and strategic risk. The balance sheet risk is a mix of credit risk, interest rate risk, liquidity risk and foreign exchange risk. These risks play an important role in determining the capital requirements of a bank.

The large number of risks and their interdependence poses a serious problem of their proper assessment. Various approaches have been proposed but there is a need for a comprehensive approach The regulatory approach may be to have a CAMEL rating. However in finance variability of earnings is a preferred measure of risk. Variability in RoA can be considered by standard deviation of RoA. For the relative variability, coefficient of variation can be taken. Moreover loan quality is the primary driver of bank's earnings and return on assets. Hence if one wants to capture the overall risk of the bank, the variability of RoA provides the comprehensive measure that captures not only credit risk but also interest rate risk, liquidity risk, operating risk any other risk that is realized in bank's earnings (Sinkey 1998).

Using a combination of RoA, CAP and sRoA, Hanna and Hanweek (1989) have developed Risk Index. Where Risk Index = [E (RoA) + CAP] / sRoA

Where E (ROA) = Expected Return on Assets
CAP = the bank's Ratio of Equity Capital to Total Assets
sRoA = Standard Deviation of RoA

Risk Index seems to be quite satisfying as RoA is the most widely accepted accounting measure of overall bank performance, the variability of RoA a standard measure of risk in financial economics and book capital adequacy is also an industry standard to measure banks safety and soundness. Thus the risk index reflects a measure of risk expressed in terms of standard deviation of RoA This infact tells that how much a bank's accounting earnings can decline before it attains a negative book value. Risk Index reflects the extent of book value cushion available to a bank to absorb accounting losses. Thus a lower risk index would imply high risk associated with the bank where as a higher risk index would imply a safer bank.

Methodology

For the purpose of this study data for a period of five years from 2003–2007 of public sector banks has been taken.

Table 1: Risk Index and Probability of Book Insolvency

Bank	Risk Index	P_i (Bv Insv)
New Bank of India	0.357692	0.031264
Bank of India	0.440582	0.020607
Bank of Baroda	2.317436	0.000745
Canara Bank	4.460152	0.000201
Punjab National Bank	1.524698	0.001721
Central Bank of India	0.51298	0.0152
Union Bank of India	2.405452	0.000691
Indian Overseas Bank	0.344902	0.033626
Syndicate Bank	0.329666	0.036805
Indian Bank	0.228974	0.076293
United Commercial Bank	0.780798	0.006561
Allahabad Bank	0.661968	0.009128
Oriental Bank of Commerce	1.861176	0.001155
United Bank of India	0.517162	0.014956
Dena Bank	0.805998	0.006157
Corporation Bank	1.188566	0.002831
Bank of Maharastra	0.42833	0.021802
Vijaya Bank	0.48671	0.016886
Andhra Bank	0.592092	0.01141
Punjab and Sindh Bank	0.473966	0.017806
State Bank of India	1.72041	0.001351
State Bank of Hyderabad	2.019684	0.000981
State Bank of Patila	2.527296	0.000626
State Bank of Travancore	2.246706	0.000792
State Bank of Bikaner and Jaipur	1.443778	0.001919
State Bank of Maysore	1.28467	0.002424
State Bank of Saurashtra	0.328372	0.037119
State Bank of Indore	2.518008	0.000631
Average	1.364314	0.013275

P_i (Bv Insv) = Probability of Book Insolvency

Risk index has been calculated using the formulae discussed above. For this average of RoA, sROA taking five years data and average of Equity + Reserves / Total Assets was calculated. Then filling the data in the formulae discussed above risk index is derived. Using the risk index the probability of book solvency is calculated for that we have used the formula $1[2(RI)^2]^3$ for finding out the relationship, asset base is taken as size. Spearman Rank Correlation Coefficient was considered to be the best for this purpose. In order to examine the relationship between risk index and profitability, net profit margin and asset utilization were taken as indicators of profitability. For the purpose of solvency the capital ratio was considered as an indicator and for the purpose of examining liquidity, (cash + balances with RBI + Money at call / Working fund were taken as an indicator (Sanjay, 1998).

Table 2: Ratios for Public Sector Banks

Bank	CAP	NPM	AU	C+M/WF
New Bank of India	0.006574	-0.02716	0.019191	0.028783
Bank of India	0.007114	-0.00584	0.018767	0.031254
Bank of Baroda	0.00615	0.007694	0.02137	0.036821
Canara Bank	0.009152	0.010164	0.021062	0.033235
Punjab National Bank	0.00536	0.00674	0.020682	0.028625
Central Bank of India	0.00872	-0.01187	0.019735	0.027118
Union Bank of India	0.006284	0.00886	0.021069	0.033308
Indian Overseas Bank	0.009998	-0.01703	0.019855	0.025239
Syndicate Bank	0.009404	-0.01839	0.020426	0.028573
Indian Bank	0.008046	-0.02706	0.019662	0.022841
United Commercial Bank	0.01385	-0.02962	0.017608	0.028545
Allahabad Bank	0.007916	0.008952	0.020155	0.025164
Oriental Bank of Commerce	0.008522	0.017078	0.021884	0.032822
United Bank of India	0.016342	-0.03862	0.018875	0.023798
Dena Bank	0.007212	0.000082	0.021945	0.029459
Corporation Bank	0.00596	0.013878	0.021409	0.039729
Bank of Maharastra	0.010994	-0.01877	0.020298	0.027337
Vijaya Bank	0.007788	-0.00827	0.020871	0.026081
Andhra Bank	0.008252	0.008232	0.020646	0.032744
Punjab and Sindh Bank	0.011542	-0.0211	0.020437	0.026793
State Bank of India	0.004978	0.007842	0.01975	0.03685
State Bank of Hyderabad	0.003894	0.008114	0.021677	0.034504
State Bank of Patila	0.007696	0.011812	0.020296	0.035044
State Bank of Travancore	0.003466	0.005072	0.023253	0.033481
State Bank of Bikaner and Jaipur	0.003328	0.006036	0.021916	0.037629
State Bank of Maysore	0.003294	0.00565	0.02362	0.031572
State Bank of Saurashtra	0.006056	-0.00116	0.021225	0.031549
State Bank of Indore	0.003938	0.005086	0.02213	0.031215

CAP = Capital Ratio	C = Cash Balances
NPM = Net Profit Margin	LIQ = Liquidity
RI = Risk Index	M = Balances with RBI +Money at Call
AU = Asset Utilization	WF = Working Funds

Findings

Table 1 presents the details about the risk index of various public sector banks. Risk index ranges from 0.228974 for Indian bank to 4.4600152 for Canara bank. This implies that Indian bank has the highest risk and Canara bank has the lowest risk. Thus it can be said that risk index rightly captures the risk as Indian bank has got negative NPM also. This reduces the risk index thereby increases the risk. The average risk index taking all banks together is found to be 1.364314 New Bank of India, Bank of India, Central Bank of India, Indian Overseas Bank, Syndicate Bank, Indian Bank, United Commercial Bank, Allahabad Bank, United Bank of India, Dena Bank, Corporation Bank, Bank of Maharastra, Vijaya Bank, Andhra Bank, Punjab and Sindh Bank and State Bank of Saurashtra, State Bank of Maysore all have got the risk index lower that the average that indicates thereby the higher level of risk then the average risk of all the public sector banks. Banks are then grouped according to nature i.e. nationalized banks and bank in State Bank of India group. Here average risk index for nationalized banks is found to be 1.03596 and for SBI group it is found to be 1.7611 indicating thereby higher risk for nationalized banks and lower risk for SBI group banks. The probability of book insolvency is also computed. The highest is found for Indian Bank (0.0762934) and the lowest is found for the Canara Bank (0.000215) the average probability of book insolvency is 0.013275. The banks having this value higher than the average are considered to be risky. The probability of insolvency when computed for two groups of banks separately, average Pi is found to be 0.0168292 for the nationalized banks and 0.000573 for the SBI group of banks. This again emphasized that nationalized banks are much riskier that the SBI group banks. It is interesting to note that from the above findings that the results of the study supports the recommendation of the Verma Committee report which has adopted the different methodology for identification of weak banks. (Indian bank is found to be with highest risk and highest probability of insolvency) An attempt has been made to examine the relationship, if any, exists between risk and size, profitability and the liquidity of the bank. For the purpose of ready reference the information about the net profit margin, asset utilization (indicating the profitability) Capital Ratio (indicating solvency) and the ratio of (Cash + Balance with RBI + Money at Call) / Working funds are given in Table 2. On applying t-test for Rank Coefficient Correlation (RCC) found for all banks

Table 3: Estimated RCC of All Banks

Particulars	RCC	t-value
RI & Asset Size	0.00984	0.0503
RI & Capital Ratio	-0.0876	-0.49688**
RI & NPM	0.15062	1.16736*
RI & AU	0.10334	0.61546*
RI & LIQ	0.1342	0.9229*

** Significant at 10% level of significance* Significant at 5% level of significance

Table 4: Estimated RCC of Nationalized Banks

Particulars	RCC	t-value
RI & Asset Size	0.0442	0.19228
RI & Capital Ratio	-0.07046	-0.31942
RI & NPM	0.14526	0.89658*
RI & AU	0.126	0.68836*
RI & LIQ	0.13142	0.73968*

* Significant at 5% level of significance

taken together it is observed that the RCC between RI and NPM, RI and AU, RI and LIQ are found to be significant at fiive percent level of significance, implying thereby positive significant relationship. The relationship between RI and capital ratio is found to be negative and significant at ten percent level of significance. However this is not found to be convincing one. The relationship between RI and asset size is not found to be significant (refer table 3) In addition to the above overall RCC, the same has been also computed group-wise i.e for nationalized banks and SBI group of banks (table 4 and 5). It is found that as compared to overall RCC for nationalized banks and SBI group of banks independently, RCC between RI and Asset size were found to be relatively higher i.e. 0.0442 and 0.3354 respectively. Regarding RCC between RI and capital ratio for SBI group, it is found to be positive as expected and for nationalized banks, it is found to be negative. The RCC between RI and NPM is found to be 0.14526 and 0.08572 for nationalized banks and SBI group banks respectively. Whereas RCC between RI and NPM and RI and LIQ is found to be 0.126 and 0.13142 respectively for nationalized banks, it is –0.01904 and 0.0952 for SBI group of banks. On applying t-test it is found that for nationalized banks the RCC between RI and NPM, RI and AU and RI and LIQ are to be found significant whereas for SBI group none of the RCCs are found to be significant.

Table 5 : Estimated RCC of SBI Group of Banks

Particulars	RCC	t-value
RI & Asset Size	0.03354	0.08294
RI & Capital Ratio	0.06668	0.17324
RI & NPM	0.08572	0.2324
RI & AU	-0.01904	0.04686
RI & LIQ	0.00952	0.02334

Conclusion

We see that the range of RI is substantially wide. Out of the total 28 banks taken in the sample, 16 banks are performing good as far as their RI is concerned. Absence of guidelines with respect to what should be the benchmark RI the probability of book insolvency is a better indicator of risk assessment Our findings show that probability of book insolvency is comparatively high (0.076) in the case of Indian Bank where as this value is only 0.000201 for Canara Bank. One thing that needs to be noted is that the findings of this paper are in tone with the findings of the Verma committee report on weak banks.

Key words: Risk Management, Risk Index, Return on Assets, Capital to Total Assets.

References

Altman E.I. “Financial Ratios, Discriminant analysis and the prediction of corporate bankruptcy.” *Journal of Finance.* September (1968): 589 – 609.

Anderson, T.W. *The Statistical Analysis of Time Series.* Wiley, New York: Bank of Japan, 1998, *Checklist for Risk Management.* Quarterly Bulletin, Tokyo: November, 1971.

Becker, S. “A Survey of Risk Management Training and Practice.” *The Hardbook of Risk Management and Analysis.* Ed. C. Alexander, John Wiley and Sons, 1996.

Bessis, Joel. “Risk Management in Banking.” John Wiley and Sons, New York: 1998.

Bhala, R. "Risk Based Capital: A Guide to the New Risk Based Capital Adequacy Rules." Bank Administration Institute, Rolling Meadow, Illinois: 1989.

Indian Banks' Association. "Performance Highlights of Banks." Mumbai: August, 2000.

Indian Banks' Association. "Performance Highlights of Banks." Mumbai: August, 98-99.

Koch, T. *Bank Management*. Dryden Press, 1998.

National Institute of Bank Management. "Banking in the New Millennium." *Special Issue, Prajnan (Journal of Social and Management Sciences).* Pune: January-March, 2000.

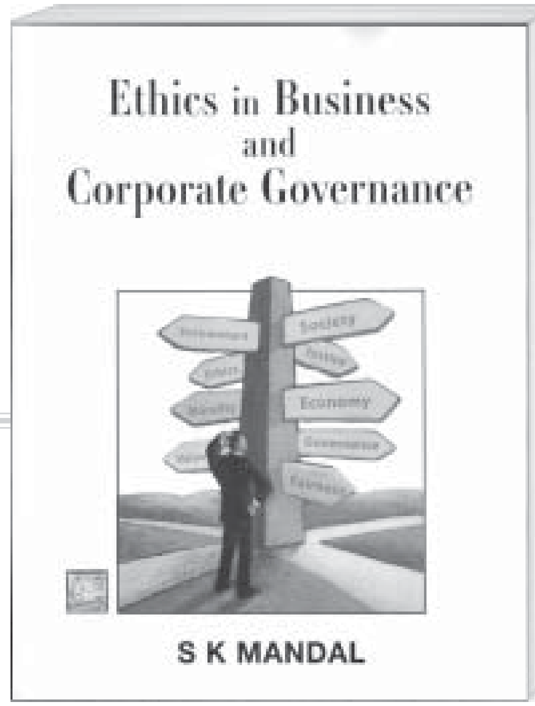
Reserve Bank of India. *Framework on Analysis of Balance Sheets.* (BP-BC 3/2.1.04.109/99), Mumbai: 8 February, 1999.

Reserve Bank of India. "Risk Management Systems in Banks." *Guidelines*. Mumbai: 7 October, 1999.

Sanjay Kumar. "Financial Analysis Models of Commercial Banks." *Anmol Pvt.Ltd;* New Delhi: (1998): 168.

Sinkey Joseph F. (Jr.) *Commercial Bank Financial Management*. Prentice Hall International Inc., (1998): 95–97.

Skimming and Scanning



Book Title : *Ethics in Business and Corporate Governance*

Author : **S. K. Mandal**

Edition : **2010**

ISBN-13 : **978-0-07-068201-6**

Pages : **369**

Publisher : **Tata McGraw-Hill Education Pvt. Ltd., New Delhi.**

Ethics can be described as expansion of human freedom to enjoy a fair, equitable and just life. Ethics and society are interdependent and welfare of one is not complete without the other also benefiting from it. A large part of our society is under constant threat of wealth erosion, exploitation, ecology destruction and environmental damages from unethical business and inadequate corporate governance. This book aims to provide insights into the complexities of moral and ethical issues in society and business. The book emphasizes the relevance and importance of ethics in fostering the relationship between the business and the society. The message the author wanted to give the readers is 'Do good to do well.'

Reviewed by Prof. Rajagopal V., Faculty, SCMS-COCHIN, Prathap Nagar, Muttom, Aluva-683106, Cochin, Email: vrajagopal @scmsgroup.org

The very purpose of this book is to convey the message of ethics and moral standards and their importance in personal, social and business activities. The author took the effort to introduce the relevance of ethics in business with reference to morality, moral standards and moral responsibility. The study of business ethics involves understanding the system of moral standards and their applications in the context of 'business processes.' Principle of ethics is to respect the established moral principles and values in society so as to protect the interest of others. Without ethics the business is directionless and very unlikely to reach its purposeful destination. In this connection, one should know that there are numerous laws and regulations that govern the conduct of business, yet there are many fraudulent business deals which result into huge losses to public. This has been presented in this book with the help of many case studies. The author could establish the fact that any unethical business for the society be it in the form of unfair trade practice which comes under the purview of Consumer Protection Act, environment degradation or even a human resource problem with in the business unit irrespective of the nature of the business. The author made his point very clear that large Corporate which employ a vast quantum of societal resources should ensure that these resources are utilized in a manner that meets the people's aspirations and societal expectations. Also the top management of each company should guide others within the company in integrating its social and environmental objectives with its business strategies. The corporate social responsibility is not a charity rather it is an obligation from the part of the business community.

The book throws light on various issues connected with business ethics and corporate governance. The role of Corporate House of each business establishment in attaining vision and mission of the respective company is highlighted in this book. Unless the company strategy and policy which is ethically correct may not be able to sustain in the field. Short sighted business strategy can damage a business. The author has even cited the examples of famous financial institutions of US due to sub-prime crises which have emerged out of unethical and unfair business deals. Every business has to grow and it has to be 'inclusive,' and 'sustainable' within the frame work of business ethics only. A very important message is given to present and future business community through this book is that today most businesses are global in nature and character and companies must be aware of their ethical responsibilities and ethical culture of those places or countries wherein they operate. No doubt, the author has taken all care to present his views on the subject and I congratulate him for his good effort in bringing out a book of this standard. His vast experience both in industry and in teaching helped him to present the things in a simple and understandable manner.

This book is a good companion for working management professionals and also for students of management education.

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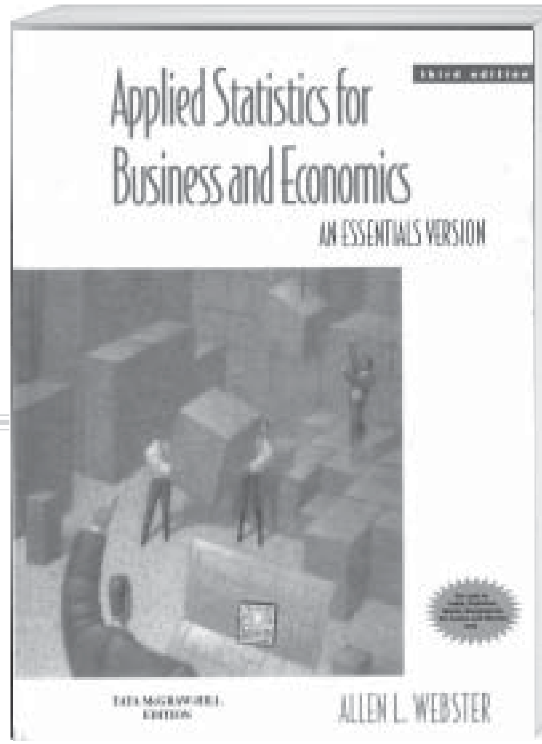

Book Title : *Applied Statistics for Business and Economics: An Essentials Version*

Authors : Allen L. Webster

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An underlying theory or concept in any discipline becomes interesting only if one can find the application of the same in the real world. Statistics is generally considered as a difficult subject to learn by many. It is possible to make the subject interesting by providing real world application.

Search for text books related to application of statistics in Business and Economics lead to a problem similar to water paradox. It is exactly like 'water, water everywhere, nor any drop to drink.' Large numbers of text books are available in the market, with similar titles, coverage and nature. Select a book for the beginners in Economics and Business is a tedious task from the large number of text books available. I found the third edition of *Applied Statistics for Business and Economics: An Essentials Version*, written by Allen L. Webster, serves the purpose.

Reviewed by Dr. Nisha K.R., Assistant Professor, SCMS-COCHIN, Prathap Nagar, Muttom, Aluva-683106, Cochin, E-mail: nisha @scmsgroup.org

Applied Statistics for Business and Economics: An Essentials Version presents basic statistical concepts in an application oriented style. All concepts are described with support of proper examples, problems, solutions, and interpretations, which provide a lucid picture to the readers. The book comprises of 15 chapters and three appendices at the end. Initial chapters in the book, chapter 1-5, discuss the role of statistics in business and the basic concepts in statistics like measures of central tendency and probability. Chapters 6-9 describe in detail the hypothesis testing and related concepts. The last chapters illustrate the higher level analysis like regression, ANOVA and non-parametric tests.

The most outstanding aspect of the text is appendix I, a kind of it is rare in most of the text books on Business Statistics. This section re-emphasizes the purpose of reading the main text. This reinforces our comprehension of the text is to communicate results of your study in a proper way. The questions like, why business graduates study statistics and where to apply the acquired knowledge, are answered in this section. The appendix highlights the importance of communicating the results of statistical analysis to achieve institutional goals. This book helps the economists and business people to analyze the problem quantitatively and document it effectively.

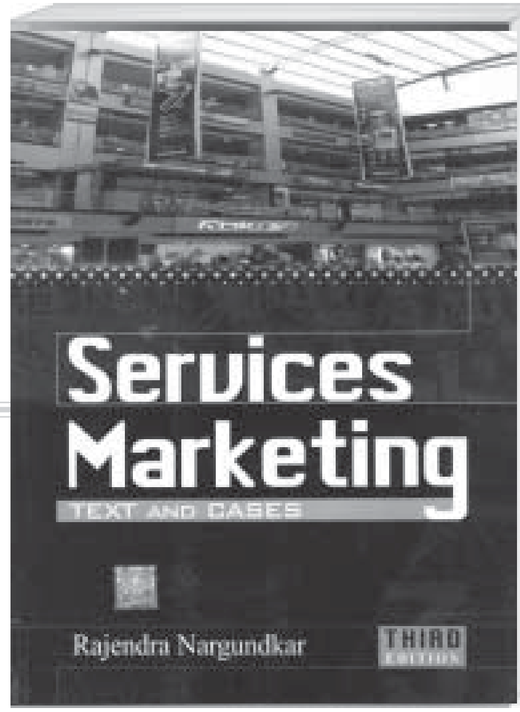
Business problems may not be purely quantitative always. The second aspect where readers may find interest in this text is its wide coverage of non-parametric tests with real life examples. Appendix III provides tables for non-parametric tests, such as run test, rank correlation, Durbin Watson Statistics and control charts. These statistical tables provided in this book add special assistance to the readers and cannot be seen in other conventional statistics text books.

Organisation of a text book is a crucial factor that decides the readability of a book. This book is arranged meticulously to reach its targeted audience. Most text books in business statistics start with a case. Here, the author attempts a distinct way of introducing concepts to the readers in a simple direct way. Every chapter starts with a short narrative called 'setting the stage,' that presents a realistic case that can best be addressed using statistical tools contained in the chapter. Similarly each chapter is concluded with a short section entitled 'curtain call.' This provides information for solving the situation sited in 'setting the stage,' using concepts described in the chapter. Again, the final section of each chapter provides details of several websites to find additional data that can be used for advance statistical analysis. Success of this section depends on readers' interest and author's constant effort to update the site names.

This new text offers a software based approach for the use of statistics in business. The text comes with a CD containing several data files that can be accessed in Excel and Minitab in ASCCI formats. All statistical concepts are illustrated with real examples. So it would be useful for a beginner in Economics and Business.

Statistics is a tool used for decision making. In his book, Webster tried to narrate how statistics can effectively facilitate decision making in Business Management. I believe Webster did a great work and make all the concepts crystal clear. Even in the first reading, this book demands recommendation for business management students. Now the clay mix is with the readers.

Skimming and Scanning



Book Title : *Services Marketing* Text and Cases

Author : Rajendra Nargundkar

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The book is meant for a definite audience – the management students. The third edition is strong on theory and has added more case studies in each of the chapters. The author has done lot of research to add more case studies that are Indian and highly relevant to the management students. Case studies cover all areas like banking, information technology, hospitality, airlines, tourism, education and so on. And there are companies that are fresh in the consumer's mind – ICICI bank, ITC, GE, HDFC, ING Vysya and Reliance web world to name a few. The case are well written to elicit critical thinking, problem solving and decision making skills.

Reviewed by Dr. V. Raman Nair, Director, SCMS-COCHIN, Prathap Nagar, Muttom, Aluva-683106, Cochin, Email: raman.nair@scmsgroup.org

The introductory chapter is a 'perlude to the seven P's of Marketing' and brushes through the fundamental principles of services marketing. The next seven chapters deal at length the seven P's – product, place, promotion, price, people, physical evidence and process; and how services are different from goods. Chapter nine then integrates the service strategy and outlines the both the growth as well as quality strategies to optimize service business.

The latter part of the book deals with diverse areas such as Globalisation of services, Retailing in India and around the world and Customer relationship management. Treatise on globalization gives insights into different stages of globalization and looks at specific case studies of globalizing Indian companies. The chapter also looks into the performance of Business process outsourcing industry.

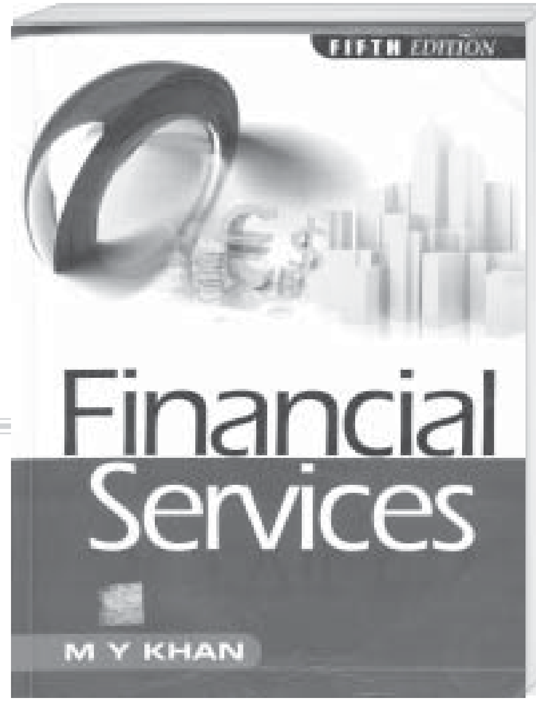
Retailing being one of the rapidly developing service industries an entire chapter is devoted to explain the various formats and the current Indian retailing scenario. The chapter narrates the strategies of different retailing companies and provides readings on how to develop profitable shopping malls.

The last chapter of the book is on Customer Relationship Management (CRM) and is focused on strategies to build long lasting relationships in services industry. The case studies at the end of the chapter are capable of generating discussions on the need for CRM and also the use of technology in enhancing customer relationship.

The author has done an excellent job in the third edition to make it as student friendly as possible. It also makes easy reading, unlike any other text book, for professional interested in strengthening their knowledge on services marketing. Needless to say that this book will definitely add value to the professional at large and student community in particular in establishing a strong foundation in the field of services marketing.

Happy reading!

Skimming and Scanning



Book Title	:	***Financial Services***
Author	:	**M.Y. Khan**
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ISBN-13	:	**978-0-07-068199-6**
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Publisher	:	**Tata McGraw-Hill Education Pvt. Ltd., New Delhi.**

Like the earlier editions, the focus of this book titled *Financial Services* (Fifth Edition) by M.Y. Khan is on the current status of the financial services sector in the country. However, the merit of the current edition is that it gives the reader a fairly complete idea about the recent policy and operational developments in the Indian Financial services sector. Most of the existing books in this area contain only a partial treatment of the subject.

Financial services can be broadly classified in to two groups: Fund/ Asset based and Fee-based services. The book covers both types of services by thrusting on an analytical framework. Author has taken care to provide a judicious mixture of theory and business practices of the contemporary Indian Financial services sector.

Reviewed by Ms. Asha E.Thomas, Assistant Professor - SCMS-COCHIN, Prathap Nagar, Muttom, Aluva-683106, Cochin, E-mail: ashathomas@scmsgroup.org

The remarkable feature of this book is that every chapter begins with a number of learning objectives to ensure the broad understanding of the chapter. The flow charts exhibited at the beginning of each chapter provide the readers with an overview of the contents. Comprehensive summaries at the end of each chapter serve the purpose of recapitulation.

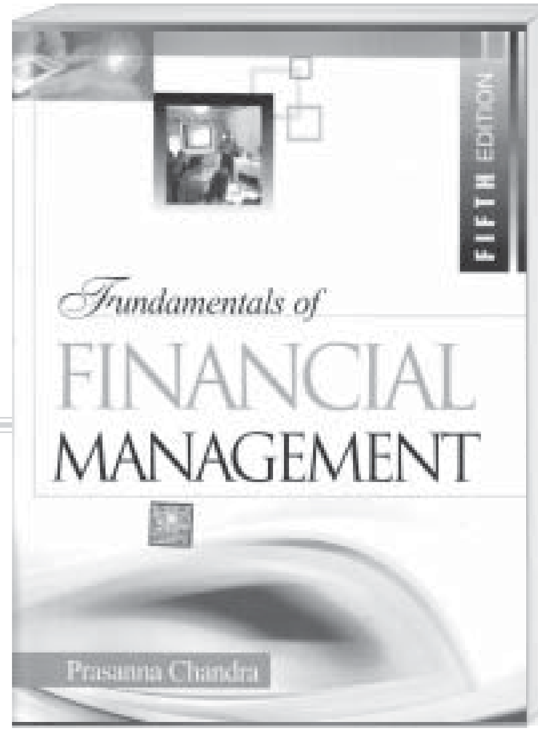
Throughout the text, margin notes in shaded bars define key terms and this would enable the readers to reinforce their learning. The review questions at the end of each chapter help the readers to test their understanding. Comprehensive cases used by the author would help in developing practical skills needed by the students in applying the concepts and theories discussed.

The book is divided into three parts, each part dealing with different segments of financial services sector. Part One provides an overview of the non-banking financial companies (NBFCs) in India within the framework stipulated by the Reserve bank of India. Twelve chapters in Part Two are concerned with Asset/Fund based financial services. In view of the special nature of lease financing, the accounting and reporting framework of lease financing is discussed in chapter five of part two and evaluation of leasing transactions is the theme of chapter six.

Part Three covers various Merchant Banking services in detail. Apart from asset-based services, the emerging financial services sector in India also provides fee based / advisory services which are covered in the six chapters in this section. Corporate Restructuring is also comprehensively analysed in chapter sixteen of part three. The book concludes with a discussion on various credit rating agencies in the country and their rating process along with the methodology used in rating. Absence of page numbers, whether it was intentional or not can create some hindrance in usage of the book especially by the student community.

The most outstanding feature of this revised edition is the inclusion of a detailed discussion on Banking products and services as well as Mutual Fund services and products. The author has done full justice to the subject area under discussion and the supplementing web links providing additional reading material which enhances the pedagogical value of the book. The book can be used as a source of reference by the practitioners. It would be an indispensable text for teachers and advanced students of finance, management, commerce and accounting. Its explicit structure and supportive pedagogical features makes it a must read for all those pursuing a career in Financial services.

Skimming and Scanning



Book Title : *Fundamentals of Financial Management*
Author : Prasanna Chandra
Edition : V - 2010
ISBN-13 : 978-0-07-070079-6
Pages : Numbers not given
Publisher : Tata McGraw-Hill Education Pvt. Ltd., New Delhi.

All successful business is ultimately based on prudent financial management. The recent global events have only reiterated the importance of going back to basics and the need to strengthen financial concepts.

In this context, the fifth edition of *Fundamentals of Financial Management* is timely and apt. This a good book for beginners of the subject and for those who would like to relearn their fundamentals.

The book has been thoroughly revised and in addition to all its earlier features, the new edition has been structured to suit the needs of its target audience mainly students of professional finance courses. The relevant additions on contemporary developments in the changes in the current tax, accounting and regulatory frame-work are the notable additional features.

This book was reviewed by Ms. Shyama P. Menon, Associate Professor, SCMS School of Technology and Management [SSTM], Prathap Nagar, Muttom-683106, Ernakulam, Email: shyama@scmsgroup.org

Every chapter has been designed in such a way that the learning objectives are clearly defined and it contains conceptual explana-tions with illustrations and sufficient practice exercises. This helps in providing the much required clarity to the students.

The book is divided into eight

parts. Part 1 contains two chapters. The first deals with an overview of the subject and the second with the Financial System. They serve the purpose of introducing the reader to the financial framework, the functions, the growth and trends in the Indian Financial System.

Part II contains "Financial Analysis and Planning." This section contains five chapters in all. The first chapter in this section deals with the three standard financial statements of the enterprise namely the Profit and Loss Account, the Balance Sheet and the Cash Flow statements. It describes the contents of these three statements with lucid explanation which sets the serious learner on a logical learning curve in the subsequent chapters of financial analysis, Funds Flow Analysis, Break Even Analysis and Leverages, Financial Planning and Forecasting.

Various Fundamental Valuation Concepts are dealt with in Part III of the book which includes "Time Value of Money," "Valuation of Securities," and "Risk and Return." The language is simple and understandable which is extremely useful to the beginner of the subject.

Part IV deals with "Capital Budgeting" This very important area of financial management is dealt with in a highly structured way and has been expanded into chapters on the techniques of Capital Budgeting, Project Cash Flows, Risk Analysis and the Cost of Capital.

"Capital Structure and Dividend Policies," "Long Term Financing" and "Working Capital Management "are dealt with in the next three sections of the book. The section dealing with "Long Term Financing" contains a crisp and summarized chapter on the "Securities Market." It covers the basic features of the entire gamut of participants in the Securities Market. This chapter serves as a vivid snapshot to anybody who would like an overview of the securities Market.

Additional special topics have been included in Part VIII of the book with separate chapters on "Leasing, Hire Purchase and Project Finance," "Mergers, Acquisitions and Restructuring," and "International Financial Management." The last chapter serves as an introduction to the global financial dynamics and whets the appetite of the serious reader for more in depth learning.

Overall the book has been well formatted and the different areas of finance have been dealt with systematically in separate sections. One of the attractive features of the book is that the author has followed a highly structured format. Each aspect is addressed and reinforced by necessary illustrations. The other notable feature is in the design of the chapters. A summary has been included at the end of each chapter which enables the student to have a quick recap of the contents and also serves as a ready reference. The visualization of the book is good with all relevant topics comprehensively included though it is of medium and handy size.

This book adopts a fresh and novel approach to the study of Financial Management for the students studying the paper of FM. It has been written in a "Teach Yourself Style," strictly following a student-friendly approach and is essentially meant to serve as a tutor at home. The utility is further enhanced by providing a companion website which includes Spreadsheet Templates in Excel, Additional problems and Solutions Manual and PowerPoint presentations. This is a really helpful tool for the serious self learner.

The author Dr.Prasanna Chandra is no novice in the field of academics. He is a renowned and accomplished teacher of finance. For nearly two decades he was the Professor of Finance at the Indian Institute of Management, Bangalore. He has also been a consultant to many organizations in India and abroad. The practical insights gained from this valuable experience is quite evident and this makes the book an ideal starting point for the student of any professional course in finance.

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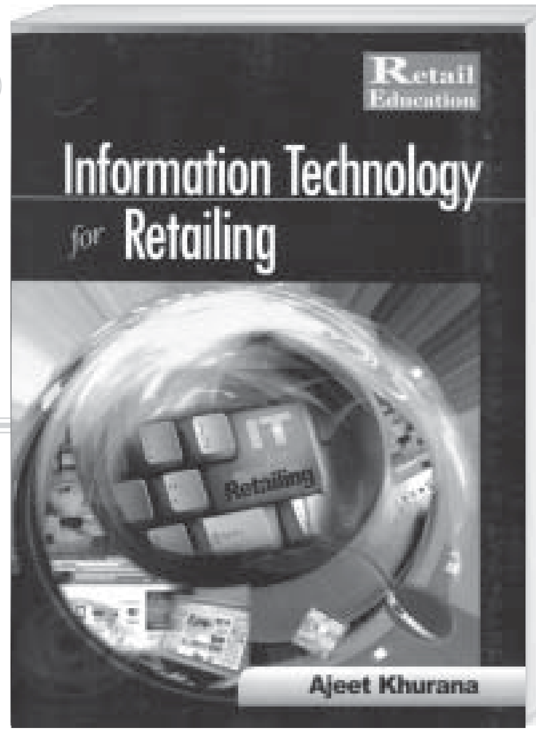


Book Title : *Information Technology for Retailing*
Author : **Ajeet Khurana**
Edition : **2010**
ISBN-13 : **978-0-07-015922-8**
Pages : **140**
Publisher : **Tata McGraw-Hill Education Pvt. Ltd., New Delhi.**

If the Government clears the way for FDI in multi-brand retail in India, it would usher in a revolution of choice and technology. All the big names coming to town would flood the Indian market with the tried and tested technology offerings of the international retail space. It serves to remember that all applications of Information Technology is limited only by the extent of availability of data and the imagination/objective of the retail manager. With the onslaught of global competition, Indian retail professional would have to learn what the 'black box' of Information technology is actually capable of, to stay in business.

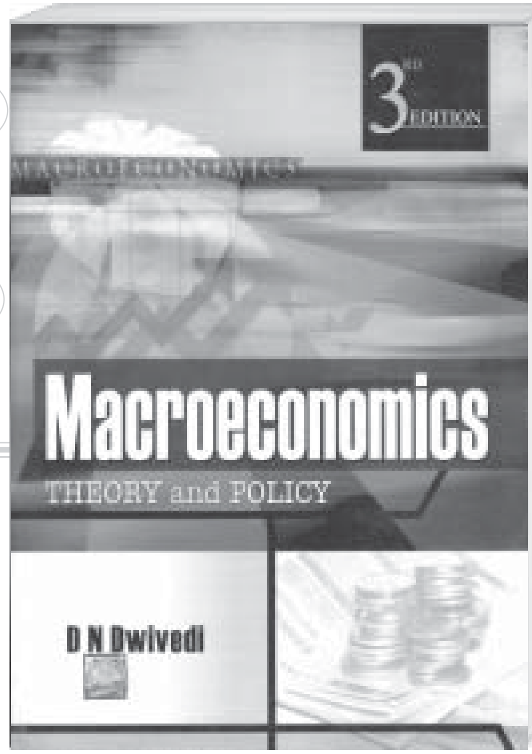
Reviewed by Ms. Daly Poulose, Lecturer, SCMS School of Technology and Management [SSTM], Prathap Nagar, Muttom-683106, Ernakulam, Email: daly@scmsgroup.org

This book tries to give a multi-pronged perspective on the various possible applications of Information Technology in the retail sector and the role of MIS in enhancing an organizations' core competency and developing competitive advantage. The book should have been titled "Information Technology in Retailing ***for Retail Managers***," the reason being the content has been simplified to the exact depth required of management students.

The book initially introduces the reader to Information systems for Retail Sector and its applications in POS, CRM, Inventory Management, Supply Chain Management etc. The author proceeds to detail each of the different software starting from those being used at the PoS at retail outlets. Chapter four touches upon the different payment mechanisms at the PoS in retail outlets covering the gamut of processes as well as the issues and challenges associated with each. All possible questions on grey areas like Auto-ID technologies such as RFID and Barcodes, both synonymous with modern retailing in India are answered through dedicated chapters. One chapter discusses the different EPoS software programs suites that support retailer efforts in Customer Relationship Management and Resource Planning and gives directions on choosing between Best of Breed and Fully Integrated Software based on the nature and scale of business. The book ends with a peep into the world of electronic retailing or e-tailing. Another noteworthy aspect of the book is the sequencing of content within chapters. It follows a text book approach with coverage of definitions, product details, process details, detailing of pros and cons, various application scenarios etc alongside numerous experiential insights to discuss bottlenecking situations and ways to get around them.

The author successfully keeps the reader from getting lost in technical jargon and maintains a managerial wavelength throughout. The book is notable for its pedagogical approach through case discussions and project ideas, but what makes the book truly stand out are the sections on concept questions and application exercises titled 'Retail episodes.' Certainly worth reading!

Skimming and Scanning



Book Title	:	***Macroeconomics - Theory and Policy***
Author	:	**D.N. Dwivedi**
Edition	:	**III - 2010**
ISBN-13	:	**978-0-07-009145-0**
Pages	:	**667**
Publisher	:	**Tata McGraw-Hill Education Pvt. Ltd., New Delhi.**

Knowledge of macroeconomics is crucial to managerial decision making. A text book which introduces the basic concepts of macroeconomics to the student in a simple way hence is essential in the context of management curriculum.

Macroeconomics – Theory and Policy is a book written by D.N. Dwivedi. This is a review of the third edition of the book. The book is divided in to nine parts.

Part I introduces the basic concepts of macroeconomics. The student is introduced to the basic concepts in macroeconomics in a simple way. Rendering it in a simple way, the author is not compromising with the quality of the text book. The author explains the circular flow models and measurement of National Income in a detailed and lucid manner.

Part II deals with Product Market analysis. The author starts describing the Classical Theory of output and employment and proceeds to Keynesian theory of income determination in a simple economy model, in a closed economy with Government sector and with a foreign sector. The ideas are crucial to understanding and interpretation of macroeconomic decisions and the author treats the subject well with appropriate mathematical and graphical representations.

Reviewed by Dr. Poornima Narayan R., Assistant Professor, SCMS School of Technology and Management [SSTM], Prathap Nagar, Muttom, Aluva-683106, Ernakulam, Email: poornima@scmsgroup.org

Part III deals with Theories of Consumption and Investment. Post- Keynesian theories of consumption and investment are discussed in this chapter. The chapter talks about the significance of consumption expenditure and proceeds to discuss various theories of consumption. The next chapter in this part discusses the theory of investment. The chapter deals with methods of investment decisions, Marginal Efficiency of Capital and Investment, Theory of capital accumulation, etc. In short, this part of the book develops a comprehensive view of the product market.

Part IV deals with the Money Market analysis. The chapter concentrates on theory of money and interest. Theories of demand and supply of money and money market equilibrium are discussed in detail. The part starts with the very basic concepts like definition of money, functions of money and kinds of money. The next chapter (Chapter 12) discusses the major aspects of money supply like the sources, measures and theory of money supply. Chapter 13 analyses the conditions and the factors that bring about equilibrium in the money market. The next chapter explains the Keynesian theory of money and interest in a simple way. Chapter 15 briefly discusses the various post- Keynesian theories of demand for money. These theories are of current significance as they are more advanced and applicable to the current monetary situation.

Part V deals with the integration of the product and money market. It analyses the general equilibrium in the economy. This part of the book presents a detailed discussion on the Hicksian IS-LM model and a brief discussion on the other post-Keynesian development sin macroeconomics.

With Part VI, the discussion enters in to the area of the macroeconomic concepts of Economic growth and business cycles. The chapter provides a brief discussion on the growth factors and eminent modern theories of economic growth. The relationship between growth and business cycles are well known. This part of the book discusses various theories of business cycle and various corrective measures to stabilize the economy.

Part VII deals with inflation and unemployment. These problems have high current relevance. These are the very basic aspects which will be required for analysis and prediction of the economic environment of business. This part offers an introduction to these basic maladies of the economy, measurement of inflation, theories of inflation, causes and cures of inflation. Then the part concentrates on the problem of unemployment and discusses the various kinds of unemployment, causes, its relationship with inflation and also the concept of Phillips Curve.

Part VIII deals with the international aspects of macroeconomics. This part of the book is a basic reading to understand international trade, international business and international finance. The part links the national macroeconomic variables to the international scene. The chapter deals in detail with the concepts of Exchange rate determination and also Balance of Payments.

Part IX deals with macroeconomic policies. Meaning, objectives, scope and methods of formulating macroeconomic policies are discussed in detail.

The book is a comprehensive and authentic textbook on macroeconomics. The explanation and presentation of the book is simple and attractive. As claimed by the author the book starts with simple explanations of the concept and proceeds to explain complex macroeconomic theories step-by-step by using graphics and algebraic examples. The book is a good basic reading material in macroeconomics.

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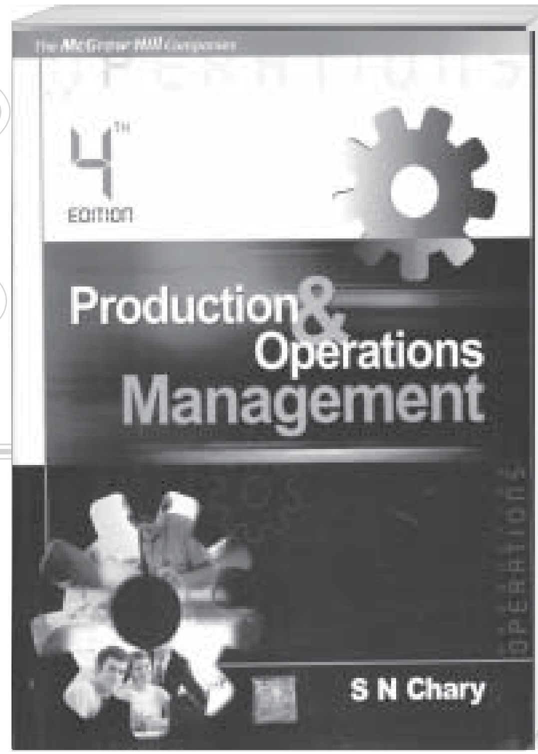

Book Title : ***Production & Operations Management***
Author : **S.N. Chary**
Edition : **IV- 2009**
ISBN-13 : **978-0-07-009153-0**
Pages : **Numbers not given**
Publisher : **Tata McGraw-Hill Education Pvt. Ltd., New Delhi.**

Since its First Edition was published in 1988, *Production and Operations Management* by Prof. S.N. Chary has been adopted as a standard text book by almost all B-Schools in the country. Its widespread acceptance is evidenced by the fact that three new editions have come out over the past decade alone.

The First Edition itself turned out to be an instant success mainly on account the timing of its publication. In 1988, Indian industry had started showing signs of breaking out of the shell of 'protectionism.' Sellers market was transforming into Buyers Market. New technology was being ushered in and the advent of liberalization and globalization was in the air. Telecom revolution was triggered under the stewardship of Prime Minister Shri Rajiv Gandhi. MBA's were in great demand. Mushrooming of B-Schools had already begun. And, there was ample space for an Indian text book of acceptable standards on the subject.

Reviewed by Prof. Paulose K.J., Dean, SCMS-COCHIN, Prathap Nagar, Muttom-683106, Ernakulam, Email: kjpaulose@scmsgroup.org

By the time the Second Edition was published in 2000, Indian Industry was already in its adulthood. Factors such as Productivity and Operations Strategy were gaining significance. Service Sector had emerged as a major contributor to the nation's GDP. The author was prudent in incorporating these aspects in the new edition. In the Third Edition published in 2004, chapters on modern concepts such as TQM, Six Sigma, Design for Manufacture, SCM etc. were added. Best practices adopted by successful Indian corporate like Reliance, Titan and TVS were also included.

In the Fourth Edition now under review further improvements have been effected. Emerging phenomena such as Outsourcing, CRM, and Competiveness through quality and service have been analyzed in this edition. A separate chapter on Environment, Pollution and Climate Change has been incorporated. The author has also taken a glance at the future of the Indian industry by touching upon topics such as CIM, FMS etc.

The chapter scheme adopted by the author is rather unique. Unlike other standard text books which typically follow the sequence of answers to questions such as *what, how, where, how much and when* (to produce?), the book under review has topics categorized under an entirely different format. It has five sections, as detailed below:

I. Role of Production & Operations Management in a changing Business World. This section covers the definition of the O.M function, operations strategy and the service sector.

II. Under this section Basic Tools such as Costing, Capital Budgeting, Linear Programming and Forecasting are explained.

III. The Imperatives of Quality and Productivity are analyzed under this section.

IV. This section is devoted to Supply Chain Management, MRP and Physical Distribution.

V. Spatial Decisions such as Facilities Location and Plant Layout have been incorporated in the section.

VI. In this section timing decision like PPC, JIT, Aggregate Planning and Project Management are discussed.

VII. This last section is all about "Present concerns and Future Directions," and includes CIM, Robotics, FMS and Environmental Concerns.

As the author claims (rather, admits!) in the preface, the book is primarily meant as a reference text for Post-graduate students in Management. This objective has been more than adequately met. However it is a bit disappointing to note that other than elaborating on existing theories and concepts, the author does not appear to have made any attempt to draw new insights. More was expected from an erudite scholar like Prof. Chary with vast experience as an academician as also as a technocrat.

The book is quite 'readable,' as it is written in clear, plain language suitable to Indian students and does not contain much of jargons. The printing and binding are of very good quality. 'Questions for Discussion' at the end of each chapter will be of great benefit to student readers. Charts, tables and graphs are well formatted, although the 'photocopied' look diminishes their quality and appearance to a great extent.

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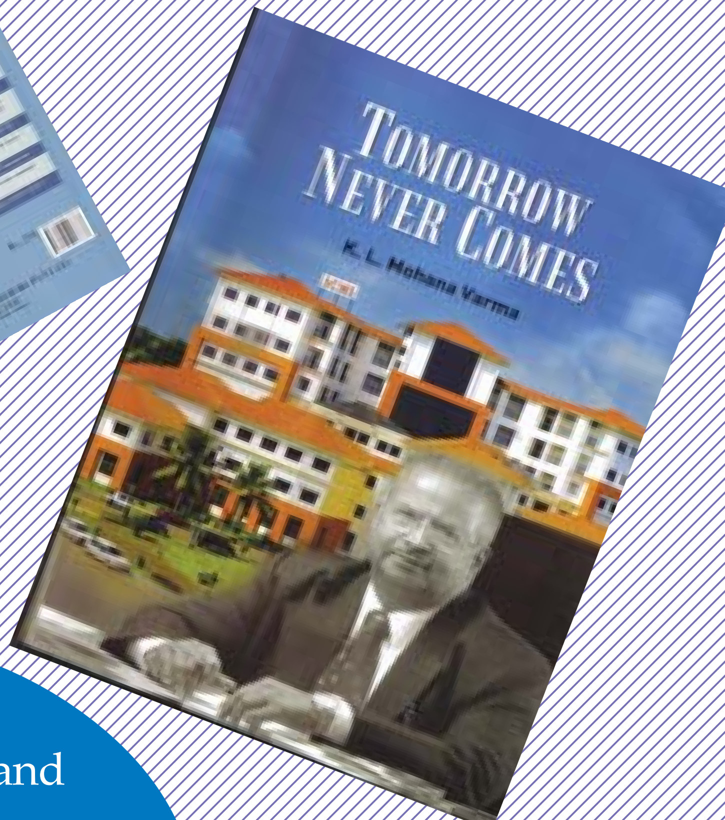
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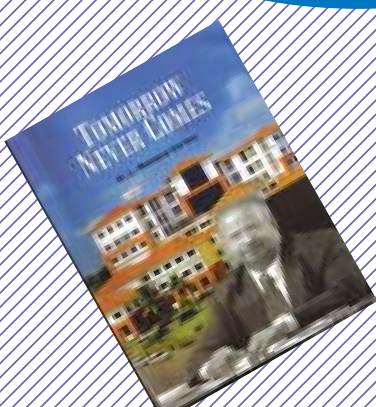
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SCMS JOURNAL OF INDIAN MANAGEMENT

Aims and Scope

The *SCMS Journal of Indian Management* is a **blind peer-reviewed Journal.** The Journal deems it its mission to submit to the readers fresh fruit of management thoughts and rich cream of current innovative research. The format of the Journal is designed reader-friendly. The academia and the corporates have an easy access to the Journal.

The Journal looks for articles conceptually sound, at once methodologically rigorous. The Journal loves to deal knowledge in management theory and practice individually and in unison. We wish our effort would bear fruit. We hope the Journal will have a long life in the shelves catering to the needs of b-students and b-faculty.

§ Proposals for articles that demonstrate clear and bold thinking, fresh and useful ideas, accessible and jargon-free expression, and unambiguous authority are invited. The following may be noted while articles are prepared.

§ What is the central message of the article you propose to write? Moreover, what is new, useful, counterintuitive, or important about your idea?

§ What are the real-world implications of the proposed article? Can the central message be applied in businesses today, and if so, how?

§ Who is the audience for your article? Why should a busy manager stop and read it?

§ What kind of research have you conducted to support the argument or logic in your article?

§ What academic, professional, or personal experience will you draw on to make the argument convincing? In other words, what is the source of your authority?

§ The manuscript of reasonable length shall be sent to the Editor—*SCMS Journal of India Management* (Both for postal and electronic submission details are given here under).

The manuscript should accompany the following separately:

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§ The declaration to the effect that the work is original and it has not been published earlier shall be sent.

§ Tables, charts and graphs should be typed in separate sheets. They should be numbered as Table 1, Graph 1 etc.

§ References used should be listed at the end of the text.

§ Editors reserve the right to modify and improve the manuscripts to meet the Journal's standards of presentation and style.

§ Editors have full right to accept or reject an article for publication. Editorial decisions will be communicated with in a period of four weeks of the receipt of the manuscripts.

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