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Research Article

Exploring the Strategy Modes of Military Managers

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Abstract- It is evident from the literature that the concept of strategy has been adopted from the military and well modified for use in the business world. However, despite the thousands years old military origin of strategy the previous researches focused on only business managers' perceptions on strategy. Therefore, in order to address this gap in the literature, the paper intended to identify the strategy modes among military managers. By using factor analysis the study reveals and moreover categorizes five different modes of strategy among the military managers. Practical use of the research findings, limitations, as well as future research directions are also provided.

Keywords- Managerial perception; military managers; strategy; strategy development; strategy mode.

1. Introduction

The usage of the term strategy, defined as the ways to be followed for the military units to achieve success through leadership in war and identified objectives has a long history that can be tracked back to 2500 years ago, more specifically to the writings of famous ancient Chinese military sage Sun Tzu. However, the theory of strategy has been under development as a scientific topic in management theory since its inception to the business world after World War II. The strategic management of organizations has been in the centre of attention of both academic and practical circles for the last 50 years as an area of scientific management approach, after it began to be popularized in the 1960s through the American business schools (Segal-Horn, (2004). For sure, the concept of strategy has been adopted from the military and well modified for use in the business world. The foundation of military strategies is to cause utmost damage to the enemy and to be exposed to minimal harm while achieving a certain victory. Modern business strategies, just as military ones, are based on analyses of enterprises and how they conclude their struggles with minimum loss and maximum profit. In this context, many important works have been made related to military strategies and business strategies both in theoretical and practical areas.

However, having searched the literature it has been observed that despite the military origin of strategy the previous researches focused on only perceptions of business managers' on strategy. Besides, in written strategy literature we were unable to find any research effort having focused exclusively on the subject from military managers' point of view. Therefore, in order to address the aforementioned gap in the literature, we intended to describe military perception on strategy. For that purpose, we took the strategy as perceived perspective, that is, we conceived perception on

strategy as a managerial activity and determined to focus in managers' mind and their beliefs/thoughts about strategy rather than focusing the perceptions on the practical applications of strategy. This perspective enabled us to look at managerial perceptions from a non-traditional angle which may provide a different picture of reality.

Consequently, the paper departs from "a strategy as perceived perspective" to investigate the strategy modes among military managers.

2. Methodology

The research methodology presented below details research instrumentation, data collection, analysis, and interpretation procedures followed in the research.

2.1 Research Instrument -The Survey Questionnaire

A self-administered web based on-line questionnaire was applied in the research, mainly because it was the intention to reach a widely geographically dispersed large sample. The scale used for the collection of data is titled "Approach to Strategy" and consists of 34 items. The 34 items of the scale were constructed from the premises of "Ten Schools of Thought" in strategic management (Mintzberg et al., 2008). We decided to use Mintzberg's ten schools of thought as an item pool for the questionnaire development, since it covers almost all developments in strategic management (Tsoukas and Knudsen, 2002), coalesces strategic thinking from 1960s into 10 broad schools of thought (Shekhar, 2009), and also clarifies on the most detailed level each school's specific contribution to the strategy field (Volberda and Elfring, 2008).

The 7 point Likert-type scale was used so that a respondent could choose one of the seven points for each item. For each statement, respondents had to point out the degree to which they agree or disagree with its content on a seven-point scale The scale points were anchored as 1-Strongly disagree and 7- Strongly agree in order to assist a respondent to perceive to what extent each of the items did form in his/her mind.

2.2 Sample

A purposive sampling was used to define the sample, which means that the sample was deliberately selected to sample a specific group with a specific purpose in mind (Burns and Burns, 2008). The decision to use purposive sampling was driven by the fact that no single list was available, in which all the military managers with adequate strategy knowledge/background are listed. This method enabled us to use our judgment to select cases that will best enable us to answer the research questions and to meet our research objectives (Saunders et al., 2003).

The sampling frame was composed of the 520 War College graduate military managers from different organisational and managerial levels as well as different services, functional areas, educational levels, work experiences. They all followed the International Security Strategies master degree programme in the War College and received a diploma on this strategy-orientated curriculum.

2.3 Data Collection

The survey link was sent to War College alumni communication e-mail groups of seven graduate groups (in total 520) and all members requested to participate to the survey. At the end of the first week 135 completed questionnaires were collected back. Even that number was already above the minimum adequate number of 100 for a factor analysis (Hair et al., 2006). However, in order to increase the cases in the sample one week after the first e-mailing questionnaire link was e-mailed again to all addresses this time with a 'thank you' message to early respondents and a 'reminder' message to non-respondents to answer. In order to warn the non-respondents to check their e-mails and prevent spam e-mail misunderstanding, a big part of the non-respondents contacted by telephone and requested to check their e-mail addresses and response the questionnaire. After this follow-up e-mail and personal telephone call reminders a total of 76 completed questionnaires were collected back. Following Saunders et al. (2003) the second follow-up reminder was sent to people who did not respond after three weeks. This time the reminder message was reworded to further emphasise the importance of completing the questionnaire. After the second follow-up reminder 32 completed questionnaires were received in the following two weeks. At the end of the process, 243 responses out of 520 were gathered in total. 12 questionnaires were assessed as undeliverable. Thus, this data collection process resulted in 231 usable responses in total with a 44.4 % response rate. The data were collected from February to April 2013.

2.4 Revealing the Strategy Modes – Factor Analysis

An exploratory factor analysis (Principal Component Analysis with Direct Oblimin rotation) was conducted on the data collected from the 34-item "Approach to Strategy" scale.

The statistical technique mainly suitable to determine the dimensional nature of a number of variables is factor analysis. It is a process that groups items on the basis of correlations. As described by Hair et al. (2006:235) "the main purpose of factor analysis is to find a way of condensing (summarizing) the information contained in a number of original variables into a smaller set of new composite dimensions (factors) with a minimum loss of information". This statistical technique is very appropriate for the investigation of the underlying structure of a questionnaire. Those items that refer to or share the same dimension should correlate with one another and factor analysis uses this to uncover composite variables. These composite variables are also known as "factors" and serve the substantive interpretation of data.

In this section, the procedure for factor analysis followed in this study as well as the factor analysis results of Section C (Approach to Strategy) of the questionnaire are discussed, respectively.

2.4.1 Analysis

In the first round, the 34 items on Approach to Strategy scale were intercorrelated and rotated to form a simple structure by means of the oblimin rotation. To determine which variables to keep, the factor loadings, the cross-loading of items on more than one factor, and the reliability and importance of a variable were taken into consideration before deleting certain items. In the analysis, lowest factor loading to be considered significant is ±0.40 (Gorsuch, 1983; Stevens, 1992). For the purposes of the factor analysis, items did not have a Cronbach's Alpha coefficient of at least ±0.40 were excluded. Once the weak items have been removed, the data should be factored again without the presence of that item for a more refined solution (Field, 2000; Williams et al., 2010; Beavers et al., 2013). After excluding 12 items according to abovementioned criteria, another factor analysis was performed.

All the values in the correlation matrix had at least one correlation with another variable greater than the 0.3 ($r>0.3$) and there is no correlation between any variables greater than the 0.8 ($r<0.8$). The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was 0.788. Since this value was more than the recommended minimum of 0.5, it was indicating that the data was factorable in "middling" level (Kaiser, 1974). Bartlett's test of sphericity gave the value of approximate $\chi 2$ (Chi-square) as 2002,682 with 231 degrees of freedom. Bartlett's test rejected the hypothesis (at $p<0.05$) that the correlation matrix is an identity matrix, without significant correlations between variables. Since the p-value was less than 0.05, the approximate $\chi 2$ was considered as significant. This result also indicated that the data was suitable for factor extraction. Therefore, both diagnostic tests confirmed that the data were suitable for factor analysis.

As it can be seen in Table 1 five factors were found to have eigenvalues greater than 1.0, which is a common criterion for a factor to be useful. These five factors explain 61.182 % of the total variance, which is greater than the acceptable level of 50% (Field, 2000; Beavers et al., 2013).

Table 1. Eigenvalues and total variance explained

Total Variance Explained							
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4,718	21,446	21,446	4,718	21,446	21,446	3,949
2	3,666	16,663	38,109	3,666	16,663	38,109	3,459
3	2,174	9,88	47,989	2,174	9,88	47,989	2,979
4	1,755	7,978	55,967	1,755	7,978	55,967	2,302
5	1,147	5,214	61,182	1,147	5,214	61,182	2,376
6	0,924	4,201	65,382				
7	0,868	3,944	69,326				
8	0,743	3,378	72,704				
9	0,658	2,992	75,696				
10	0,641	2,915	78,611				
11	0,611	2,776	81,387				
12	0,557	2,533	83,92				
13	0,526	2,392	86,312				
14	0,503	2,288	88,6				
15	0,433	1,969	90,569				
16	0,426	1,937	92,506				
17	0,361	1,64	94,147				
18	0,304	1,381	95,527				
19	0,288	1,311	96,838				
20	0,282	1,282	98,12				
21	0,223	1,015	99,136				
22	0,19	0,864	100				

Extraction Method: Principal Component Analysis.

Visual examination of the scree plot (Figure 1) obtained in the Cattell's Scree test also showed that five factors are located above the elbow of the curve and supported a five-factor solution. Therefore, five factors were extracted.

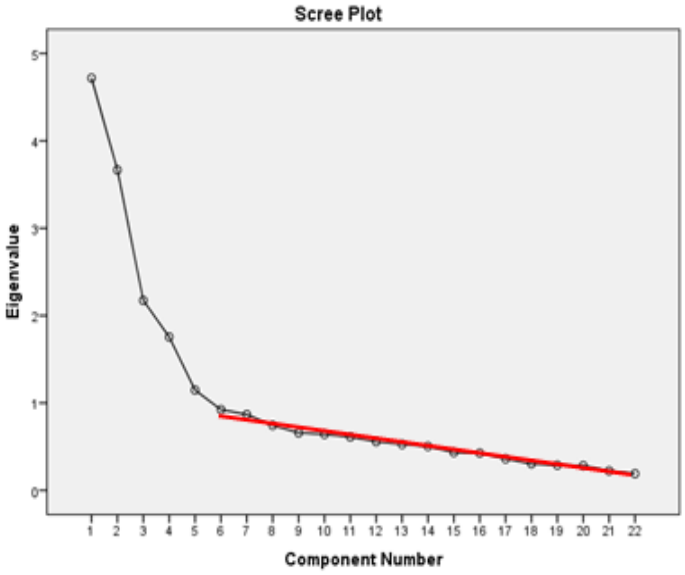

Fig. 1. The scree plot.

2.4.2 Naming the Factors

The factor loadings were examined and interpreted in order to obtain a simple structure of factors. The factor analysis finally resulted in the identification of five meaningful factors based on the Cronbach's alpha coefficient scores. The variables (item statements) that clustered under each of the five factors are shown in pattern matrix in Appendix 1. Factor 1 has six variables, Factor 2 has five variables, Factor 3 has five variables, Factor 4 has three variables, and finally Factor 5 has three variables with significant loadings. The Cronbach's alpha values for the factors are 0.808, 0.827, 0.724, 0.625, and 0.591 respectively. Taking into consideration the rules of thumb provided in the literature 50 (Kaiser, 1974; Caplan et al., 1984; Robinson et al., 1991; Nunnally, 1979), we retained the Factor5, whose Cronbach alpha value is 0.591. However, this factor was defined as "factor with a marginal internal reliability" (Bailey et al., 2000; Collier et al., 2004).

In summary, the overall Cronbach alpha coefficients indicated that the factors were reliable in relation to internal consistency, meaning that the variables in a factor would measure the same concept. Rotated Factor Loadings are presented in Appendix 1.

Factor 1 reasonably appeared including items related to deliberate, formal and conscious nature of strategy development process. Since the underlying concept in these variables was recognised as planning related, this factor was named as "Planning".

Factor 2 included items stressing the importance of leadership and learning from the past decisions in strategy development process. Therefore, "Experience Based Leadership" seemed as an appropriate title, which denotes the perceptions of respondents tested with the related items.

The variables gathered under Factor 3 were found to refer to importance of the participation in strategy development process, and it was decided to name the factor as "Participation".

The clustering of variables under Factor 4 suggested a general emphasis on competitive environment and external forces, therefore underlying theme and the name seemed to be "External Environment".

Finally, the item statements or variables grouped under Factor 5 were found to relate to learning from past decisions and experiences, therefore, the factors were given the name of the underlying concept, which is the "Learning".

The final factors and related items based on the factor analysis results are presented in Appendix 1.

2.4.3 Interpretation

Factor analysis suggested a five-factor solution was appropriate for the sample (i.e., eigenvalues > 1). A number of conclusions can be drawn from the results of the empirical study relating to the mode of strategy among military managers.

The factor analysis not only proved the construct validity and the reliability of the survey instrument, but also specified the critical constructs or themes arising from the questionnaire based on the responses. It is important to note that the factors are weakly correlated. This shows that the factors are independent. Each factor therefore describes a distinct theme within the construct of mode. Factors also proved to have satisfactory Cronbach's Alpha coefficients which prove reliability. Together the five factors explain the construct of strategy modes among military managers. To help interpret the factors obtained from the samples, we sought help from the works of some leading scholars explaining different modes of strategy development and implementation. Therefore the characteristics of these

five modes, and cited studies examining each of the modes are summarized below.

Mode 1: Planning. The Planning mode suggests that the strategy mode is an intentional process involving a logical, sequential, analytic and deliberate set of procedures. The organization and its environment are systematically analysed (e.g. SWOT model). Strategic options are generated and systematically evaluated. Based on this assessment, the option is chosen that is judged to maximize the value of outcomes in relation to organizational goals. The selected option is subsequently detailed in the form of precise implementation plans, and systems for monitoring and controlling the strategy are determined (Mintzberg et al., 1998; Bailey et al., 2000). In a nutshell, in this mode strategy driven by formal structure and planning systems. Usually, this process is institutionalized through a formal strategic planning; involving written strategic and operating plans based on a systematic process (Hart, 1992). This strategy mode has been conceptualized by the models of leading scholars, such as Design and Planning (Mintzberg et al., 1998), Linear Strategy (Chaffe, 1985), Systematic (Ansoff, 1987), Rational (Hart, 1992), Classical (Whittington, 1993), Rational Planning (Idenburg, 1993), Planning and Practice (McKiernan, 1996), Design and Planning (Mintzberg et al., 1998), Planning (Bailey et al., 2000; Haberberg and Rieple, 2001), and Planners (Parnell and Lester, 2003).

Mode 2: Experience Based Leadership. This mode stresses both the importance of leadership and learning from the experiences in strategy development process. The leadership dimension of that mode emphasizes the importance of a clear vision of the future, probably promoted by a single-minded or even obsessional leader. The process of strategy development is semi-conscious at best and that strategy exists in the mind of the leader, but with the effect of the past decisions and experiences, which forms the learning dimension of this mode (Mintzberg et al., 1998). In a nutshell, this strategy mode suggests a leadership style with willingness to learn from feedback.

Mode 3: Participation. The essence of the Participation mode is strategy making based on interaction and collaboration rather than the execution of a predetermined plan. In that mode, strategy is perceived as a group dynamic and accordingly driven by internal process and mutual adjustment, and developed based upon an ongoing dialogue with key stake holders such as employees, suppliers, customers, governments, and regulators. Cross-functional communication among organisational members is central to this mode (Hart, 1992). The Participation mode has been theorised by different scholars as Collaborative (Bourgeois and Brodwin, 1984), Interpretive (Chaffe, 1985), Transactive (Hart, 1992), Power and Cultural (Mintzberg et al., 1998), Participants (Parnell and Lester, 2003), Internal Politics (Collier et al., 2004) forms of strategy development in the extant literature.

Mode 4: External Environment. Factors in the external environment encourage the adoption of organizational choice structures and activities which best fit that environment. These external constraints may take the form of regulative coercion, competitive or economic pressures or normative pressures as to what constitutes legitimate organizational action. These pressures limit the role of organizational members playing in the choice of strategy. So the strategies an organization can follow tend to be common to organizations within their industrial sector or organizational field; with changes coming about through variations in organizations' processes and systems which may occur unintentionally or through imperfect imitation of successful structures, systems or processes (Bailey et al., 2000). This mode was also identified by other important studies in the existing literature as Interpretive (Chaffe, 1985), Systemic (Whittington, 1993), Positioning (McKiernan, 1996; Mintzberg et al., 1998), Ecological (Haberberg and Rieple, 2001).

Mode 5: Learning. The Learning mode takes the view that the complex and unpredictable nature of the environment prevents deliberate control so that strategy must take the form of learning, which only occurs as a result of action. The learning mode thus recognizes the importance of emerging as opposed to deliberate strategy. Strategy formation cannot therefore be neatly separated from strategy implementation. The results of an effective strategy may be an adaptive organization as much as it is a plan of action (Mintzberg et al., 1998; Macmillan and Tampoe, 2000). In that mode, an iterative approach based on feedback and learning is at in the centre of strategy development. Pattern (Mintzberg, 1987), Transactive (Hart, 1992), Guided Learning (Idenburg, 1993), Learning (McKiernan, 1996; Mintzberg et al., 1998) are some principal strategy making forms defined by leading scholars in the extant literature.

3. Conclusion

3.1 Practical Use of the Research Findings

Even though the main focus of this paper is "what is perceived by strategy?" (Strategy as perceived) aspect, we believe that the findings can still make immense useful practical contributions to military organisations.

Taking all findings into account we consider the paper has proved that the use of such kind of perception research can be used as a tool to investigate the strategy modes of military managers. Organizations need to analyse their subcultures and varying perceptions (Keeton and Mengistu, 1992). The results have revealed five different aspects relating to military understanding of strategy. Through this we believe we have found that it is important to investigate how an organisation's strategy (corporate strategy) is developed. Therefore, we think it is important to understand the strategy mode among the personnel at the very beginning of strategy development as well as implementation processes in the organisations. We would therefore like to suggest that military organisations themselves can use this methodology to develop an understanding of their own staff's strategy perceptions and modes, and act accordingly.

3.2 Limitations of the Research

As with all the research studies, this study also has its limitations. Despite the fact that the research was conducted in the best manner possible, with due consideration to the ideal research design and methodology to address the appropriate research objectives, certain limitations must be noted.

3.2.1 Geographical and cultural context

The strategy perceptions were investigated samples from the same geographical and cultural context. Therefore, this geographical as well as cultural context of the research could restrict the generalizability of the findings for other contexts. However, country-specific research in this regard was the only possible option for the researcher taking into consideration of some limitations in terms of access to information and time as well as resources constraints.

3.2.2 Sample selection

Another limitation is generalizability of the research findings. The sample frame for the research was composed of the 520 War College graduate military managers from different organisational and managerial levels as well as different services, functional areas, educational levels, work experiences. For that reason, any generalisations regarding military managers that are made in the thesis are limited to sample utilized for this research.

3.3 Suggestions for Future Research

The paper has provided beneficial insights about military managers' perceptions on strategy. However, this topic was clearly underexplored and obviously our research effort was not able to cover all aspects of it and come up with all the necessary answers required. Therefore, we consider that the results obtained are just a point of departure to initiate future research on the topic. Researchers are encouraged to improve on the abovementioned limitations of the paper. Accordingly, we raise some suggestions that we believe appropriate to advance the topic further. Principally, similar studies can be conducted in other countries to further confirm the research findings and the scale used in the survey questionnaire can be improved by adding some other premises or aspects from other leading scholars' models for strategy.

Therefore, by exploring the new advices mentioned above, the usefulness of the paper can be extended further. We hope that these suggestions will contribute to the advancement of research in this area.

APPENDICES

Appendix 1: Factors and Related Items

Appendix 2: Rotated Factor Loadings

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Appendix 1 : Factors and Related Items

Planning (21.5 %)	• Strategies should be developed after careful deliberation. • Strategy formation is a product of not a single architect but of a homogenous strategy team. • Strategy should be deliberate and responsible for consciousness. • Strategy should result from a controlled, conscious process of formal planning. • Strategy should be formulated by specialists. • Strategies should be simple, explicit, and fully formulated.
Experience Based Leadership (16.6 %)	• Personalized leadership based on strategic vision is the key to successful strategies. • The role played by managerial values is the most important in the process of strategy making. • The vision of the leader has the main effect to strategy. • The pattern in past decisions has the main role in strategy. • Strategies are generic, specifically common, identifiable positions in the competitive environment.
Participation (9.9%)	• Strategy should be generated through wide participation process. • High degree of participation and empowerment should be prevalent in strategy formation process. • Strategy should be developed through a process of bargaining and negotiation between groups or individuals. • Primarily autonomous or individual behaviour should be preferred in strategy development. (-) • The top management should determine the strategy. (-)
External Environment (8%)	• Structure of the competitive environment derives strategies. • The environment as a set of external forces is the central actor for strategy. • Strategies should be unique for every organization.
Learning (5.2%)	• Strategy emerges of actions from the pattern in past decisions. • Strategies should tend to emerge as the organization learns from its experiences. • Strategy is not a formulation, instead it emerges out over a period of time as a pattern based on trial and error.

Appendix 2 : Rotated Factor Loadings

Pattern Matrix[a]

	Component				
	1	2	3	4	5
Strategies should be developed after careful deliberation.	**,818**	,033	-,008	-,018	-,070
Strategy formation is a product of not a single architect but of a homogenous strategy team.	**,735**	-,007	,286	-,158	,002
Strategy should be deliberate and responsible for consciousness.	**,730**	,109	,151	-,072	-,076
Strategy should result from a controlled, conscious process of formal planning.	**,708**	-,001	-,108	,204	-,106
Strategy should be formulated by specialists.	**,682**	,021	,073	,025	-,087
Strategies should be simple, explicit, and fully formulated.	**,500**	-,177	-,106	,338	,179
Personalized leadership based on strategic vision is the key to successful strategies.	-,045	**,856**	-,021	,007	-,213
The role played by managerial values is the most important in the process of strategy making.	,106	**,787**	-,097	-,087	,005
The vision of the leader has the main effect to strategy.	,125	**,752**	-,229	-,029	,048
The pattern in past decisions has the main role in strategy.	-,156	**,748**	,151	,235	,159
Strategies are generic, specifically common, identifiable positions in the competitive environment.	,042	**,591**	,108	-,201	,265
Strategy should be generated through wide participation process.	,131	,037	**,823**	,077	-,030
High degree of participation and empowerment should be prevalent in strategy formation process.	,285	-,045	**,711**	,064	,102
Strategy should be developed through a process of bargaining and negotiation between groups or individuals.	,029	-,004	**,669**	,101	,273
Primarily autonomous or individual behaviour should be preferred in strategy development.	-,080	-,035	**-,584**	-,096	,367
The top management should determine the strategy.	,250	,351	**-,542**	,132	,174
Structure of the competitive environment derives strategies.	,019	,183	,073	**,799**	-,094
The environment as a set of external forces is the central actor for strategy.	,092	,047	,206	**,732**	,068
Strategies should be unique for every organization.	-,027	-,294	-,042	**,632**	-,089
Strategy emerges of actions from the pattern in past decisions.	-,035	-,016	,055	-,142	**,782**
Strategies should tend to emerge as the organization learns from its experiences.	,000	,131	,015	-,046	**,733**
Strategy is not a formulation, instead it emerges out over a period of time as a pattern based on trial and error.	-,276	-,011	-,038	,178	**,591**

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.[a]

a. Rotation converged in 14 iterations.

* Negative loadings on the Factor 3 are an artefact of using an oblique rotation. Note that the negative loadings still explain the same concept.