DEVELOPMENT OF MARKETING FLEXIBILITY MEASUREMENT SCALE FOR AUTOMOBILE COMPANIES

Synopsis submitted in fulfilment of the requirements for the Degree of

DOCTOR OF PHILOSOPHY

by

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DEVELOPMENT OF MARKETING FLEXIBILITY MEASUREMENT SCALE FOR AUTOMOBILE COMPANIES

1. INTRODUCTION

Withincreasinglyintensecompetition, shrinking product cycles, accelerated technological breakthroughs and progressively greater globalization, the business arena may best be described as being in a chronic state of flux, with continual variation in its external environment [1]. The primitive and old proposition of somewhat stable business environment has become totally irrational in today's fast changing business environment.

In the backdrop of all these uncertainties, concept of flexibility has taken a centre stage. The term flexibility is used at the various levels. It is used at the level of product, processes, management, organization, strategy, systems, structure etc. and is gaining prominence in various walks of life owing to the growing turbulence and fast pace of change in the environment [2].

Similarly marketing system of an organization is another crucial area that has been under the limelight especially in the backdrop of ever changing market conditions and heightened competition. So it is nothing but obvious that now importance of marketing system of any organization has been escalated with more and more businessmen recognizing that corporate success, in most cases, is synonymous with marketing success of organization [3]. In the wake of this newly evolved business paradigm, this research is aimed to explore the concept of marketing flexibility which has remained largely untouched in the literature.

2. SCOPE OF THE STUDY

The enhanced importance of the flexibility concept can be attributed to the increased turbulence and uncertainty of business environment. Even before the ripples of liberalization and globalization, there was consensus about business dynamism though the changes in today's environment has now become more predictable and discontinuous [4]. Therefore it has now become inevitable for organizations to inherently built flexibility in their business as success of organization now depends upon the ability to quickly adapt to changing conditions.

Flexibility has emerged as an important aspect for success of organizations, marketing flexibility could provide the basis for the long term sustainable competitive edge to company by endowing it with ability to quickly adjust its marketing efforts according to changing market conditions. Further the concept of marketing flexibility has been not studied in detail despite of the fact that marketing is the front fascia of organization and its flexibility is of utmost importance. Scant knowledge on marketing flexibility and no measurement mean to measure it the opportunity to work on the area of marketing flexibility.

4-Wheeler automobile companies are chosen for conducting the research because of the increased turbulence and uncertainty prevailing in this industry for quite some time now. Changing prices of fuel, shifting technology focus, decreasing product life cycle and need to accelerate the product innovations are some of the critical pressures the automobile firms are facing today.

3. RESEARCH OBJECTIVES

Following are research objectives of study:

- To identify important and significant dimensions of marketing system.
- To identify/develop and validate marketing flexibility attributes.
- To develop marketing flexibility measurement scale for automobile companies.
- To conduct post development validation study.

4. LITERATURE REVIEW

The purpose of the study is to develop marketing flexibility measurement scale for automobile companies operating in India. In line with the purpose, the literature review in this chapter has been presented in following areas:

- Concept of flexibility, its early roots, and various research disciplines related to flexibility concept.
- Marketing system and flexibility.

4.1 FLEXIBILITY

Flexibility has found a number of references in literature. There is almost no area that is untouched by the term flexibility though the usage pattern and its application are considerably different for different disciplines. Strategic flexibility has been defined by the various researchers spanning across wide disciplines of management. The notion of strategic flexibility that is probably the closest to an everyday understanding of flexibility is the ability to do something other than that which had been originally intended [5]. Another definition by Ansoff described that flexibility can be measured by two proxy objectives: external flexibility achieved through a diversified pattern of product- market investments, and internal flexibility through liquidity of resources. Further this is described this as not putting all of one's eggs in a single basket [6].

Ability of the flexibility to hedge the organizations against the devastating change has been profoundly acknowledged by the Eppink when in 1978 he stated that flexibility makes an organization less vulnerable to or better able to respond successfully to unforeseen environmental changes [7]. Further Kogut [8] talked about the flexibility which according to him gained by decreasing the firm's dependence on the already placed resources. This means lesser the dependence on the already placed resources, more flexible organization is in its approach. This decreasing on the already placed resources call upon the organization to develop new resources which in the long run will lower the dependence on one set of assets available in the organization.

Bahrami [11] gave one of the most comprehensive definitions of flexibility; it is a multi-dimensional concept-demanding agility and versatility; associated with change, innovation and novelty; coupled with robustness and resilience, implying stability, sustainable advantage and capabilities that may evolve over time. The definition uses many connotations in reference to the concept of flexibility. Sushil [12] defined the flexibility in systemic sense as the dynamic interplay or synthesis across the range of options from thesis to anti-thesis by exercising freedom of choice. Three key words associated with the flexibility are: options, change and freedom of choice

4.2 MARKETING SYSTEM AND FLEXIBILITY

Literature on the marketing has been reviewed from the two perspectives: firstly the revisiting of the marketing discipline has been done from the systemic approach as this point of view takes into account the holistic or comprehensive aspect of a discipline. For this, system theory and its nitty-gritty have been studied and then marketing from the systemic angle has been examined. After that the focus shifts to the marketing flexibility that by far has got little exploration in the literature simply because of dearth of the studies relating exclusively to the marketing flexibility concept. It is asserted that a system is a collection of entities and their interrelationships gathered together to form a whole greater than sum of parts [13]. Ackoff [14] defined system as the set of two or more interrelated elements with the properties like each element having an effect on the functioning of the whole and vice versa. Marketing is managing profitable customers' relationships and two fold goal of marketing is to attract new customers by promising superior value and to keep and grow current customers by delivering satisfaction [15].

Nowadays, more and more companies are adopting a holistic approach to address their complex problem, even relating to the discipline of marketing and sales. Irrespective of the industries and nature of products these commercial establishments deal in, the trend of using the well-defined and complete perspective to solve even the managerial problems has been on the rise and for good reason. On the front of marketing flexibility there is dearth of studies that holistically talks about this concept. There are number of studies that related to technical and manufacturing flexibility though in case of marketing flexibility the level of research is quite shallow as there is lack of studies that delves into the marketing flexibility concept. As noted by Johnson et al. [16] the literature on flexibility it has rarely been considered from strategic marketing perspectives as extant research is surprisingly silent on flexibility with regard to strategically crucial market-linking activities. Combey and Greenley [17] observed that flexibility is implicit in the application of the marketing concept still there is lack of the studies that specifically relates to marketing flexibility with some exceptions.

Aaker and Mascarenhas [18] came out with the approaches that could lead to the creation of flexibility in the different functional disciplines including marketing in organizations. Another author Harrigan [19] talked about the market-linking from of flexibility at a time when the most

of the flexibility approaches were focussed on the technical side of facet. Prahalad and Hamel [20] put forth another perspective of marketing flexibility in the context of changing environment and competitive advantage. Grewal and Tansuhaj [21] thoroughly researched the role of marketing flexibility in context of managing economic crisis and defined it as ability of transnational corporations (TNC) to recalibrate its marketing efforts in a short period of time, in response to changing environmental context.

Next in the marketing flexibility list features the study by Abbott and Banerji [22]. The authors observed that marketing flexibility enables TNC to have high global market share, ability to sell its major products in a large number of international and geographical markets. The concept of marketing flexibility in the context of service has been researched by Gurau [23]. The author proposed an integrated model of marketing system flexibility that is based on the concept of co-creation of value for the customers. Another shot on the concept of marketing flexibility has been taken by the Sharma et al., [24] in one of their research aimed to revisit the flexibility concept and its impact on the overall performance of the company.

5. RESEARCH METHODOLOGY

Both exploratory as well as descriptive research has been used in this study.

5.1 EXPLORATORY STUDY

1st phase of exploratory study is done to generate a list of marketing flexibility attributes. Total of 63 items was generated on basis of extant literature review, expert interviews and self-observation.

- Refer appendices A and B for detail description.

Second phase of exploratory study consists of validation of items by group of domain experts and industry experts. Content validity refers to the degree to which elements of a measurement instrument are relevant to and representative of the targeted construct for a particular assessment purpose [25]. Content validity ensures that the items generated are first of all relevant and then comprehensive enough to cover all facets of construct. Sum total of 22 items went under content validity and out of 22, 13 items were deleted and 9 items were rephrased.

- Refer Appendices C and D for detail of experts and content validity evaluation.

Third phase of study was to select the format of measurement and then conducting initial pilot study to know reliability of questionnaire. Final items list consisting of 50 items in declarative statement form is anchored on 5-point Likert scale having response categories spanning between 5 = Strongly Agree to 1= Strongly Disagree. Initial pilot study was conducted on 50 respondents in order to calculate the reliability measure. Value of Cronbach's Alpha comes out to be 0.814; well above the standard of 0.7

- Refer appendices E for final questionnaire detail.

5.2 DESCRIPTIVE STUDY

The descriptive part of study is aimed to develop marketing flexibility measurement scale for automobile companies and is carried out with the help of factor analysis. Exploratory and then confirmatory factor analysis has been used for conducting descriptive part of study.

5.3 DATA COLLECTION METHOD

Survey method of data collection has been used for collecting primary data. Instrument used for collecting data is structured questionnaire consisting of 50 declarative statements anchored on 5-point Likert scale with response categories spanning between 5 = strongly agree to 1 = strongly disagree.

5.4 QUESTIONNAIRE ADMINISTRATION

Geographic Domain: Delhi, Noida, Gurgaon and Chandigarh.

5.5 SAMPLING DESIGN

TARGET POPULATION: Marketing/sales personnel of automobile organizations.

SAMPLING TECHNIQUE: Non-probability sampling.

SAMPLE SIZE: 1) 356 for Exploratory factor analysis

2) 183 for confirmatory factor analysis

3) 110 for Nomological validation

- Refer Appendices F, G and H for sample details.

5.6 DATA ANALYSIS TECHNIQUES

Exploratory Factor Analysis: The aim of conducting exploratory factor analysis is condense the information from large number of variables to small readily interpretable and manageable number. The analysis is done with help of SPSS 16.0 software version.

Confirmatory Factor Analysis: Confirmatory factor analysis is used in the study in order to prove construct validity in addition to confirming the model-fit. Analysis of Moment Structure software is used for carrying out confirmatory factor analysis.

6. STATISTICAL ANALYSIS

6.1 RELIABILITY ASSESSMENT*:* According to Churchill [26] and Parsuraman et al., [27] the scale development process starts with calculation of reliability, item-to-total correlation and exploratory factor analysis. According to DeVellis [28], scale reliability is portion of variance attributable to true score of latent variable. Value of reliability coefficient comes out as 0.880; above the minimum acceptable limit of 0.7

6.2 ITEM TO TOTAL CORRELATION: Item to total correlation is another measure of checking internal consistency or homogeneity of items. Correlation coefficient (r) is used to measure item to total correlation and items having r value greater than 0.45 significant at $p < 0.001$ were retained. Total number of items rejected in this test is 17 in number as these show low correlation with overall score.

6.3 EXPLORATORY FACTOR ANALYSIS: Remaining 33 items were subjected to principal component analysis with varimax rotation and criterion for retaining items were having factor loading more than 0.4 with significant loading on only one factor. Six-component structure emerged with F1 relating to theme of Price (PE), F2 with customer orientation (CO), F3 with

product (PR), F4 with place (PL), F5 with promotion (PM) and F6 with structural hierarchy (SH). Further these factors were checked for their individual reliability.

- Refer appendices I to L for step wise results of exploratory factor analysis and reliability results.

6.4 CONFIRMATORY FACTOR ANALYSIS: Confirmatory factor analysis, as name suggests, is a measurement model and used as a confirmatory tool for testing measurement theory. It is used as a method to confirm the results of exploratory factor analysis and is used for determining how well our sample date fits the theoretical model. Analysis of moment structure software was used to conduct confirmatory factor analysis.

- Refer appendices M for model notes and structure.

OVERALL MODEL FIT: Result of confirmatory factor analysis gives a range of model fit indices as output which can be used to assess overall model fit of sample data against hypothesized theory. Absolute as well as incremental fit indices are used to confirm whether the sample data fits hypothetical model well or not.

- Refer appendices N for comparison of obtained and standards value of various indices.

CONSTRUCT VALIDITY: Construct validity is extent to which a set of measured items actually reflect the theoretical latent construct those items are designed to measure [29]. The items that are indicator of specific construct should converge or share a high proportion of variance in common, known as convergent validity. Statistically significant loadings with minimum estimates of .5 is recommended while loadings greater than 0.7 is considered ideal. All items except PE1, PR1 and SH1 have more than ideal loading estimates. Average Variance extracted (AVE), another indicator of convergent validity is calculated as total of all squared standardized factors loadings (squared multiple correlation) divided by number of items. Value more than 0.5 is considered as good convergence property. Further construct reliability can be used to ascertain convergent validity. It is calculated with the help of squared factor loadings and error variance. Value more than 0.7 signifies good convergence property. Discriminant validity is extent to which a construct is truly discriminant from other constructs and thus high value of discriminant validity provides the evidence that it captures some phenomenon that other

measures do not. In order to prove discriminant validity value of squared correlation between any two constructs must be less than average variance extracted for each factor.

- Refer appendices O to R for validity results.

7. MARKETING FLEXIBILITY MEASUREMENT SCALE- AUTOFLEX AND STANDARDS

After exploratory and then confirmatory analysis marketing flexibility measurement scale consisting of 26 items classified under 6 dimensions of price, customer, product, place, promotion and organization structure emerges. Further with the help of binning technique standards depicting the states of low, average. Good and excellent marketing flexibility are created.

- Refer appendices S and T for final scale and standards.

8. POST DEVELOPMENT VALIDATION

QUALITATIVE VALIDATION: Newly developed marketing flexibility scale; AUTOFLEX is then once again reviewed by panel of domain and industry experts. Scale got a positive nod from experts with suggestion that in future study should add inter-disciplinary dimensions from finance, human-resource, manufacturing and operations to ascertain their overall impact on flexibility of marketing system.

NOMOLOGICAL VALIDITY: It gives an overall idea that up to what degree results of research is consistent with the theory. For proving nomological validity, given measure should show high correlation in a way supported by theory, with measure of different but related constructs. It has been suggested in literature that marketing flexibility is associated with market orientation [30, 31]. Nomological validity of marketing flexibility measure is tested by evaluating its relation with market orientation measure developed by Narver and Slater [32]. Value of correlation coefficient between these measures came out to 0.65 ($p = 0.001$); suggesting sufficient support for nomological validity.

9. FINDINGS

Findings of study include the identification of important marketing dimensions and flexibility attributes. Further the marketing flexibility attributes used in study has been validated by group of domain and industry experts. Study is able to successfully develop marketing flexibility measurement scale for the automobile companies that can measure and categorised particular organization on basis of its marketing flexibility. After quantitative verification, scale is further validated by domain and industry experts. Further the nomologocal validity of scale is tested by correlating it with market orientation measure.

10. LIMITATION AND SCOPE FOR FURTHER RESEARCH

Sample selection region of study is one possible limitation of this study. Another limiting point is the caution that one has to take before using the scale on other segments of automobile industry. As the study exclusively takes into account only the 4-wheeler manufacturers, a foresight is required to use the scale in other segments like 2-wheeler of commercial vehicle segment of the industry. Further the external validation of marketing flexibility scale in comparison to other related or different scales is in our agenda of future research.

Also as business environment is dynamic with changes happening in it at regular interval, point of adding some more crucial dimensions to the existing scale vis-à-vis scrutinizing the older ones for their significance tops our future research agenda.

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LIST OF APPENDICES

APPENDIX A: Marketing Flexibility attributes

S.No.	Attribute	LR	Source of Literature	Expert Interviews	Self-Analysis
1	Enriching the customer life philosophy	√	Hitt, Keats and DeMarie (1998), Baum and Walley (2003),		
2	Customer driven innovations	√			
3	Obsession for customer satisfaction	√			
4	Regular customer-feedback	√			
5	Taking care of changing customers' needs	√			
6	Proper customer complaint redressing				√
7	Customer-relationship philosophy			√	
8	Dynamic pricing	√			
9	Customized products	√			
10	Analysis of competitors' move	√	Porter (1985) Kidd (1994) and Goldman, Nagel and Preiss (1995).		
11	Exercising market power to deter and control the competition	√			
12	Indulging in political activities to reap benefits			√	
13	Carefree attitude towards other players				√
14	Shared purpose collaboration	√			
15	Stressing inimitable competencies				√
16	Willing to get into JV or alliance		Aaker and Macarenhas (1984), Das and Elango (1995)	√	
17	Continuous scanning of environment	√			
18	Feedback of employees for products	√			
19	Quick change in partners			√	
20	Helping partners to enhance effectiveness	√			
21	Partner feedback	√			
22	Range of products across prices	√	Ulrich (1995), Das and Elango (1995), Sanchez and Mohoney (1996),		
23	Consultation with employers on pricing			√	
24	Attitude towards promotional spending			√	
25	Responding quickly to competitor's promotional campaigns	√			
26	Role of marketing personnel in promotion	√			

27	Quick change of current discourse (diesel to petrol)			√	
28	No price change at all come what may				√
29	Innovation specialist	√			
30	Product development time				√
31	Multi-purpose automated technology	√			
32	Common platform design approach	√			
33	First time right decision	√	Kandil (1999) Flaschel and Franke (2000) and Charles Woollam (2003)		
34	Quality preference			√	
35	Product innovations	√			
36	Flexible pricing for complete stable			√	
37	Socially and environmentally responsibility	√			
38	Dealership relation			√	
39	Pricing according to trend or value based notion	√			
40	Comparison of prices with rivals	√			
41	Rigid or swiftly changing price policy				√
42	Seamless connectivity	√	Cervera et.al. (2000) and Erdil, S. (2002), Byrd and Turner (2000)		
43	Cross functional exchange	√			
44	Changing structure and impediments				√
45	Promotional campaign assessment	√			
46	Price comparison with overall industry cues	√			
47	Addition of region to exploit opportunity		Gilbert (1999), Adebanjo (2008), Das and Elango (1995), Bailey et.al. (1998)		√
48	Emphasis on Training	√			
49	Feedback on training methods and practices			√	
50	Quick dealership opening/closing	√			
51	Price changes to revive demand				√
52	Response time to customers grievances	√			
53	Partners' auditing	√			
54	Decentralized structure	√	Bahrami (1992), Thomke and Reinstern (1998),		
55	Taking holistic approach to NPD	√			
56	Decision-making power to marketing personnel			√	
57	Marketing role in promotion	√			
58	Partners' views on promotion			√	

59	Emphasis on team work	√			
60	Flexible design philosophy				√
61	Specialized loose coupling method	√			
62	Rewarding partner performance			√	
63	Innovation leader			√	

APPENDIX B: Initial Item list for scale development

S.No.	Initial Item list
1	We believe in enriching the customer life philosophy
2	Our new product innovations are customer driven
3	We give utmost importance to customer satisfaction
4	We have the regular customer-feedback mechanism
5	We do take care of changing customers' needs
6	We have quick and effective customer complaint-redress mechanism
7	Our main focus is on the sale rather than on making relation with customers
8	We are fully capable of renewing our pricing strategy according to environmental alterations
9	We extend customized vehicles facility to customers
10	We collect and analyse our competitors move
11	We use our market power to deter and control the competition
12	We have relations with political class to reap benefits
13	We don't care at all about our competitors
14	We do engage with competitors for some shared purpose
15	We focus on developing inimitable competencies
16	We have joint ventures with some of our competitors
17	We continuously monitor external environment to identify changes and opportunities
18	Our New product launches has inputs from marketing people
19	We are fully competent to reconfigure our dealership format
20	We provide specialized training to our channel partners to improve their performance
21	We attach considerable value to our dealership feedback
22	We have multiple price points in each category of products
23	Marketing people have their say in pricing product
24	We have positive attitude towards the new ideas of promotion
25	We respond quickly to promotional activity launched by competitor

26	Marketing people are fully involved in promotional activities
27	We can easily switch from petrol to diesel product portfolio and vice versa
28	We don't change the price at all
29	We are first to launch new and innovative products in market
30	Our product development cycle is long
31	We use common platform for designing our products
32	We use multi-purpose automated machinery for making our product portfolio
33	We believe in First-time-right-decision philosophy
34	We prefer product quality over its shelf life
35	Our new product introduction rate is low
36	We follow flexible pricing policy for our entire range of products
37	We are concerned with pollution aspect of our vehicles
38	We value our relationship with dealerships
39	We price products according to market trends
40	We take a cue from competitor while pricing product
41	We immediately change the price if competitor lowers its prices
42	Structural hierarchy of marketing allows seamless connectivity between different levels
43	Marketing people don't have easy access to cross-functional information due to structural impediments
44	We quickly make amendments in marketing structure to meet the new challenges
45	Impact assessment of the campaign is done by external agency
46	We readily adjust our model prices according to industry changes
47	We quickly add or subtract our customer touch point
48	Marketing people are trained on various aspects of market and sales techniques
49	Feedback of training methods are regularly taken from marketing personnel
50	We have quick mechanism to add dealership/franchise to capitalize on the opportunities
51	We change the prices to accelerate the demand
52	We are instructed to take immediate care of customer complaints.
53	Our dealerships are regularly audited for customer satisfaction
54	Low level of formalization is exercised in our marketing system
55	New product development is done with the close coordination of suppliers and channel partners
56	There is enough decision making power delegated to marketing people
57	Marketing people are fully involved in promotional activities
58	We don't involve our partners in promotional campaigns

59	Marketing people works in teams having cross-department participation
60	Product development is done in-line with the flexible design philosophy
61	We use loose coupling design approach to develop new product
62	We have the system of rewarding the best performing dealer
63	We are market leader in product innovations

APPENDIX C: Details of domain and industry experts

Expert Panel	
Domain experts	**Industry experts**
1. Prof.Sushil (Dean, IIT-Delhi) 2. Prof. M.K. Sharma (Prof. DTU)	1. TanitOberoi (Maruti-Suzuki) 2. Akhil Kapoor (Hyundai Motors) 3. Deepak Sharma (Volvo India) 4. VikramJuneja (Hyundai Motors)

APPENDIX D: Content validity

Content Validity		
S. No.	**Original Item**	**Modified item/Dropped item**
1	We believe in enriching the customer life philosophy	Our Products adds value to the life of customers
2	We extend the customized vehicle facility to customers	We offer customized products and services
3	We have relation with political class to reap benefits	We don't indulge in political activities to counteract trade regulations
4	We do engage with competitors for some shared purpose	Dropped
5	We attach considerable value to our suppliers' feedback	Dropped
6	Marketing people have their say in pricing products	Marketing people of our organization are consulted before finalizing the price of product
7	We have positive attitude towards the new ideas of promotion	Dropped
8	We can easily switch from petrol to diesel product portfolio and vice-versa	We are competent to dismantle current strategies to match the evolved business conditions
9	We are first to launch new and innovative products in market	Dropped
10	We use common platform for designing our products	Dropped
11	We use multi-purpose automated machinery for making our product portfolio	Dropped
12	We are concerned about pollution aspect of our vehicles	We are responsive towards social and environmental changes
13	We value our supplier relations	Dropped
14	We take a cue from our competitor while pricing product	We benchmark our prices with competitors

15	Our organization is seamlessly connected by virtue of integrated information system	Dropped
16	Marketing people don't have easy access to cross-functional information	Dropped
17	Integrated information system is being used in our marketing and organizational system	Dropped
18	We quickly add/subtract our customer touch point	We quickly add or subtract a region/place according to need of the situation
19	Marketing people are trained on various aspects of market and sales techniques	Dropped
20	Feedback of training methods are regularly taken from marketing personnel	Dropped
21	Low level of formalization is exercised in our marketing system	We have low level of formal regulations for marketing employees
22	We use loose coupling design approach to develop new product	Dropped

APPENDIX E: Final Questionnaire

S.No.	Items	Strongly Agree ----------Strongly Disagree				
1	Our products add value to the life of customers	5	4	3	2	1
2	Our new product innovations are customer driven	5	4	3	2	1
3	We give utmost importance to customer satisfaction	5	4	3	2	1
4	We don't have the regular customer-feedback mechanism	5	4	3	2	1
5	We do take care of changing customers' needs	5	4	3	2	1
6	We have quick and effective customer complaint-redress mechanism	5	4	3	2	1
7	Our main focus is on making relation with customers rather than sales only	5	4	3	2	1
8	We are fully capable of renewing our pricing strategy according to environment alteration	5	4	3	2	1
9	We offer customized products and services	5	4	3	2	1
10	We collect and analyse our competitors move	5	4	3	2	1
11	We use our market power to deter and control the competition	5	4	3	2	1
12	We don't indulge in political activities to counteract trade regulations	5	4	3	2	1
13	We don't care at all about our competitors	5	4	3	2	1
14	We focus on developing inimitable competencies	5	4	3	2	1
15	We have joint ventures with some of our competitors	5	4	3	2	1
16	We continuously monitor external environment to identify changes and opportunities	5	4	3	2	1
17	Our New product launches has inputs from marketing people	5	4	3	2	1
18	We are fully competent to reconfigure our dealership format	5	4	3	2	1
19	We provide specialized training to our channel partners to improve their performance	5	4	3	2	1
20	We have multiple price points in each category of products	5	4	3	2	1
21	Marketing people of our organization are consulted before finalizing the price of product	5	4	3	2	1
22	We respond quickly to promotional activity launched by competitor	5	4	3	2	1

23	Marketing people are fully involved in promotional activities	5	4	3	2	1
24	We are competent to dismantle current strategies to match the evolved business conditions	5	4	3	2	1
25	We don't change the price at all	5	4	3	2	1
26	Our product development cycle is long	5	4	3	2	1
27	We believe in First-time-right-decision philosophy	5	4	3	2	1
28	We prefer product quality over its shelf life	5	4	3	2	1
29	Our new product introduction rate is low	5	4	3	2	1
30	We follow flexible pricing policy for our entire range of products	5	4	3	2	1
31	We are responsive towards social and environmental changes	5	4	3	2	1
32	Our prices are based upon value for money notion	5	4	3	2	1
33	We benchmark our prices with competitors	5	4	3	2	1
34	We immediately change the price if competitor lowers its prices	5	4	3	2	1
35	Impact assessment of the campaign is done by external agency	5	4	3	2	1
36	We readily adjust our model prices according to industry changes	5	4	3	2	1
37	We quickly add or subtract a region/place according to need of the situation	5	4	3	2	1
38	We have quick mechanism to add dealership/franchise to capitalize on the opportunities	5	4	3	2	1
39	We change the prices to accelerate the demand	5	4	3	2	1
40	We are instructed to take immediate care of customer complaints.	5	4	3	2	1
41	Our dealerships are regularly audited for customer satisfaction	5	4	3	2	1
42	We have low level of formal regulations for marketing employees	5	4	3	2	1
43	New product development is done with the close coordination of suppliers and channel partners	5	4	3	2	1
44	There is enough decision making power delegated to marketing people	5	4	3	2	1
45	Marketing people are fully involved in promotional activities	5	4	3	2	1
46	We don't involve our partners in promotional campaigns	5	4	3	2	1
47	Marketing people works in teams having cross-department participation	5	4	3	2	1
48	Product development is done in-line with the flexible design philosophy	5	4	3	2	1
49	We have the system of rewarding the best performing dealer	5	4	3	2	1
50	We are market leader in product innovations	5	4	3	2	1

APPENDIX F: Sample for exploratory factor analysis

Company Name	Region	Total Questionnaire distributed	Useful Responses	%
Maruti-Suzuki	Delhi-Chandigarh	120	97	27.2
Hyundai Cars India Limited	Delhi-Chandigarh	85	67	18.8
Tata Motors	Gurgaon-Chandigarh	78	60	16.9
Chevrolet	Gurgaon	47	34	9.6
Honda India Cars Limited	New Delhi &Greater Noida	67	54	15.2

Toyota India Cars	Gurgaon	57	44	12.4
	Total	454	356	78.4

APPENDIX G: Sample for confirmatory factor analysis

Company Name	Region	Total Questionnaires distributed	Useful Responses	%
Maruti-Suzuki	Delhi-Chandigarh	50	39	21.3
Hyundai Cars India Limited	Delhi-Chandigarh	50	34	18.6
Tata Motors	Gurgaon-Chandigarh	42	31	16.9
Chevrolet	Gurgaon	33	23	12.6
Honda India Cars Limited	New Delhi &Greater Noida	35	20	10.9
Toyota India Cars	Gurgaon	47	36	19.7
	Total	257	183	71.21

APPENDIX H: Sample for Nomological validation

Company Name	Region	Total Questionnaires distributed	Useful Responses	%
Maruti-Suzuki	New Delhi	30	24	80
Hyundai Cars India Limited	New Delhi	30	23	77
Tata Motors	Gurgaon	25	17	68
Chevrolet	Gurgaon	20	14	70
Honda India Cars Limited	New Delhi &Greater Noida	20	16	80
Toyota India Cars	Gurgaon	20	16	80
	Total	145	110	77

APPENDIX I: KMO and Bartlett's Test

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.870
Bartlett's Test of Sphericity	Approx. Chi-Square	2054.217
	df	325
	Sig.	.000

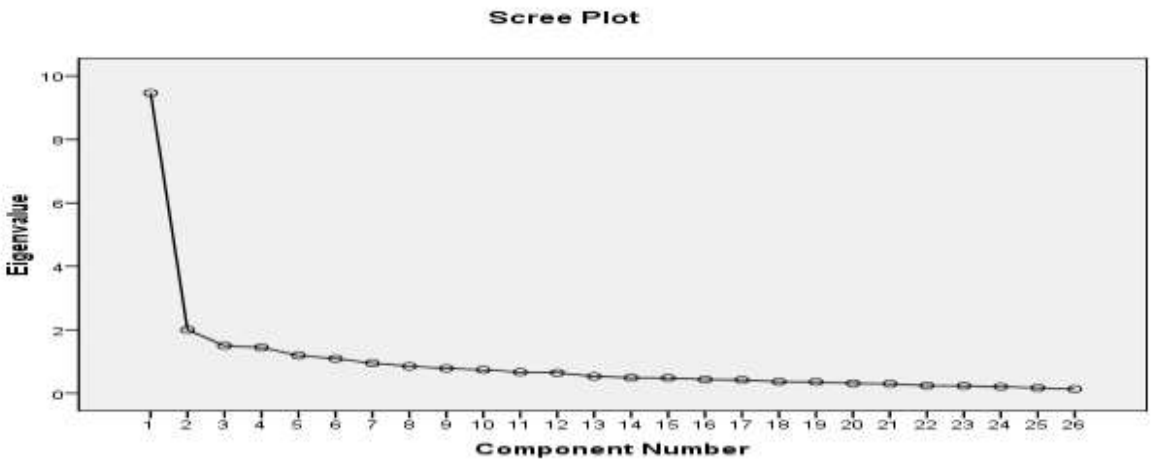
APPENDIX J: Total Variance explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.463	36.39	36.397	9.463	36.397	36.397

2	2.001	7.694	44.091	2.001	7.694	44.091
3	1.496	5.754	49.845	1.496	5.754	49.845
4	1.445	5.558	55.403	1.445	5.558	55.403
5	1.191	4.582	59.985	1.191	4.582	59.985
6	1.094	4.207	64.192	1.094	4.207	64.192

Extraction Method: Principal Component Analysis.

APPENDIX K: Scree Plot



APPENDIX L: Rotated component matrix & individual factor reliability

Principle component analysis

Rotated Component Matrix

Rotated Component Matrix[a]

	Component					
	1	2	3	4	5	6
F1:We change prices to accelerate demand	.784					
F1:We have multiple price points in each category of products	.711					

F1:Marketing people are consulted before price finalization	.702					
F1:We benchmark our prices with competitors	.621					
F1:We readily adjust our prices according to industry changes	.543					
F1:We are fully capable of renewing our pricing strategy according to environment	.474					
F1:We follow flexible pricing policy for our entire range of products	.467					
F2: We give utmost importance to customer satisfaction		.822				
F2: Our products adds value to life of customers		.763				
F2: Our product innovations are customer driven		.688				
F2: We do take care of changing customers' needs		.608				
F2: Our main focus on customer relation rather than sales only		.425				
F3: Our new product launches has input from marketing people			.622			
F3: We prefer product quality over shelf life			.587			
F3: We are market leader in product innovations			.586			
F3: Product development is done in-line with flexible design philosophy			.578			
F3: New product development is done in close coordination with suppliers and channel partners			.495			
F4: We are fully competent to reconfigure our dealership format				.811		

F4: We have system of rewarding best performing dealership				.579		
F4: We provide specialized training to our channel partners to improve their performance				.555		
F5: We respond quickly to promotional activity launched by competitor					.823	
F5: Marketing people are fully involved in promotional activities					.557	
F5: Impact assessment of the promotional campaign is done by external agency					.506	
F6: Marketing people works in teams having cross-department participation						.835
F6: There is enough decision making power delegated to marketing people						.500
F6: We have low level of formal regulations for marketing employees						.457

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 15 Iterations

APPENDIX L: Individual factor and overall scale reliability

Factor	No of Items	Cronbach's Alpha
Factor F1 (Price)	7	0.851
Factor F2 (Customer)	5	0.828
Factor F3 (Product)	5	0.772
Factor F4 (Place)	3	0.706
Factor F5 (Promotion)	3	0.716

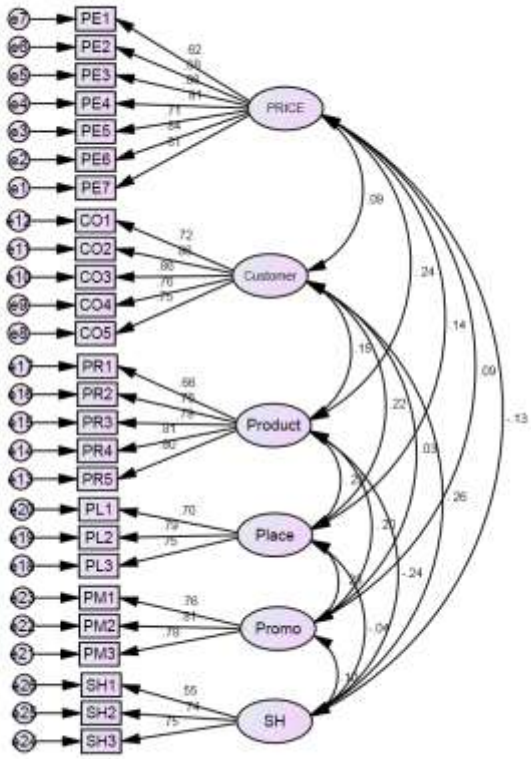
Factor F6 (Structural Hierarchy)	3	0.689
Scale Reliability	26	0.92

APPENDIX M: Model notes and structure from CFA

Notes for Model (Default model):

Computation of degrees of freedom (Default model)

Number of distinct sample moments:	351
Number of distinct parameters to be estimated:	67
Degrees of freedom (351 - 67):	284



APPENDIX N: Comparison of desired and obtained model fit indices

Assessment of goodness of fit-indices			
Absolute-Fit Indices		**Desired**	**Obtained**
	CMIN/df	≤ 2	1.7
	RMSEA	≤ 0.08	0.06
	GFI	≥ 0.9	0.924
	AGFI	≥ 0.9	0.882
Incremental-Fit indices			
	NFI	≥ 0.9	0.902
	CFI	≥ 0.9	0.924
	TLI	≥ 0.9	0.906

APPENDIX O: Average variance extracted= $\Sigma\lambda^2/n$

Average variance extracted (AVE)	
Factor	**AVE**
Factor 1 : F1(PE)	$(.62^2+.885^2+.882^2+.813^2+.708^2+.842^2+.813^2/7) = (4.41/7) = 0.63$
Factor 2 : F2(CO)	$(.724^2+.855^2+.864^2+.755^2+.748^2/5) = (3.11/5) = 0.622$
Factor 3: F3(PR)	$(.657^2+.756^2+.758^2+.808^2+.803^2/5) = (2.86/5) = 0.572$
Factor 4 :F4(PL)	$(.70^2+.79^2+.748^2/3) = (1.66/3) = 0.553$
Factor 5: F5(PM)	$(.761^2+.812^2+.775^2/3) = (1.82/3) = 0.60$
Factor 6: F6(SH)	$(.554^2+.749^2+.75^2/3) = (1.42/3) = 0.476$

APPENDIX P: Construct Reliability = CR = $(\Sigma\lambda)^2 / (\Sigma\lambda)^2 + (\Sigma e)$

Factor	**CR**
Factor 1 : F1	$(\Sigma (5.563))^2 / (\Sigma (5.563))^2 + 2.49 = 30.94/33.43 = 0.92$

Factor 2 : F2	$(\Sigma (3.946))^2 / (\Sigma (3.946))^2 + 1.84 = 15.57/17.41 = 0.89$
Factor 3: F3	$(\Sigma (3.782))^2 / (\Sigma (3.782))^2 + 2.09 = 14.30/16.39 = 0.87$
Factor 4 :F4	$(\Sigma (2.238))^2 / (\Sigma (2.238))^2 + 1.32 = 5/6.32 = 0.79$
Factor 5: F5	$(\Sigma (2.348))^2 / (\Sigma (2.348))^2 + 1.15 = 5.51/6.66 = 0.82$
Factor 6: F6	$(\Sigma (2.053))^2 / (\Sigma (2.053))^2 + 1.55 = 4.21/5.76 = 0.73$

APPENDIX Q: Inter-construct correlations and squared correlation values (shaded ones)

	PE	CO	PR	PL	PM	SH
PE	1.00	0.008	0.05	0.01	0.006	0.01
CO	0.09	1.00	0.02	0.04	0.0004	0.06
PR	0.24	0.15	1.00	0.06	0.04	0.05
PL	0.13	0.21	0.25	1.00	0.07	0.16
PM	0.08	0.02	0.20	0.28	1.00	0.008
SH	-0.12	0.26	-0.23	-0.41	0.09	1.00

APPENDIX R: Comparison of AVE (diagonal values) values with inter-construct variance (below diagonal values)

	PE	CO	PR	PL	PM	SH
PE	0.63					
CO	0.008	0.62				
PR	0.05	0.02	0.57			
PL	0.01	0.04	0.06	0.55		
PM	0.006	0.0004	0.04	0.07	0.60	
OS	0.01	0.06	0.05	0.16	0.008	0.47

Appendix S: Marketing Flexibility measurement scale**: AUTOFLEX**

S.No.	Items
1	We change the prices to accelerate the demand
2	We have multiple price points in each category of products
3	Marketing people of our organization are consulted before finalizing the price of product
4	We benchmark our prices with competitors
5	We readily adjust our model prices according to industry changes
6	We are fully capable of renewing our pricing strategy according to environment alteration
7	We follow flexible pricing policy for our entire range of products
8	We give utmost importance to customer satisfaction
9	Our products add value to the life of customers
10	Our innovations are customer driven
11	We do take care of changing customers' needs
12	Our main focus is on making relation with customers rather than sales only
13	Our new product launches has inputs from marketing people
14	We prefer product quality over its shelf life
15	We are market leader in product innovations
16	Product development is done in-line with the flexible design philosophy
17	New product development is done with the close coordination of suppliers and channel partners
18	We are fully competent to reconfigure our dealership format
19	We have the system of rewarding the best performing dealer
20	We provide specialized training to our channel partners to improve their performance
21	We respond quickly to promotional activity launched by competitor
22	Marketing people are fully involved in promotional activities
23	Impact assessment of the promotional campaign is done by external agency
24	Marketing people works in teams having cross-department participation
25	There is enough decision making power delegated to marketing people
26	We have low level of formal regulations for marketing employees

APPENDIX T:AUTOFLEX Scale Standards

S.No.	Scale Score	Level of Marketing flexibility (MF)
1	63-88	Low MF
2	89-99	Average MF
3	100-109	Good MF
4	110-123	Excellent MF

PUBLICATIONS IN JOURNALS AND CONFERENCE PROCEEDINGS

JOURNAL PUBLICATIONS

- Shalender, K. and Singh, N. (2014), "Success of Tata Nano through Marketing Flexibility: A Sap-Lap Matrices and Linkages approach", Global Journal of Flexible Systems Management, Springer Publication, DOI: 10.1007/s40171-014-0062-0.

- Shalender, K. and Singh, N. (2014), "Understanding Product Flexibility using SAP-LAP Approach", Journal of Strategic Marketing, Routledge Publications, DOI:10.1080/0965254X.2013.876065

- Shalender, K. and Singh, N. (2012), "Systemic Perspective to Marketing for aiding overall competitiveness in Dynamic Business Environment", Indian Streams Research Journal, Vol. 2 (10), 1-7.

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- Shalender, K. and Singh, N., "Marketing Flexibility: Significance & Implications for Indian automobile Industry" is currently under review in Global Journal of Flexible Systems Management, Springer Publication.

PUBLICATIONS IN PROCEEDINGS OF INTERNATIONAL CONFERENCES

- Shalender, K. and Singh, N.,"An approach towards Marketing SoS" presented at 11th (GLOGIFT 11) on "Organizational Flexibility and competitiveness" held at IIM, Kozhikode on Dec 9-12, 2011.

- Shalender, K. and Singh, N., "Flexible Marketing System and its sub-systems" in the proceedings of 12th global conference on flexible systems management (GLOGIFT 12) on "Systemic Flexibility and Business Agility" held at University of Vienna on Jul 30-Aug 1, 2012.

- Shalender, K. and Singh, N.,"Sustainable Growth through Information System (IS) Flexibility" in proceedings of International Conference on "Innovative Management Practices for Global Competitiveness" held in New Delhi on Nov 2, 2012.

- Shalender, K. and Singh, N., "Effective waste management practices for sustainability and profitability"published in proceedings of International Conference on "Creating a sustainable Business: Managerial Implication and Challenges" held in Jaipur on Dec 9-12, 2012.

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- Shalender, K. and Singh, N., "Marketing Flexibility: A key strategy for Growth"published in the proceedings of 13th global conference on flexible systems management (GLOGIFT 13) held on Dec 13-15, 2013 at Department of Management, IIT, Delhi.

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- Nath, A., Shalender, K. and Singh, N., "Effective use of value chain for community Development"published in proceedings of national seminar on "Strategic Dimension of Value chain for sustainable Development" held at Shree Mata Vaishno Devi University on Sep 1, 2012.

- Shalender, K. and Singh, N., "Enhancing service value through organizational flexibility" published in proceedings of National Seminar on "Transforming Indian Economy through Service led Growth in Global Era: Gains and Concerns" held at NIILM, CMS on Oct 12, 2012.

- Shalender, K. and Singh, N., "Systemic Marketing: Innovative and Holistic"published in proceedings of National Conference on "Innovative Strategies for transforming organizations" held at Guru Gobind Singh Indraprastha University, Delhi on Oct 19, 2012.

- Shalender, K. and Singh, N., "Flexibility for sustaining competitiveness in Dynamic Business Environment"published in proceedings of national seminar on "Rethinking management Strategies in 21st century" held on Nov 24, 2012.