Role of decision making style and innovativeness in Indian entrepreneurial firms

Yesha Seth Dua

International Management Institute,
B-10 Qutab Institutional Area,
New Delhi-110016, India
Email: yeshaapril@gmail.com

Abstract: The paper studies the effect of perceived decision making style and organisational innovativeness in Indian entrepreneurial firms. Studies in the past have focused only on the relation between the two constructs briefly. However, in the Indian context research is still scarce. The study used the questionnaire method to understand the relation between constructs. Perceived top management team has a positive relation with innovativeness in entrepreneurial firms. The study widens its scope by including the third construct perceived top management decision making style, in order to test the relation and its effect. The study findings indicated that perceived top management team vision and perceived top management team decision making style had a significant positive relation. Perceived decision making style acts as a moderator variable between perceived top management team (TMT) vision and organisational innovativeness.

Keywords: vision; decision making style; DMS; innovativeness; moderator variable.

Reference to this paper should be made as follows: Dua, Y.S. (2018) 'Role of decision making style and innovativeness in Indian entrepreneurial firms', *Int. J. Research, Innovation and Commercialisation*, Vol. 2, No. 1, pp.1–19.

Biographical notes: Yesha Seth Dua is a Research Scholar at the International Management Institute, New Delhi. Previously, she was a Lecturer at HR College of Commerce and Economics, Mumbai, India.

1 Introduction

The conception of innovation has evolved rather drastically over the last 40 years. During the 1950s innovation was considered as a discrete event resulting from knowledge developed by isolated inventors and isolated researchers. Nowadays, innovation is rather considered as the result of a process whose success rests upon the interactions and exchanges of knowledge involving a large diversity of actors in situations of interdependence.

For more than half a century, research and development (R&D) has been closely associated with technological innovation (Miller and Morris, 1999). Invention is the narrowest definition of innovation. An ever-increasing turbulence of the environment, the capacity to be innovative has been underlined as one of the most important factors for the

organisation survival and growth. Increased knowledge intensity in many industries suggests that the future competitive position of companies is increasingly determined by their innovative capacity (Badaracco, 1991; Clark and Fujimoto, 1991) as cited by Zahra and George (2002).

A key component in the success of any firm is the extent of their innovativeness. Innovativeness relates to the firm's capacity to engage in innovation, that is, the introduction of new processes, products, or ideas in the organisation. Innovativeness is one of the factors over which the management has considerable control.

Studies in the past have examined the association between levels of innovativeness and organisational factors, with the underlying assumption that organisational innovativeness is facilitated and influenced by organisational characteristics such as size, degree of centralisation, degree of formalisation, resource slack, degree of specialisation etc. (Kim, 1980; Kimberly, 1981).

This paper focuses on two important concepts in relation to innovativeness in India entrepreneurial firms, perceived top management team (TMT) vision and perceived TMT decision making style (DMS).

Structure of the paper first, the literature review of the important constructs under study, secondly, objectives of the study, thirdly, the methodology used, fourthly, the study analysis and findings. Fifth, the study conclusion and future research direction.

1.1 TMT vision

Vision represents a leader's idealised goal that is shared with followers. Vision is central to the concept of charismatic leadership; some researchers have inextricably linked the two by using charismatic and visionary leadership synonymously (House and Shamir, 1993). Research in the past have done a lot of work on the relationship between charismatic and non-charismatic leaders at various levels of an organisation provide followers with statements about future goals and requisite actions needed to attain those goals (Collins and Porras, 1994; Mintzberg, 1994).

Studies in the past have established strong connect between vision, vision content and various leadership styles. House and Shamir (1993) link vision and charismatic leadership aspect. According to them, vision represents a leader's idealised goal that is shared with the followers. Vision is central to the concept of charismatic leadership; some researchers have inextricably linked the two by using charismatic and visionary leadership synonymously. The literature further investigates the relationship and suggests that charismatic/transformational leadership appears to take vision as an important component of leadership that motivates people at higher levels of effort and performance.

Studies in the past focused on assessing, the links between visionary statements or short vision or mission statements with other variables like charismatic and transformational leadership (Baum et al., 1998; Larwood et al., 1995). Bennis and Nanus (1985) and Devanna and Tichy (1990) examined the visions of exemplary, transformal leaders; they concluded that the content of their visions was highly inspirational, optimistic and future oriented.

Conger and Kanungo (1998), Hunt (1991), Kotter (1990) and Zaleznik (1977) made a distinction between how transactional leaders/managers vs. transformational articulate the future direction they want followers to pursue. Conger and Kanungo (1998) defined vision as "a set of idealised goals established by the leader that represents a perspective shared by followers" (p.156). Berson and his colleagues (2001) defined a vision

statement as an inspirational message to followers that expresses optimism about the future, confidence in achieving positive future challenges and opportunities, while highlighting the intrinsic needs that can be met ad connecting this all to the core values of the organisation.

According to Baum et al. (1998) visions also clarify a set of ideals articulate a sense of purpose, and highlight the uniqueness of an organisation. 'Strong' visions have been described as inspiring, and such visions have been associated with higher organisational performance.

Devanna and Tichy (1990) described visions as optimistic, motivating and energising followers to take on difficult challenges. According to Nanus (1992) vision should inspire enthusiasm and encourage commitment and identification to 'the cause'. Nutt and Backoff (1995) argued that visions should emphasise optimism, confidence, and future orientation. Kouzes and Posner (1987) defined it as "an ideal and unique image of the future". Bryman (1993) defined it as 'desirable visions draw on organisational values and culture in helping to direct and boost the impact of the vision on an organisation (as cited by Baum et al., 1998).

In the entrepreneurship and business strategy literatures, the importance of vision and its effects on organisation level performance also has been stressed in theoretical discussions (Bird, 1992; Filion, 1988; Isenberg, 1987; Maccoby, 1981; Mendall and Gerguoy, 1984; Peters, 1988; Slater, 1993; Timmons et al., 1990).

Filion used interviews with entrepreneurs and determined that vision process depended on the entrepreneur's values and energy. Case studies by Westley and Mintzberg (1989) and by Kotter (1997) suggest that vision is important for strategic change in mature organisation. Theory and research conducted in the entrepreneurship and business strategy literatures have found that vision may have an effect on organisation outcomes. Emotional intelligence may contribute to leaders developing a compelling vision for their groups or organisation. First, leaders may use their emotions to enhance their information processing of the challenges, threats, issues, and opportunities facing their organisation. Leaders are often faced with a large amount of information characterised by uncertainty and ambiguity; out of this information, they need to chart a course for their groups or organisation.

Isen et al. (1987) linked positive moods to creativity and suggested that when leaders are in positive moods they may be more creative, and hence, more likely to come up with a compelling vision. Isen et al. (1985) researched and came to a conclusion that creating a compelling vision for an organisation can be an exercise in creativity positive thinking and flexibility and such and exercise will be facilitated by positive moods (Amabile et al., 2005).

Gardner and Avolio (1998) studied that leader who is high on emotional intelligence may act on emotional knowledge, which suggests that followers are more likely to experience positive emotions and be supportive of the leader's goals and objectives when the leader expresses confidence in followers and serves to elevate their levels of self-efficacy. Leaders high on emotional intelligence will be better able to take advantage of and use their positive moods and emotions to envision major improvements in their organisations' functioning.

Importantly, leaders need not only to come up with a compelling vision, but also to effectively communicate it throughout the organisation in such a way that it does come to be shared and is 'collective'. George (2000) pointed out the need for meaningful

quantitative investigation should take place in both field and laboratory settings and according to him it seems worthy of future empirical research and theorising.

The present research therefore, is an attempt to understand the relation between TMT's vision and their DMS and in turn the overall organisational innovativeness.

1.2 TMT DMS

Strategic decisions are among the main means through which management choice is actually affected. Specifically, it focuses on SDs of an investment nature. These are decisions leading to significant commitment of resources, with significant impact on the firm as a whole and on its long-term performance (March and March, 1988). It has been argued that the way managers categorise and label a decision in the early stages of the Decision Making Process strongly influences the organisation's subsequent responses (Dutton and Ashford, 1993; Fredrickson, 1985; Mintzberg et al., 1976).

Fredrickson (1985) found that when decisions were interpreted as threats as opposed to opportunities the DMP followed was characterised by greater comprehensiveness. Understanding, however of the impact of decision-specific characteristics on organisational decision making processes is still quite limited (Papadakis and Lioukas, 1996; Rajagopalan et al., 1993).

According to Goleman (1998) there is a connection between emotional intelligence and decision making. According to them Emotional Intelligence is a combination of competencies. These skills contribute to a person's ability to manage and monitor his or her own emotions to correctly gauge the emotional states of others and to influence opinions. Emotional intelligence enhances management skills. It is a set of abilities, which can assist managers in several critical ways:

1 flexible planning

2 balancing thoughts and feelings

3 motivation

4 decision- making.

Research in the past supports the view that emotionally intelligent managers make better decisions by:

1 using emotions to improve thinking

2 see things clearly even when feelings are overpowering

3 do not react out of anger

4 make good decisions even when angry

5 team effectiveness

6 creative thinking

7 social effectiveness (Chauhan and Chauhan, 2007).

Emotions cannot be separated from human decisions and actions and they also can be quite productive. On the other hand, emotions, when biased can be sources of decision errors. Decision making is an important managerial function. In decision making while

quality is of paramount importance, it cannot be denied that the best of decisions cannot have the desired impact if it is not acceptable to the people who are to implement the decision or who are affected by the decision.

Thus, it is quite clear that managers should try to balance between rationality (quality) and emotions (acceptability) for effective decision making. Effective decision making is likely to lead to managerial effectiveness.

According to George and Brief (1996) emotional intelligence does not only entail being aware of one's own emotions, but also using these emotions in functional ways. First, emotions can be useful in terms of directing attention to pressing concerns and signalling what should be the focus of attention.

Damasio (1994) said emotions can be used in choosing among options and making decisions, being able to anticipate how one would feel if certain events took place can help decision makers choose among multiple options. Emotions can be used to facilitate certain kinds of cognitive processes. Positive moods can facilitate creativity, integrative thinking, and inductive reasoning, and negative moods can facilitate attention to detail detection of errors and problems, and careful information processing (Isen et al., 1985; Mayer and Salovey, 1993; Sinclair and Mark, 1992).

Upper Echelons Theory posits that "organisational outcomes-both strategies and effectiveness-are … Reflections of the values and cognitive bases of powerful actors in the organisation" [Hambrick and Mason, (1984), p.193].

When leaders know and manage their emotions, they may be able to use them to improve their decision making. First, they can use them as signals to direct their attention to pressing concerns in need of immediate attention, given the many demands they face (Easterbrook, 1959; Frijda, 1988; Simon, 1982). Use of emotions enhances cognitive processes and decision making (George, 2000).

Strategic decisions have important consequences for organisational performance and are often the result of the involvement of actors both from inside as well as outside the organisation (Hickson, 1986; McKenzie et al., 2009).

In order to develop an assessment of the decision situation, central decision makers gather most of their information through social ties in the direct environment, which constitute their social capital (Jansen et al., 2011).

The implication for central decision makers is that their assessment of the decision situation depends largely on who they are connected to and interact with during the strategic decision- making process (Harrison and Pelletier, 1998).

Due to their limited resources and smaller size of strategic planning staff compared to large organisations (Liberman-Yaconi et al., 2010), decision makers in small and medium sized enterprises (SME's) rely heavily on their social ties. The effectiveness of strategic decisions is therefore dependent on the information inputs that come through the social capital of central decision makers.

The internal and external connections increase, the availability of decision relevant information, which ultimately leads to a more informed judgment on the decision situation. When information, which is provided through these connections, is interpreted correctly and drives decision makers to more accurately assess the decision situation, decisions will be enhanced and decision effectiveness will be positively affected (Harrison and Pelletier, 1998). Literature in the past supports the view; more the social capital higher is the decision effectiveness.

Therefore, studies in the past have established strong links between TMT vision and TMT DMS it hence paves a way for the future investigation to be made. The study makes a contribution to this end of investigating the relation of perceived vision of TMT on their DMS in Indian entrepreneurial firms and its effect on organisational innovativeness.

1.3 Organisational innovativeness

Innovations can be radical and incremental. Radical innovations refer to path-breaking discontinuous, revolutionary, original, pioneering, basic or major innovations (Green et al., 1995).

Incremental innovations are small improvements made to enhance and extend the established processes, products, and services.

Innovation has been studied in a variety of contexts in relation to technology, commerce, social systems, economic development, and policy construction.

Amabile et al. (1996) proposed "All innovation begins with creative ideas (…)." In this view, creativity by individuals is a starting point for innovation; the first is necessary but not sufficient condition for the second. From various researches, Wang and Ahmed (2004) identified five main areas that determine an organisation's overall innovativeness, the product innovativeness, market innovativeness, process innovativeness, behavioural innovativeness, and strategic innovativeness.

Table 1 Dimensions of organisational innovativeness

Author	*Product*	*Market*	*Process*	*Behaviour*	*Strategic*
Schumpeter (1934)	✓	✓	✓		
Miller and Friesen (1983)	✓		✓	✓	✓
Capon et al. (1992)		✓			✓
Avlonitis et al. (1994)	✓		✓	✓	✓
Subramanian and Nilakanta (1996)			✓		
Hurley and Hult (1998)				✓	
Rainey (1999)				✓	✓
Lyon et al. (2000)	✓		✓		
North and Smallbone (2000)	✓	✓	✓	✓	

Source: Wang and Ahmed (2004)

Tushman and Nadler suggested that:

> "In today's business environment, there is no executive task more vital and demanding that that of sustained management of innovation and change … to compete in this ever changing environment, companies must create new products, services, and processes; to dominate, they must adopt innovation as a way of corporate life." (p.74, cited by Avlonitis et al., 1994)

The overall organisational innovativeness will be measured using the scale established by Wang and Ahmed (2004). The scale measures the five component factors of organisational innovativeness, such as product innovativeness, market innovativeness, process innovativeness, behavioural innovativeness, strategic innovativeness.

1.4 Product innovativeness

There is a propensity in the literature to incorporate various other perspectives of innovativeness in product innovativeness. For example, Danneels and Kleinschmidt (2001) incorporate two perspectives of product innovativeness: customers' perspective and firms' perspective. We define product innovativeness as the novelty and meaningfulness of new products introduced to the market at a timely fashion.

1.5 Market innovativeness

Market innovativeness is highly connected to product innovativeness, and often studied as product-market innovativeness (Schumpeter, 1934; Cooper, 1973; Miller, 1983). As a component factor separate from product innovativeness, we refer to market innovativeness as the newness of approaches that companies adopt to enter and exploit the targeted market. Although they are treated as salient factors, product and market innovativeness are inevitably inter-twined.

1.6 Process innovativeness

Researchers like Kitchell (1997) and Avlonitis et al. (1994) have defined process innovativeness as a sub-element of technological innovativeness. In the view of Wang and Ahmed (2004), technological innovativeness is embedded in either product innovativeness that embodies the unique, novel technological content in the new products, or process innovativeness that exploits new equipment's of technological advancement. Process innovativeness, captures the introduction of new production methods, new management approaches, and new technology that can be used to improve production and management processes.

1.7 Behavioural innovativeness

Behavioural innovativeness can be present at different levels: individuals, teams and management. The behavioural dimension should reflect the "sustained behavioural change" of the organisation towards innovations, i.e., behavioural commitment (Avlonitis et al., 1994). Behavioural innovativeness demonstrated by the individuals, teams and management of an organisation is an embodiment of its innovative culture. Innovative culture is the overall internal receptivity to new ideas and innovation. Innovative culture serves as a catalyst of innovations, while lack of it acts as blocker of innovations (Wang and Ahmed, 1994).

1.8 Strategic innovativeness

Strategic innovativeness is about "a fundamental re conceptualisation of what the business is all about that, in turn, leads to a dramatically different way of playing the game is an existing business" (Markides, 1998, as cited by Wang and Ahmed, 2004).

To measure strategic innovativeness we define it as "an organisation's ability to manage ambitious organisational objectives, and identify a mismatch of these ambitions and existing resources in order to stretch or leverage limited resources creatively". For

the purpose of the paper, we have regarded only product and market innovativeness, as the concepts are inter-twined.

1.9 Objectives of the study

The purpose of the paper is to study firstly, the relationship between perceived TMT vision and perceived TMT oganisational innovativeness, secondly, to study the relationship between perceived TMT vision and perceived TMT DMS, thirdly, to study the relationship between perceived TMT vision and perceived TMT DMS and organisational innovativeness.

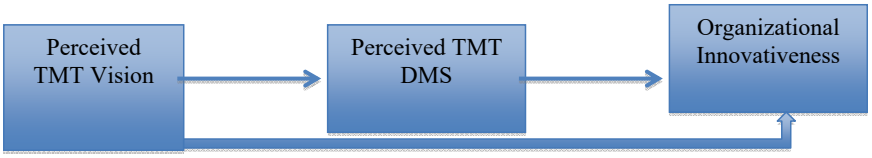
The objectives of the study are as follows:

1 To study the relationship of perceived TMT vision and innovativeness in selected Indian entrepreneurial firms.

2 To study the relationship of perceived TMT vision and perceived TMT DMS.

3 To study the relationship of perceived TMT vision and perceived TMT DMS and organisational innovativeness.

Figure 1 Conceptual model (see online version for colours)



Source: Author's own findings based on literature review

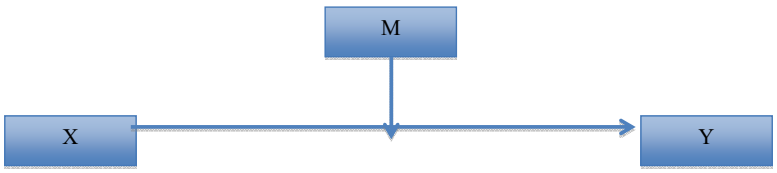
2 Methodology

The research is an exploratory research, which will help in gaining a better understanding of the concept. The sample for the unit will be based on the number of employees in the TMT of selected Indian entrepreneurial firms. A mix of selected four Indian entrepreneurial firms will be chosen across manufacturing sector. The sample size of 20–30 executives from each firm comprising of the entrepreneur and the executives, the respective function heads of (general management, finance/accounting, marketing/sales, production/operations/supply management, engineering/R&D and administration) top executives of the firms will be interviewed; keeping in mind the uniqueness of each entrepreneurial firm and each firm are regarded as an individual case study.

The sample for the study consists of selected four Indian entrepreneurial firms in the manufacturing sector. These are medium sized Indian entrepreneurial firms, where the promoter-owners are still managing the day-to-day functions and are active participants in the decision making of the firm. The total sample size is 150 (senior employees of entrepreneurial firms). For the purpose of data collection questionnaires were used. The questionnaires were based on Likert scale. In order to test the existing research gap in the field of entrepreneurship and in order to test specific relationship the study used 'purposive sampling technique'.

Moderation occurs when the relationship between two variables depends on a third variable. The third variable is referred to as the moderator variable.

Figure 2 Moderation relationships (see online version for colours)



In Figure 2 the X is the independent variable, Y is the dependent variable, M is the moderator variable.

3 Analysis and findings

For the purpose of analysis, the variables are discussed with the help of definitions.

3.1 Vision

Vision is defined as an ideal that represent or reflects the shared values to which the organisation should aspire (House and Shamir, 1993). For the purpose of the study we have used the scale by House and Shamir (1993). The scale is based on six-point Likert scale (6 = strongly agree; 1 = strongly disagree).

Vision was made of vision in terms of duration (long term and short term), vision based on opportunity, collective vision.

3.2 Decision making style

DMS is defined as 'a recurring set of characteristics that are associated with the decisional process of the firm' (Albaum et al., 1995). For the purpose of the study we have used the scale by Albaum et al. (1995). The scale is based on five-point Likert scale, (4 = Always, 0 = not at all).

DMS consisted of intuitive decision making, consultative/collective decision making, decision making through data thoroughness, decision making through market orientation.

3.3 Organisational innovativeness

Organisational innovativeness is defined as "an organisation's overall innovative capability of introducing new products to the market or opening up new markets through combining strategic orientation with innovative behaviour and process" (Wang and Ahmed, 2004).

Organisational Innovativeness was measured by scale from Wang and Ahmed (2004). It was a seven-point Likert scale. The scale range was 1 to 7. 1 = strongly disagree, 7 = strongly agree. The scale had two sub scales measuring product innovativeness and Market Innovativeness. This measure was used to perceive the organisational

innovativeness of these selected firms, perceived from the Middle and lower level managers of the firms.

3.4 Descriptive statistics

The gender distribution of the sample was 62% males, 37% females. The age distribution was 16% of the sample was less than 30 years, 22% was between 30–35 years, 39% was between 35–40 years, and 21% was more than 40 years. The education distribution was 16% was Class XII, 65% was graduate, and 18% was postgraduate. The work experience distribution was less than 5 years was 17%, between 5 to 10 years was 38%, 10–15 years was 41% and more than 15 years was 14%.

Table 2 Descriptive statistics

Type of classification	*Category*	*Number of respondents*	*Percentage in sample*
Age	Less than 30 years	25	16
	30–35 years	34	22
	35–40 years	59	39
	More than 40 years	32	21
Education	Class XII	24	16
	Graduate	98	65
	Post graduate/professional degree	28	18
Gender	Male	94	62
	Female	56	37
Work Experience	Less than 5 years	26	17
	5–10 years	57	38
	10–15 years	62	41
	More than 15 years	21	14
Sample size (N)		150	

Table 3 Cronbach's alpha

Scale	*Cronbach's alpha*	*Mean*	*SD*
Vision	.729	29.37	3.94
Decision making style	.873	21.33	5.27
Organisational innovativeness	.742	29.31	8.25

Source: Based on alpha values

Table 4 explains that vision is significantly positively related to DMS. Findings suggest that more long term the vision of the organisation, more thorough is the DMS, compared to other styles; medium term vision has a strong positive relationship with consultative DMS and DMS through thorough analysis; opportunistic vision is significantly positively related to Intuitive DMS and DMS through thorough analysis; more collective the vision of the organisation, decision making is done more through thorough analysis compared to other styles of decision making.

Table 4 Vision and different DMS

Vision	*Intuitive DMS*	*DMS TA*	*DMS consultative*	*DMS market D*
LT vision	.184**	.336**	.282**	.249**
MT vision	.230**	.443**	.443**	.329**
Opportunistic vision	.375**	.347**	–	–
Collective vision	.240**	.440**	.352**	.316**

Note: **Correlation is significant at 0.01 level.

Source: Based on Correlation values

Table 5 Inter scale correlation

Vision	*Decision making style*	*Org. innovativeness*
1	.524**	–.115
.524**	1	–.257**
–.115	–.257**	1

Note: **Correlation is significant at 0.01 level.

Source: Based on Correlation values

The findings suggest that perceived TMT vision and TMT DMS have a significant positive relationship. Whereas, TMT vision and organisational innovativeness have an inverse relation, even TMT DMS and org. innovativeness posses a significant inverse relationship. This finding may be peculiar to an Indian entrepreneurial firm and can be explored further by researchers.

In order to check the moderation analysis, accuracy check was done, followed with the correlation and normality and linearity graphs.

Table 6 Statistics

		Statistics			
		PV TOT	*PDMS TOT*	*POI TOT*	*PII TOT*
N	Valid	150	150	150	150
	Missing	56	56	56	56
Mean		29.34	33.87	43.98	7.87
Std. Deviation		3.947	8.446	12.412	3.298
Minimum		16	5	21	4
Maximum		36	44	74	16

For the purpose of moderation analysis, three factors were assessed first, normality, linearity, homoscedasticity. The normal distribution is also known as the Gaussian or standard normal distribution. It is the probability distribution that plots all of its values in a symmetrical fashion. The most widely used indicator for normality is the histogram and normal Q-Q or P-P plots which is often regarded as the visual indicators of normality (Allen and Bennett, 2010). A Residual scatter plot was used to check for homoscedasticity, which checks whether the data is homogeneous or heterogeneous.

Table 7 Correlation between the I.V's (vision and DMS)

Descriptive statistics			
	Mean	*Std. deviation*	*N*
PV TOT	29.34	3.947	150
PDMS TOT	33.87	8.446	150
Correlations			
	PV TOT	*PDMS TOT*	
PV TOT	Pearson correlation	1	.524**
	Sig. (two-tailed)		.000
	N	150	150
PDMS TOT	Pearson correlation	.524**	1
	Sig. (two-tailed)	.000	
	N	150	150

Note: **Correlation is significant at the 0.01 level (two-tailed).
Vision and DMS is significantly correlation at 0.01 levels, at .524**. They are correlated, but there is not a very high correlation between them therefore chance of multicollinearity is reduced.

Figure 3 Normality (see online version for colours)

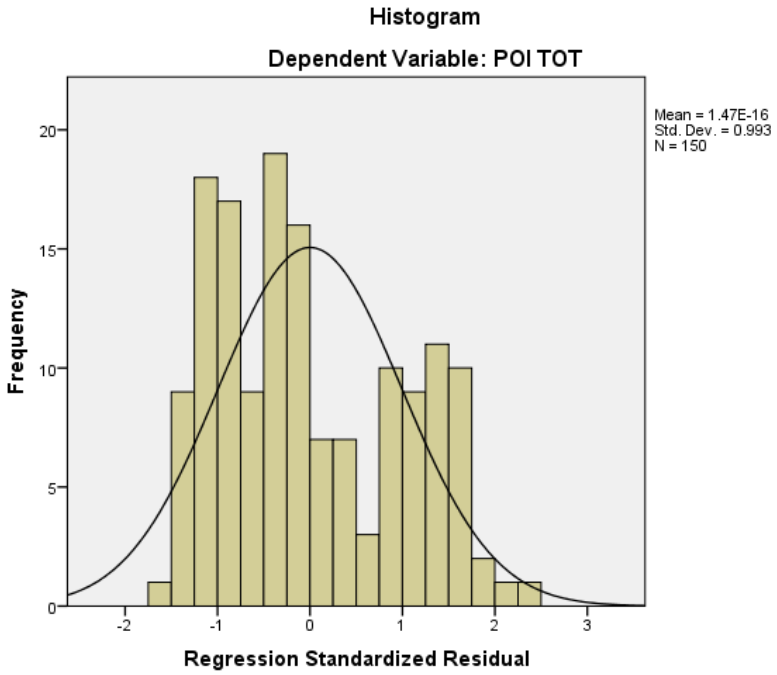


Figure 4 Linearity

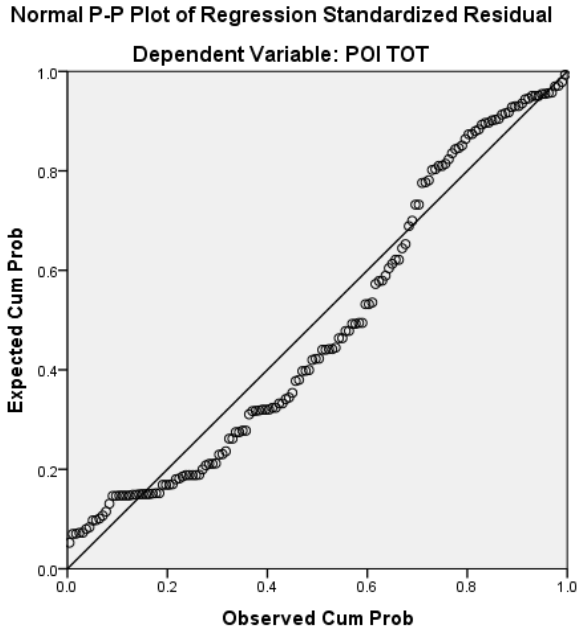
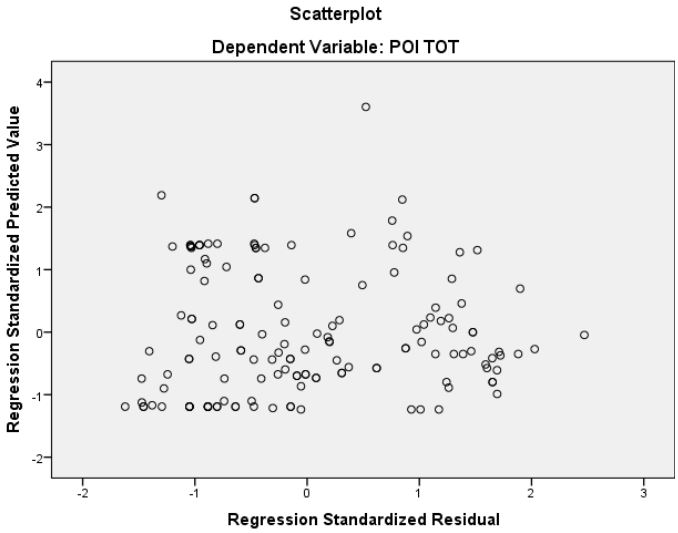


Figure 5 Residual scatter plot



Figures 3, 4 and 5 depict no serious violations of normality was observed. According to Tabachnick and Fidell (2007), test of normality is sensitive and often signal departures from normality that do not really matter. According to Tabachnick and Fidell (2007) less stringent guidelines should be used to assess the raw data, the central theorem stresses that as the sample size increases; the shape of the sampling distribution tends to get

normal. Therefore, the histogram presents an approximately normally distribution. The P-P plot of OI normally distributed since the points clutter around the diagonal line.

Therefore, this suggests that the Moderation relationship can further be tested in the analysis.

Table 8 Linear regression

Model summary				
Model	*R*	*R square*	*Adjusted R square*	*Std. error of the estimate*
1	.215[a]	.046	.033	12.202

Coefficients						
Model		*Unstandardised coefficients*		*Standardised coefficients*	*t*	*Sig.*
		B	*Std. error*	*Beta*		
1	(Constant)	53.421	7.498		7.125	.000
	PV TOT	.060	.297	.019	.200	.842
	PDMS TOT	–.330	.139	–.225	–2.376	.019

Notes: [a]Predictors: (Constant), PDMS TOT, PV TOT; Dependent variable: POI TOT.

In the analysis we tested whether perceived TMT DMS is a moderating variable between TMT vision and organisational innovativeness and incremental innovation. We used structural equation modelling for this purpose. We checked for the Mahalanobis distance, cooks distance and leverage and found satisfactory results. There were no multicollinearity issues. Relationship of DMS at three levels (low, average and high DMS) was checked as a moderating variable between perceived TMT vision and OI/II. The results for the moderation analysis are depicted below.

3.5 Slopes for vision predicting OI at each level of DMS

1 For low DMS (less consultative DMS), vision (b) = 1.1, t (146) = 3.0, $p = 0.02$, for low DMS there is a relationship between TMT vision and OI/II.

2 For average DMS (mix of consultative and autocratic), vision (b) = –.18, t (146) = –.65, $p = 0.5$, for average DMS there is a relationship between perceived TMT vision and OI/II.

3 For high DMS (consultative DMS), vision (b) = –1.5, t (146) = –3.3, $p = 0.001$, high DMS there is a relationship between vision and OI but an inverse relation.

The overall model is significant at 0.001. F (3,146) = 9.42, $p < 0.001$, $R^2 = 0.15$).

- Predictors:

  DMS (b) = –.30, t (146) = –2.5, $p = 0.01$, for every 1 unit decrease in DMS (less consultative) we get .30 increase in OI.

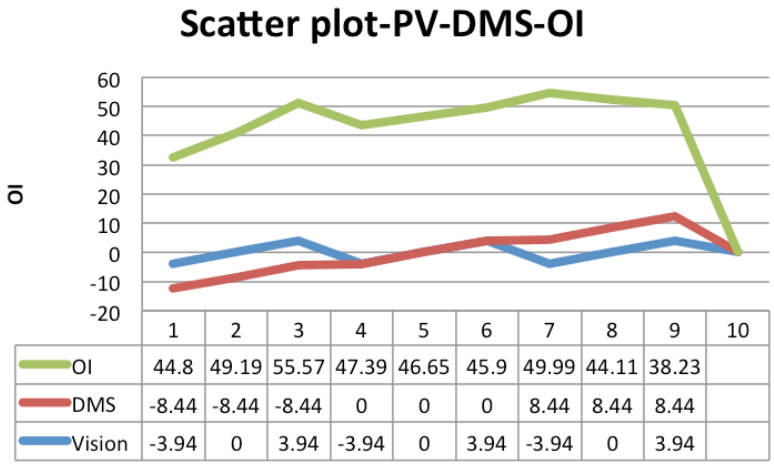
  Vision (b) = –.18, t (146) = –.65, $p = 0.5$, for every 1 unit decrease in vision (less shared vision), we get .18 increase in OI.

Table 9 Conditional effect of vision on organisational innovativeness

DMS	*B*	*p*	*95%*	*CI*
One SD below mean	1.11	.002	.39	1.8
At the mean	–.18	0.5	–.76	.38
One SD above mean	–1.4	0.001	–2.3	–.61

Note: $p < .05$.

Figure 6 Scatter plot-vision-DMS-OI (see online version for colours)



Note: OI – organisational innovativeness, DMS – decision making style.

4 Conclusions

The study showed that TMT consultative DMS does not directly lead to organisational innovativeness. But the presence of TMT vision, DMS and organisational innovativeness are significant. Perceived TMT's vision may not directly lead to organisational innovativeness, but perceived DMS moderates the relationship and thereby making it significant. Therefore, less consultative the DMS of the selected Indian entrepreneurial firms, higher the organisational innovativeness.

This may be attributed to a number of factors like time delay in the decision making process, different stages of the innovation process. Past research indicates that in the initiation stage, a decentralised structure in which lower levels participate in decisions (Hage and Aiken, 1970) facilitates the circulation of information, exposing decision makers to new technological innovations.

During the implementation phase, a more centralised authority structure facilitates the adoption process by reducing conflict and ambiguity (Zaltman et al., 1973). Centralisation, on the other hand, will facilitate radical innovation adoption because more concentrated power may be needed to overcome opposition to these kinds of changes (cited by Baker et al., 1978). Our study findings reveal similar results, where less consultative DMS (more centralised decision making) fosters organisational innovativeness (radical innovation) in terms of product and market innovativeness.

Centralisation has a positive association with adoption of fundamental innovations (Dewar and Dutton, 1986).

Future researchers should bring about the distinction between radical and incremental innovation when exploring the DMS in different kinds of firms. DMS may even differ at each stage of innovation; therefore it also paves the way for fresh research.

References

Albaum, G., Herche, J. and Murphy, B. (1995) 'Decision making style influences on the valuation and use of information by managers', *Journal of Marketing Theory and Practice*, Vol. 3, No, 2, pp.1–19.

Allen, P.J. and Bennett, K. (2010) *PASW Statistics by SPSS: A Practical Guide Version 18.0*, South Cengage Learning, Melbourne, Vic.

Amabile, T.M., Barsade, S.G., Mueller, J.S. and Staw, B.M. (2005) 'Affect and creativity at work', *Administrative Science Quarterly*, Vol. 50, No. 3, pp.367–403.

Amabile, T.M., Conti, R., Coon, H., Lazenby, J. and Herron, M. (1996) 'Assessing the work environment for creativity', *Academy of Management Journal*, Vol. 39, No. 5, pp.1154–1184.

Avlonitis, G.J., Kouremenos, A. and Tzokas, N. (1994) 'Assessing the innovativeness of organizations and its antecedents: Project Innovstrat', *European Journal of Marketing*, Vol. 28, No. 11, pp.5–28.

Baker, N.R. and Sweeney, D.J. (1978) 'Toward a conceptual framework of the process of organized innovation technological within the firm', *Research Policy*, Vol. 7, No. 2, pp.150–174.

Baum, J.R., Locke, E.A. and Kirkpatrick, S.A. (1998) 'A longitudinal study of the relation of vision and vision communication to venture growth in entrepreneurial firms', *Journal of Applied Psychology*, Vol. 83, No. 1, p.43.

Bennis, W. and Nanus, B. (1985) *The Strategies for Taking Charge. Leaders*, Harper Row, New York.

Berson, Y., Shamir, B., Avolio, B.J. and Popper, M. (2001) 'The relationship between vision strength, leadership style, and context', *The Leadership Quarterly*, Vol. 12, No. 1, pp.53–73.

Bird, B.J. (1992) 'The operation of intentions in time: the emergence of the new venture, *Entrepreneurship: Theory and Practice*, Vol. 17, No. 1, pp.11–21.

Capon, N., Farley, J.U., Lehmann, D.R. and Hulbert, J.M. (1992) 'Profiles of product innovators among large US manufacturers', *Management Science*, Vol. 38, No. 2, pp.157–169.

Chauhan, S.P. and Chauhan, D. (2007) 'Emotional intelligence: does it influence decision making and role efficacy?', *Indian Journal of Industrial Relations*, pp.217–238.

Collins, J.C. and Porras, J.I. (1994) *Build to Last. Successful Habits of Visionary Companies*, Harper Business, New York, NY.

Conger, J.A. and Kanungo, R.N. (1998) *Charismatic Leadership in Organizations*, Sage Publications, California, USA.

Cooper, A.C. (1973) 'Technical entrepreneurship: what do we know?', *R&D Management*, Vol. 3, No. 2, pp.59–64.

Damasio, A.R (1994) *Descartes' Error: Emotion, Reason and the Human Brain*, Avon Books, New York.

Danneels, E. and Kleinschmidt, E.J. (2001) 'Product innovativeness from the firm's perspective: its dimensions and their relation with project selection and performance', *Journal of Product Innovation Management*, Vol. 18, No. 6, pp.357–373.

Devanna, M.A. and Tichy, N. (1990) 'Creating the competitive organization of the 21st century: The boundaryless corporation', *Human Resource Management*, Vol. 29, No. 4, pp.455–471.

Dewar, R.D. and Dutton, J.E. (1986) 'The adoption of radical and incremental innovations: an empirical analysis', *Management Science*, Vol. 32, No, 11, pp.1422–1433.

Dutton, J.E. and Ashford, S.J. (1993) 'Selling issues to top management', *Academy of Management Review*, Vol. 18, No. 3, pp.397–428.

Easterbrook, J.A. (1959) 'The effect of emotion on cue utilization and the organization of behavior', *Psychological Review*, Vol. 66, No. 3, p.183.

Filion, L.J. (1988) *The Strategy of Successful Entrepreneurs in Small Business: Vision, Relationships and Anticipatory Learning*, Doctoral dissertation, University of Lancaster.

Fredrickson, J.W. (1985) 'Effects of decision motive and organizational performance level on strategic decision processes', *Academy of Management Journal*, Vol. 28, No. 4,pp.821–843.

Frijda, N.H. (1988) 'The laws of emotion', *American Psychologist*, Vol. 43, No. 5, p.349.

Gardner, W.L. and Avolio, B.J. (1998) 'The charismatic relationship: a dramaturgical perspective', *Academy of Management Review*, Vol. 23, No. 1, pp.32–58.

George, J.M. (2000) 'Emotions and leadership: the role of emotional intelligence', *Human Relations*, Vol. 53, No. 8, pp.1027–1055.

George, J.M. and Brief, A.P. (1996) *Motivational Agendas in the Workplace: The Effects of Feelings on Focus of Attention and Work Motivation*, Elsevier Science/JAI Press, US.

Goleman, D. (1998) *Working with Emotional Intelligence*, Bantam Books, UK.

Green, S.G., Gavin, M.B. and Aiman-Smith, L. (1995) 'Assessing a multidimensional measure of radical technological innovation', *IEEE Transactions on Engineering Management*, Vol. 42, No. 3, pp.203–214.

Hage, J. and Aiken, M. (1970) *Social Change in Complex Organizations*, Vol. 41, Random House Trade.

Hambrick, D.C. and Mason, P.A. (1984) 'Upper echelons: the organization as a reflection of its top managers', *Academy of Management Review*, Vol. 9, No. 2, pp.193–206.

Harrison, E.F. and Pelletier, M.A. (1998) 'Foundations of strategic decision effectiveness', *Management Decision*, Vol. 36, No. 3, pp.147–159.

Hickson, D.J. (1986) *Top Decisions: Strategic Decision-Making in Organizations*, Jossey-Bass.

House, R.J. and Shamir, B. (1993) 'Toward the integration of transformational, charismatic, and visionary theories', in Chemers, M.M. and Ayman, R. (Eds.): *Leadership Theory and Research: Perspectives and Directions*, pp.81–107, Academic Press, San Diego, CA, US.

Hunt, J.G. (1991) *Leadership: A New Synthesis*, Sage Publications, Inc, Thousand Oaks, CA, US.

Hurley, R.F. and Hult, G.T.M. (1998) 'Innovation, market orientation, and organizational learning: an integration and empirical examination', *The Journal of Marketing*, pp.42–54.

Isen, A.M., Daubman, K.A. and Nowicki, G.P. (1987) 'Positive affect facilitates creative problem solving', *Journal of Personality and Social Psychology*, Vol. 52, No. 6, p.1122.

Isen, A.M., Johnson, M.M., Mertz, E. and Robinson, G.F. (1985) 'The influence of positive affect on the unusualness of word associations', *Journal of Personality and Social Psychology*, Vol. 48, No. 6, p.1413.

Isenberg, D.J. (1987) 'The tactics of strategic opportunism', *Harvard Business Review*, Vol. 87, No. 2, pp.92–97.

Jansen, R.J., Curşeu, P.L., Vermeulen, P.A., Geurts, J.L. and Gibcus, P. (2011) 'Social capital as a decision aid in strategic decision-making in service organizations', *Management Decision*, Vol. 49, No. 5, pp.734–747.

Kim, L. (1980) 'Organizational innovation and structure', *Journal of Business Research*, Vol. 8, No. 2, pp.225–245.

Kimberly, J.R. (1981) 'Managerial innovation', in *Handbook of Organizational Design*, Vol. 1, No. 84, p.104.

Kitchell, S. (1997) 'CEO characteristics and technological innovativeness: a Canadian perspective', *Canadian Journal of Administrative Sciences/Revue Canadienne des Sciences de l'Administration*, Vol. 14, No. 2, pp.111–121.

Kotter, J.P. (1990) *How Leadership Differs from Management*, Vol. 240, pp.59–68, Free Press, New York.

Kotter, J.P. (1997) 'Leading by vision and strategy: vision refers to a picture of the future', *Executive Excellence*, Vol. 14, pp.15–15.

Kouzes, J. and Posner, B. (1987) *The Leadership Challenge: How to Get Extraordinary Things Done in Organizations*, Jossey-Bass, San Francisco.

Larwood, L., Falbe, C.M., Kriger, M.P. and Miesing, P. (1995) 'Structure and meaning of organizational vision', *Academy of Management Journal*, Vol. 38, No. 3, pp.740–769.

Liberman-Yaconi, L., Hooper, T. and Hutchings, K. (2010) 'Toward a model of understanding strategic decision-making in micro-firms: exploring the Australian information technology sector', *Journal of Small Business Management*, Vol. 48, No. 1, pp.70–95.

Lyon, D.W., Lumpkin, G.T. and Dess, G.G. (2000) 'Enhancing entrepreneurial orientation research: operationalizing and measuring a key strategic decision making process', *Journal of Management*, Vol. 26, No. 5, pp.1055–1085.

Maccoby, M. (1981) *The Leader: A New Face for American Management*, Simon & Schuster, USA.

March, J.G. and March, J.G. (1988) *Decisions and Organizations*, p.15, Blackwell, Oxford.

Mayer, J.D. and Salovey, P. (1993) *The Intelligence of Emotional Intelligence*.

McKenzie, J., Woolf, N., Van Winkelen, C. and Morgan, C. (2009) 'Cognition in strategic decision making: A model of non-conventional thinking capacities for complex situations', *Management Decision*, Vol. 47, No. 2, pp.209–232.

Mendall, J.S. and Gerguoy, H.G. (1984) 'Anticipatory management or visionary leadership: a debate', *Management Planning*, Vol. 33, No. 3, pp.28–31.

Miller, D. (1983) 'The correlates of entrepreneurship in three types of firms', *Management Science*, Vol. 29, No. 7, pp.770–791.

Miller, D. and Friesen, P.H. (1983) 'Strategy-making and environment: the third link', *Strategic Management Journal*, Vol. 4, No. 3, pp.221–235.

Miller, W. and Morris, L. (1999) *Fourth Generation R&D: Managing Knowledge, Technology, and Innovation*, John Wiley & Sons, Chichester.

Mintzberg, H. (1994) 'The fall and rise of strategic planning', *Harvard Business Review*, Vol. 72, No. 1, pp.107–114.

Mintzberg, H., Raisinghani, D. and Theoret, A. (1976) 'The structure of 'unstructured' decision processes', *Administrative Science Quarterly*, Vol. 21, pp.246–275.

Nanus, B. (1992) *Visionary Leadership: Creating a Compelling Sense of Direction for Your Organization*, Jossey-Bass Inc., 350 Sansome Street, San Francisco, CA 94104-1310.

North, D. and Smallbone, D. (2000) 'The innovativeness and growth of rural SMEs during the 1990s', *Regional Studies*, Vol. 34, No. 2, pp.145–157.

Nutt, P.C. and Backoff, R.W. (1995) 'Strategy for public and third-sector organizations', *Journal of Public Administration Research and Theory*, Vol. 5, No. 2, pp.189–212.

Papadakis, V. and Lioukas, S. (1996) 'Do early perceptions of strategic decisions influence strategic processes?: An empirical investigation', in *Academy of Management Proceedings*, Academy of Management, August, No. 1, pp.46–50.

Peters, T. (1988) *Thriving on Chaos*, Harper & Row, New York.

Rainey, H.G. (1999) 'Using comparisons of public and private organizations to assess innovative attitudes among members of organizations', *Public Productivity & Management Review*, pp.130–149.

Rajagopalan, N., Rasheed, A.M. and Datta, D.K. (1993) 'Strategic decision processes: critical review and future directions', *Journal of Management*, Vol. 19, No. 2, pp.349–384.

Schumpeter, J.A. (1934) *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest and the Business Cycle*, Harvard University Press, USA.

Simon, H.A. (1982) *Models of Bounded Rationality: Empirically Grounded Economic Reason*, Vol. 3, MIT Press.

Sinclair, R.C. and Mark, M.M. (1992) 'The influence of mood state on judgment and action: effects on persuasion, categorization, social justice, person perception, and judgmental accuracy', in Martin, L.L. and Tesser, A. (Eds.): *The Construction of Social Judgments*, pp.165–193, Lawrence Erlbaum Associates, Inc, Hillsdale, NJ, US.

Slater, R. (1993) *The New GE: How Jack Welch Revived an American Institution*, Business One Irwin, Housewood, Ill.

Subramanian, A. and Nilakanta, S. (1996) 'Organizational innovativeness: exploring the relationship between organizational determinants of innovation, types of innovations, and measures of organizational performance', *Omega*, Vol. 24, No. 6, pp.631–647.

Tabachnick, B.G. and Fidell, L.S. (2007) *Using Multivariate Statistics*, Allyn & Bacon/Pearson Education, Boston, MA.

Timmons, J.A., Smollen, L.E. and Dingee Jr., A.L.M. (1990) *New Venture Creation: Entrepreneurship in the 1990's*, 3rd ed., Richard Irwin, Homewood Ill.

Wang, C.L. and Ahmed, P.K. (2004) 'The development and validation of the organisational innovativeness construct using confirmatory factor analysis', *European Journal of Innovation Management*, Vol. 7, No. 4, pp.303–313.

Wang, C.L. and Ahmed, P.K. (2004) 'The development and validation of the organisational innovativeness construct using confirmatory factor analysis', *European Journal of Innovation Management*, Vol. 7, No. 4, pp.303–313.

Westley, F. and Mintzberg, H. (1989) 'Visionary leadership and strategic management', *Strategic Management Journal*, Vol. 10, No. S1, pp.17–32.

Zahra, S.A. and George, G. (2002) 'Absorptive capacity: a review, reconceptualization, and extension', *Academy of Management Review*, Vol. 27, No. 2, pp.185–203.

Zaleznik, A. (1977) 'Managers and leaders: are they different', *Harvard Business Review*, Vol. 55, No. 3, pp.67–78.

Zaltman, G.N., Duncan, R.B. and Holbek, J. (1973) *Innovations and Organizations*, John Wiley & Sons, New York.