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Exploring decision making style as a predictor of team effectiveness

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Abstract

Purpose – The purpose of this paper is to perform organizational team effectiveness analysis and to find out whether decision-making style (DMS) has any association with team effectiveness. Which style most significantly affects the team effectiveness and how this predictive association can be used to improve existing teams as well as to build new effective teams?

Design/methodology/approach – The sample includes 231 sample responses of executives from Indian Manufacturing Organizations from both public and private sectors. Two standardized questionnaires are used for data collection. Mainly, SPSS v20.0 was used for data analysis and hypotheses testing. AMOS v20.0 was used for testing the research model based on the supported hypotheses.

Findings – Rational DMS is mostly endorsed by the Indian executives. Not all DMSs but rational and avoidant styles independently and interactively are the significant predictors of team effectiveness.

Research limitations/implications – The survey method of data collection, cross-sectional research design and consideration of particular DMSs and team effectiveness frameworks are the main limitations of this study. Theoretical as well as practical implications are vested in the results.

Practical implications – The study bears significant practical implications for the respondents, practitioners, professionals and academicians in the field of team working. Management development and training activities may be directed based on the findings.

Social implications – The study suggests socially acceptable and practicable decision-making behaviors in organizations. It highlights suggestions for improving team effectiveness (TE). Hence, certain social implications are also there.

Originality/value – The edge in this research over the previous studies is that earlier scholars, who examined member traits' impact on TE, did not considered DMS as a predictor of TE. Certain researchers appealed for diagnosing the standard variable to measure the member style. This research is, therefore, unique in its kind as it is a pioneering effort to study the DMS in relation to team effectiveness. The focus on sample of Indian manufacturing executives also bears importance. Moreover, unlike other researches, it focuses on DMS rather than the decision-making process itself.

Keywords Decision making, Team working, Employee behavior, Avoidant style, Rational style, Team effectiveness

Paper type Research paper

Preface and the research aims

Decision making (DM) has been a matter of research since years, either in isolation or in association with other variables. Russ *et al.* (1996) established a relationship between decision-making style (DMS) and the managerial performance. Further, Tambe and Krishnan (2000) diagnosed the effectiveness outcomes of varied DMS. The present research paper is an attempt to relate the DMS and team effectiveness (TE). In line with West *et al.*'s (2004) argument that teams can work most effectively to accomplish tasks and can further contribute to organizational performance, this study is planned to do organizational analysis of effectiveness from the perspectives of team work. Mathieu *et al.* (2008) highlighted the relevance of input–process–output (IPO) and input–mediator–output–input (IMOI) models in TE researches. As per these models, the inputs, like member attributes, task structure, etc., affect the processes or mediators and, in turn, impact the outputs like targets, satisfaction levels, profits, etc. Campion *et al.* (1993, 1996) found significant associations between composition variables (e.g. expertise, skill, experience, collectivism, flexibility and group size) and the team process and effectiveness measures. Though, they did not examine individual – member traits (e.g. personality and general mental ability) and its impact on TE. In few studies, for e.g. Barrick *et al.* (1998); McGrath *et al.* (1995); Mannix and Neale (2005) etc., the impact of member characteristics (e.g. ability and personality) and their relation to differences in TE have been explored. Ross *et al.*, (2008) propounded that TE is most importantly the function of member style, and they suggested that researchers should diagnose the standard variable to measure the member style. Earlier, Mannix and Neale (2005) had suggested that the attribute of "cognitive style" is an important compositional variable for personality-based TE researches. The cognitive style is concerned with the problem-solving and DM approaches of the members. It seems a novel and quite unexplored variable in TE researches. Therefore, in the present study, the member DMS is considered as a potential variable affecting the TE of Indian executives. Volmer and Sonnentag (2011) related member expertise with the TE measured in terms of team work and task work. The TE framework of the present study is also based on a combination of team and task functions as suggested by Pareek (2002). The major aims of this study are to find out whether the DMSs of executives affect their TE or not? Which DMS affects TE? What implications can be drawn from such relationship?

The rest of this paper consists of six sections. The first section provides acquaintance with the *concept and literature* on the variables under study. The second section presents the *hypotheses* drawn upon the insights from the extant literature. The third section describes the *methodology* adopted in this research. Herein, the sample, the instruments, data collection and data analysis are detailed. The fourth section summarizes the *results* of various hypotheses and the model fits. The fifth section is dedicated for the *discussion* on the obtained results. The final section presents the *conclusion*. It also highlights the implications, limitations and scope for future research.

Concepts and literature review

Decision-making style

M is the selection of a course of action out of alternatives to reach a predefined goal with clear understanding under given circumstances and limitations (Koontz and Weihrich, 2010). According to Fincham and Rhodes (2005), DM is a socially constructed

phenomenon and hence, despite various technical and mathematical decision theories, the behavioral and organizational theories of DM fetch the attention of researchers.

DMS according to Harren (1979) is:

> […] the degree to which an individual takes personal responsibility for decision making as opposed to projecting responsibility outward toward fate, peers and authorities, and the degree to which an individual uses logical versus emotional strategies in decision making.

Driver *et al.* (1993) denoted DMS as a learned habit and, according to Scott and Bruce (1995) also, DMS is a learned habitual response, resulting in "a habit-based propensity to react in a certain way in a specific decision context". The DMS is a subset of broader thinking styles limited to the DM tasks only, and it reflects many psychological dimensions including how decision-makers perceive the happenings around them and how they process information (Rowe and Mason, 1987). Three main typologies indicated by Harren (1979) are: rational (logical and deliberate DM), intuitive (feelings- and emotional satisfaction-based DM) and dependent (DM based on others' opinions and expectations). These styles are well recognized and have been worked upon by various researchers, for e.g. Phillips *et al.* (1985).

The key differences among styles are due to the amount of information considered and the number of alternatives identified when reaching a decision (Driver *et al.*, 1993). People may use more than one DMS out of the five, namely, rational, intuitive, dependent, avoidant and spontaneous, but certainly one style is the most dominant (Scott and Bruce, 1995). So far, these five styles have fetched maximum literature support, for e.g. Loo (2000), Thunholm (2004, 2008), Salo and Allwood (2011), Rehman *et al.* (2012), Omotola *et al.* (2012), etc.

Rational DMS is a thorough search for and logical evaluation of alternatives to choose the best alternative (Scott and Bruce, 1995). It includes carefully planning; making decisions logically and systematically; considering various options in terms of a specific goal; and double-checking for right facts. It is to approach the task objectively, unemotionally, analytically and thoroughly (Phillips *et al.*, 1985).

Intuitive DMS is based on unconscious process resulted out of experiences (Gilovich *et al.*, 2002). It symbolizes unsystematic information processing and reliance on premonitions and feelings (Scott and Bruce, 1995). It includes the trust on inner reactions while deciding and reliance on instincts and intuition to decide what one feels is right instead of having a rational reason.

Dependent DMS tends to reduce uncertainty through consultation, advice and guidance from others. "Others" may be internal as well external such as friends/peers/experts/any accessible suggestive body. It includes the need of assistance while making important decisions; consulting others and feeling easy to make decisions with the support of others; using advices in making important decisions; and seeking guidance to be steered in the right direction (Scott and Bruce, 1995).

Avoidant DMS is a tendency to avoid and postpone decisions (Scott and Bruce, 1995). It includes procrastinating; rescuing the DM task as long as possible; avoiding decisions until the pressure is on; postponing decisions whenever possible; and putting off making decisions due to an uneasy feeling. According to Hablemitoglu and Yildirim (2008), a person with an avoidant DMS will make every effort to avoid from having to make a decision.

Spontaneous DMS reflects a sense of immediacy and desire to finalize decisions as quick as possible (Scott and Bruce, 1995). It includes deciding at a click or all of sudden; deciding on the spur of the moment; making quick decisions; often making impulsive decisions; and deciding what seems natural at the moment. Coscarelli (1983) attributed that spontaneous person reacts to a total experience rather than breaking the total experience into component parts and reacting to each part separately. Such decision-makers make quick decisions and move to new goals easily and without much consideration (Osipow and Reed, 1985).

While disposing their duties, the executives have to take many important decisions. The different DMS may differently impact the effectiveness of the organizational team.

Team effectiveness

According to Guzzo and Dickson (1996), a team is made up of individuals who see themselves and who are seen by others as a social entity, who are interdependent because of the tasks they perform as members of a group, who are embedded in one or more larger social systems (e.g. community, organization etc.) and who perform tasks that affect others (for e.g. customers or coworkers). An organization can be considered as a team of working executives viewed as a social entity interacting and working together for accomplishment of common goals with best efforts.

Volmer and Sonnentag (2011) put forward the conceptualization of TE as a combination of *team functions and task functions*. Here, *the team functions are the facilitating interaction patterns amongst the members*, for e.g. cohesiveness, cooperation etc., and *the task functions are actual activities performed to accomplish the tasks*, for e.g. autonomy, accountability, etc. This conceptualization is a generic framework to capture TE irrespective of the nature of tasks and production units. Previously, Pareek (2002) had also conceptualized TE as a combination of team functioning and team empowerment which can be attributed similar to team functions and task functions, respectively. In Pareeks' view, seven factors contribute to these two dimensions of team functioning and team empowerment. cohesion, confrontation and collaboration are the constructs of team functioning, while task clarity, autonomy, support and accountability are the constructs of team empowerment. These factors are mutually in-exclusive and overlapping.

Cohesion symbolizes the persistence of being together despite setbacks. Kolodny and Kiggundu (1980) have shown that cohesive teams had greater productivity in uncertain environments than teams with members who were not cohesive. The members of an effective team recognize as well as appreciate member differences (Rocine and Irwin, 1994) and thus despite many setbacks, they remain united. It is a sense of trust and respect for the views of others.

Confrontation means a constructive, open and free discussion on the misunderstandings and disagreements to remove them. Hoover and DiSilvestro (2005) had identified and defined the phenomenon of constructive confrontation as "a structured, systematic approach that decreases conflict and increases accountability by connecting the dots between what people want and what organizations need". It also helps in flourishing new ideas.

Collaboration reflects the intensive helps and ideas exchanges amongst the members. The collaborative climate with competent members and the process of feedback and reinforcement of individual progress increases the effectiveness of the teams (Johnson

and Johnson, 1995). With the smooth flow of communication, the exchange of helps prevail and voluntary task sharing strengthens. Collaboration is when members do not feel shy to ask for help and are not reluctant to help (Pareek, 2002).

Task Clarity is meant for the removal of confusions and dilemmas in members about their roles and jobs. Mohammed and Dumville (2001) argued that team performance is greater when there is task clarity with availability of all the task relevant information, and when time is not wasted in unnecessary arguments about who is responsible for what.

Autonomy denotes the freedom to perform tasks in ways which one wants to perform. To create an effective team, the manager should facilitate shared understanding, shared responsibility, mutual influence and task autonomy (Ehlen, 1994). The absence of autonomy makes the members feel helpless and restricted to dispose their duties effectively. Whereas, with the presence of autonomy, they schedule and determine own ways of working.

Support indicates a positive and conducive environment with respect to the availability of the desired material and human resources. Effective teams have active work-related support (Kellett, 1993). Support for three categories – group task design, group characteristics and employee involvement – is required for TE (Cohen *et al.*, 1996). It also leads to integration and facilitation in tasks (Erez *et al.*, 2002).

Accountability is to generate a sense of responsibility about their assigned duties among the members. To operate efficiently and effectively, the team members require high levels of trust and mutual accountability (Smith *et al.*, 2000). Alternatively, it is the willingness or compulsion to accept responsibility for one's key result areas. It helps render the true extent of achievements and progress of tasks. Also, it keeps a check on the misuse of autonomy (if any).

Culture, being the core of the organizational system, deals with the ways people give and receive information, and hence it may influence their DMS. Scholars, for e.g. Ali (1989), Hofstede (1980), Tayeb (1988), have already advocated the importance of cultural background in DM and the ultimate impact on effective management. The context of relationships prevail in Indian organisations (Sinha, 1984). Participation and interaction predominate here (Sinha, 1980). There exists an overlap between authoritarian and nurturant task styles in the Asian (Indian) system of working (Sinha, 1984; Swierczek, 1991). Right time and correct DM examples may be sought in Indian ancient epic also (Singh, 2012). India is a collectivist country, where the inspection on the applicability of Western DM models might be researched (Litrell, 2002). Therefore, the present study may be a significant initiative to explore DMS as a predictor of TE in the Indian context.

Hypotheses of the study

High-ability teams have DM abilities that help them to come up with innovative solutions of problems (Hirschfeld *et al.*, 2006). Such DM abilities are based on DMS of the team members. Harrison and Horne (2000) concise that real-world DM involves unique unobvious circumstances which require variety of complex skills (like to appreciate a difficult and rapidly changing situation; anticipate the range of consequences; assess risk; keep track of events-update; being innovative; devise, maintain and revise plans; remember when events occurred; show insight into one's own performance; control mood and uninhibited behavior; communicate effectively; and avoid irrelevant distractions). Research reveals that high-ability teams perform well in complex

problem-solving and changing situations by adapting the prior set of knowledge to suit new problems (Hirschfeld *et al.*, 2006). All the steps of the DM process are not followed in the repetitive nature of problems. Prior set of knowledge adds to faster DM. In challenging, uncertain and unexpected situations, the high-ability teams adapt the learning from their prior experiences and deal accordingly. A minimum level of agreeableness is also required (Bell, 2007; Barrick *et al.*, 1998), i.e. a decision should be discussed and generally agreed by members before it is finalized. In a team, employees should take on more responsibility, make informed decisions and use their creative and intellectual skills (Wageman, 1997; Johnson *et al.*, 2000). Literature insights indicate that the phenomenon of DM is of much concern in teamwork and the member DM skills and styles carry an impact on the outcomes of their team.

Rational style involves careful, thorough and objective information gathering and weighing alternatives (Cook and Harren, 1979). It symbolizes a systematic appraisal and logical deliberation with an expanded time perspective (Phillips *et al.*, 1985). Such a style is considered as an ideal approach (Harren, 1979; Chartrand *et al.*, 1993; Mau and Jepsen, 1992). Simon (1955) propounded that decision-makers are involved in "satisficing" decisions due to their limited knowledge and lack of proper procedural rationality. As only a limited degree of rationality can be exercised by the human mind, the individuals usually make more opportunistic decisions rather than the pure rational decisions. This bounded rationality model of Simon revolutionized the nature of organizational DM. In contradiction with neoclassical and classical schools of management organizations, it is proposed that decisions are not completely rational always, as the decision-maker cannot have a perfect control on environmental and mental abilities (Kalantari, 2010). Von Neuman and Morgenstern (1947) described DM in terms of the expected utility or value of all possible outcomes weighted by their probability (the expected utility model). As pointed earlier, seldom the decisions made on the basis of complete rationality. The use of cognitive processing leads to deviate systematically from utility-based decisions (Kahneman and Tversky, 1996; Payne *et al.*, 1992; Tversky and Fox, 1995). As in the rational DM (whether pure or bounded), all alternatives are generated, clarified, weighted and discussed and then the best is chosen in collaboration with all members; hence, it may be assumed that rational DM is usually prevalent and preferred in organizations and, therefore, our first hypothesis is:

H1. Rational DMS is positively associated with TE

The intuitive style is to approach the task personally, emotionally and holistically on the basis of feelings (Klaczynski, 2001). The intuitive decision-maker in an impulsive manner considers emotional factors and decides without checking out the facts and as per how things are right now rather than in the future (Phillips *et al.*, 1985). Intuitive DMS has reliance on "fantasy, attention to present feelings, and an emotional self-awareness", (Harren, 1979, p. 125). According to Patton (2003), there is a difference between emotional–irrational and intuitive–non-rational decisions. When there is great complexity of large volume information processing and an element of uncertainty, intuition helps in responding to crisis. Intuition may be used knowingly or unknowingly while making decisions (during the cognitive process). Intuition can be interpreted on a continuum ranging from "the instantaneous, purely emotional, more often irrational reaction to the analytical reasoning about the options on the basis of learning" to "the experiences resulted from related issues". In between, the combinations of the two

extremes are present (Burke and Miller, 1999; Bonabeau, 2003; Landry, 2003). Working executives must be able to scan opportunities and threat and for that intuition is needed (Eccles and Nohria, 1992). An intuitive style is related to better competence and outcomes (Bruine de Bruin et al., 2007; Crossley and Highhouse, 2005), and sometimes, it is not (Phillips and Strohmer, 1982; Singh and Greenhaus, 2004). Therefore, intuitive style also has impact on effectiveness (whether positive or negative) depending upon the type of intuition used. In line with this, the second hypothesis is:

H2. Intuitive DMS is significantly associated with TE

With a dependent DMS, the responsibility for choice is transferred to the external events or other people (Harren, 1979). Dependent style as a participative approach produces favorable reactions from superiors and subordinates, but if perceived to be leaning, it produces a negative response (Tambe and Krishnan, 2000). Being heavily influenced by the expectations of others, such a decision-maker is passive and compliant, and would be likely to delay choice until the guidance of friends or experts is obtained (Phillips et al., 1985). Thus, the reliance on the help, support, opinions and directions of others is the key attribute of this style. Salo and Allwood (2011) obtained that a dependent decision-maker is involved in rescuing DM tasks by asking for the advice of others, and that this style results in high stress and poor sleep. On the contrary, earlier, Rocine and Irwin (1994) noticed the importance of members in improving the overall TE and, in a way, they advocated the dependent DMS. As per them, the effective team members when appropriate include others in DM; contribute ideas and solutions; understand and commit to group goals; exhibit concern and interest in others; acknowledge and confront conflict constructively, listen to others; recognize and appreciate member differences; appreciate the ideas of others; and encourage and appreciate comments about team performance. Depending on others also affects the quality of decisions and ultimately the effectiveness. While good advice can improve decisions' quality; on the contrary, consultation can undermine effective DM by encouraging unrealistic aspirations, focusing attention on readily quantified outcomes and revealing contradictory advice (Fischhoff, 1992; Schwartz et al., 2002; and Iyengar et al., 2006). The dependent style in the absence of logic could be a means of proving social conformity, and hence it could be detrimental for TE. Therefore, likewise intuitive DMS, the dependent style may be assumed as contributory towards TE. Hence, the third hypothesis is:

H3. Dependent DMS is significantly associated with TE

In view of Salo and Allwood (2011), the decisions are avoided when the decision-maker has doubt on his/her DM ability. Avoidant style generally relates with poor sleep; high stress; dissatisfaction with life; feeling regret; burnout possibilities; and tendency to maximize (Parker et al., 2007). Thunholm (2008) observed avoidant DMS as positively related with negative stress. It is attributed as an unhealthy way to approach decisions because avoiding or postponing the decision can lead to negative consequences. Hence, this style is negative unless the avoidance is justifiable (Hablemitoglu and Yildirim, 2008). Parker et al. (2007) found that "maximizers – the too much rational decision-makers" are more involved in avoiding decisions. Maximizers show greater decision avoidance, which is plausibly the result of extended time taken for examining each option in detail. Greater decision avoidance worse correlates with DM competence and decision outcomes (Bruine de Bruin et al., 2007; Crossley and Highhouse, 2005; Russ

et al., 1996). Therefore, individuals who tend to be too much rational (by gathering more and more information before DM), often delay decisions. This delay reflects an avoidant approach that ultimately reduces the effectiveness. It can be assumed that avoidant DMS has an inverse effect on TE. Therefore, the fourth hypothesis is:

H4. Avoidant DMS is negatively associated with TE

Spontaneous style denotes immediacy to quickly reach a decision, i.e. to finalize decisions with a desire to quickly complete the DM process (Scott and Bruce, 1995). It expresses lesser chances of planning the work, and hence clear work directives are required for such decision-makers (Salo and Allwood, 2011). According to Jaehnig (2008), such decision-makers comfortably switch to a new choice if their previous choice is proven wrong. Therefore, spontaneous decision-makers have lower associated risk unlike a rational person who cannot afford the mistake after such a long scan. Parker *et al.* (2007) purport that better outcomes are achieved by individuals who decide less spontaneously (less impulsively) but within the appropriate time. Flin *et al.* (1996) found that over 90 per cent of critical decisions taken by offshore installation managers (oil and gas industry) followed the Recognition Prime Decision (RPD) style or spontaneity (with only 10 per cent involving some comparison of alternative solutions or strategies). In situations requiring quick decisions and immediate responses, the RPD model can work. Here the decision-makers require the ability to establish the facts quickly and effectively, and to act despite of distraction or chaos (Kaempf *et al.*, 1996). Therefore, the spontaneous DM is primarily required in certain position profiles. In view of Tambe and Krishnan (2000), the spontaneous DMSs may be positive when viewed as decisive and negative when viewed as impulsive. Thus, the spontaneous DMS can be assumed to relate with TE. Our fifth hypothesis is:

H5. Spontaneous DMS is significantly associated with TE

Above formulated hypotheses would be empirically tested to draw important implications. Ross *et al.* (2008) emphasized that identifying the predictors of effective team can be a proactive approach to improve TE, and that this can also be a tool for choosing team members before start working as a team. More or less, the hypothesized relationships are expected to contribute toward deciding the predictors of TE in term of DMS.

Methodology
The sample
The sample consisted of executives from of the Indian Manufacturing Industry. A minimum of ten responses from each organization were ensured; however, there was no maximum limit for responses from each organization. As shown in Table I, in the finally considered responses ($n = 231$), 22.52 per cent were from "public sector" organizations, rest all (77.48 per cent) were from "private sector". Majority (44.22 per cent) were "Management" degree holders, 32.9 per cent were "Engineering" Graduates, 9.9 per cent had done "Other Post Graduation" and 12.98 per cent were "Other Graduates". Majority (68.83 per cent) had "up to 10 years", 25.54 per cent had "11 to 20 years", 4.8 per cent had "21 to 30 years" and 0.83 per cent had "above 30 years" of work experience. Majority (59.30 per cent) had "lower-level" (INR up to 5 Lacs) annual income, 31.16 per cent had "middle-level" (INR 5 to 10 Lacs) annual income and 9.54 per cent had "higher-level"

Classification	Category	Code	Frequency (%)
Organization sector	Public	1	52 (22.52)
	Private	2	179 (77.48)
Education	Other Graduates	0	30 (12.98)
	Engineering	1	76 (32.9)
	Other Post-graduation	2	23 (9.9)
	Management	3	102 (44.22)
Work experience	Up to 10 years	1	159 (68.83)
	11 to 20 years	2	59 (25.54)
	21 to 30 years	3	11 (4.8)
	Above 30 years	4	2 (0.83)
Annual income	Lower (INR up to 5 Lacs)	1	137 (59.30)
	Middle (INR 5 to 10 Lacs)	2	72 (31.16)
	Higher (INR above 10 Lacs)	3	22 (9.54)
Age	21 to 30 years	1	123 (53.24)
	31 to 40 years	2	81 (35.06)
	41 to 50 years	3	22 (9.5)
	Above 50 years	4	5 (2.20)

Note: INR = Indian National Rupee

Table I.
The sample statistics ($n = 231$, from the Indian Manufacturing Industry)

(INR above 10 Lacs) annual income. Majority (53.24 per cent) were aged "21 to 30 years", 35.06 per cent were "31 to 40 years", 9.5 per cent were "41 to 50 years" and 2.20 per cent were "above 50 years". (These particulars were collected during the survey and the proportional descriptive as stated above were obtained after the data finalization).

The instruments
The executive's perceptions about their DMS and TE were traced on the aforesaid frameworks using standardized scales.

General Decision-Making Style (GDMS) inventory developed by Scott and Bruce, (1995) measures DMS on 25 items on a scale of 1 (strongly disagree) to 5 (strongly agree). It has a total of five factors (five items each), namely, rational, intuitive, dependent, avoidant and spontaneous. This instrument is attributed as the most encompassing among the various decision style scales and hence it is amongst the best well-researched scales of DMS (Salo and Allwood, 2011). GDMS has been used in many studies for validation as well as for measuring the DMSs of various respondents (Loo, 2000; Thunholm, 2004, 2008, 2009; Parker *et al.*, 2007; Gambetti *et al.*, 2008; Salo and Allwood, 2011; Rehman *et al.*, 2012; Omotola *et al.*, 2012).

Team Effectiveness Assessment Measure (TEAM) developed by Pareek (2002) captures rating on total 28 items as per the perceptions of members about their teams on five-point scale ranging from 1 (not at all true) to 5 (very high characteristic of the team). It has seven factors of four items each. Cohesion, confrontation and collaboration aggregate to give the dimension of *team functioning*, and task clarity, autonomy, support and accountability aggregate to give the dimension of *team empowerment*. The average of the two dimensions provides the overall TE. This two-dimensional framework of TEAM can be viewed as a combination of team functions and task functions likewise Volmer and Sonnentag (2011). For this study, this framework is

considered appropriate for assessing the organizational TE because the factors and dimensions are behavioral, and therefore, the member styles may be assumed to impact the effectiveness of these interactional and task-facilitating activities within the organization. Moreover, the components like autonomy, accountability, collaboration, etc. are not team specific like the other factors (e.g. task design, structure, etc.), and hence the factors of TEAM may be measured organization wide.

To ensure the reliability and to justify the usage of these two scales, we first conducted reliability analysis by grouping the items according to the *a priori* conceptual dimensions and factors of GDMS and TEAM. The list of items was pruned after examining corrected item-to-total correlations and deleting items whose elimination improved reliability coefficient alpha (Parasuraman *et al.*, 2005). The content and construct validity were assured with the use of standardized scales.

The reliability analysis revealed high overall Cronbach's alpha for the GDMS (0.76). DMS-wise also, the Cronbach's alpha values were high. To compare with the previous studies' samples, most of the values found here were within the range comparable to the previous GDMS studies except for that of the spontaneous style. For example, rational: $\alpha = 0.729$ (0.60 - 0.85), intuitive: $\alpha = 0.748$ (0.68 - 0.84), dependent: $\alpha = 0.692$ (0.62 - 0.86), avoidant: $\alpha = 0.77$ (0.83 - 0.94) and spontaneous: $\alpha = 0.60$ (0.68 - 0.87). Except for few exceptions, the Cronbach's alpha for TEAM was also high on the study sample for the factors, dimensions and overall TEAM. It ranged between 0.85 to 0.92. Three items (13, 23 and 25) which belonged to team functioning dimension were dropped from the TEAM because their elimination remarkably improved the reliability coefficient alpha. The reliability diagnostics motivated to pursue the further analysis on the responses and draw significant inferences based on it.

Data collection
The responses were gathered both personally and online. The organizations were chosen purposively, while the executives therefrom were selected at random. As mentioned earlier, minimum ten responses from each organization were ensured. The respondents were told about the purpose of the survey as – "to know the perception of the executives about their approach to decisions and about their organization as a team". The responses on both the scales were collected simultaneously from each respondent. The language used was "English". Synonyms of typical words were provided. The executives were given adequate time to respond to the survey. Individual anonymity was ensured, and it was ascertained that results would be relevant to aggregated data only and will not highlight any individual survey results. Around 480 mails were sent and 225 questionnaires were distributed in person. Out of 139 recollected questionnaires, 127 (127/225 = 56.44 per cent) were perfectly and completely filled. Total 104 (104/480 = 21.66 per cent) online usable responses were selected in the final sample for the study. The final response rate ($n = 231$) is 32.76 per cent, i.e. 231/705.

Data analysis
To analyze the data, we used SPSS v20.0. The descriptive statistics rendered the central tendencies, distribution and dispersion of the 231 responses. Reasonable homoskedasticity and no curvilinear relations were assured through the bivariate scatterplots for the scales and subscales. The normality statistics were assured as per the results of skewness and kurtosis (Table II).

The skewness (i.e. asymmetry of data) and the kurtosis (i.e. height of the distribution) was observed to be within the permissible limit of within ±2 to reflect that all the variables were normally distributed (Thunholm, 2004; Rotbring, 2010). Normal probability plots, outlier observation, normality check and linearity diagnostics qualified the assumptions of regression analysis. The aggregation of responses of different organizational teams was permissible with inter-rater reliabilities assessed through intra-class coefficient (ICC) within-group inter-rater agreement index rwg(i) – of James *et al.* (1984, 1993). The ICC value for GDMS on the 25 items was 0.712 ($F = 3.039$, $p < 0.01$) and for TEAM on the 25 items was 0.874 ($F = 7.958, p < 0.01$). Above 0.70, ICC values thus permitted the hypothesis testing on the aggregate scores.

Then the correlation and regression analyses were carried out. The sample size ($n = 231$) was the prime reason for choosing regression as the sample was not large enough to use a causal modeling technique (Solansky, 2011). As per the aim of the study, regression analysis intended at identification of predictive association of the independent variable (each DMS) with the dependent variable (TE). It renders how much change in the independent variable is associated with how much change in the dependent variable (Levin and Rubin, 2008). The correlation analysis prior to this reflected the relationship amongst all the variables. But only correlation is not enough to judge the strength of the association of the styles with TE. The variables like organization sector, education, work experience, annual income and age were used as the control variables (CV) and were entered in the first block in the analyses so as to notice the contribution by the DMS variables in TE over and above the CV. Five separate regression analyses controlling for CV were done to test the five hypotheses. The β (regression coefficients), R^2 (coefficient of determination), Adjusted R^2 (the R^2 adjusted for errors) and overall model fits (*F-Statistics*) were noticed for each regression. F value significance assured the significance of each proposed regression. The increments in R^2, i.e. ΔR^2, and the change in F-statistics, i.e. ΔF caused by each DMS in TE over and above the CV, were observed for interpreting the associations. Regression coefficient Beta (β) is measured in terms of standard deviations and is used to examine how the value of dependent variable changes, while the independent variable is varied. It also pointed out the directions of associations of different styles with TE. Coefficient of determination (R^2) attributed the contribution of the independent variable in the dependent variable. Multicollinearity (relationships amongst the styles) were also checked through the collinearity diagnostics of variance inflation factor (VIF).

	R	I	D	A	S	GDMS	Team Func.	Team Emp.	TE
n	231	231	231	231	231	231	231	231	231
Skewness	−1.530	−0.644	−0.495	0.727	−0.058	0.192	−0.263	−0.163	−0.210
Kurtosis	1.196	−0.017	0.290	−0.170	−0.030	−0.158	−0.806	−0.598	−0.761

Notes: R = Rational; I = intuitive; D = dependent; A = avoidant; S = spontaneous; GDMS = general decision making style; Func. = functioning; Emp. = empowerment; TE = team effectiveness

Table II.
Normality statistics

Path analysis-structural equation modeling
Primarily, the study aimed to test association of each individual DMS with TE. However, based on the supported hypotheses (if any) the overall model of DMS as predictor could be analyzed. The sample size matched to the conventional requirement of five observations per scale item for conducting factor analyses (Hair *et al.*, 1998; Stevens, 1996), but the causal modeling techniques can not be used on a small sample size (Solansky, 2011). However, a minimum sample size of 200 can be considered adequate to have a sufficient number of observations (Parasuraman *et al.*, 2005). Hence, it was decided that fit indices of path analyses - structural equation modeling (SEM) of DMS as a predictor of TE would be observed for the supported relationships using AMOS v20.0.

Results
Table III shows the measures of central tendencies of variables – namely CV (organization sector, education, work experience, annual income and age), independent variables (IV: rational DMS, intuitive DMS, dependent DMS, avoidant DMS and spontaneous DMS) and the dependent variable(DV: TE), where the sample size is 231. Mean scores for the IV and DV are used due to interval data type. Median is used for the CV due to the categorical data (Table I). Table III also reports the standard deviations (SD) of scores around the means. The median (M_d) organization sector is "private"; M_d education is "post-graduation"; work experience is "up to 10 years"; M_d income level is "middle" (INR 5-10 Lacs); and M_d Age of participants is "31-40 years". The scores of the five DMS are also shown in Table III. The highest average is of rational DMS (M = 4.0719, SD = 0.35806), while the least is of avoidant DMS (M = 2.3965, SD = 0.81379). In between the rational and avoidant scores, the second, third and fourth, respectively, are the scores of intuitive (M = 3.6788, SD = 0.77067), dependent (M = 3.4952, SD = 0.74386) and spontaneous (M = 3.0623, SD = 0.62074) DMS. On aggregate, TE is found 74.95 per cent (M = 3.7475/5), team functioning is 75.556 per cent (3.7778/5) and team empowerment is 74.346 per cent (3.7173/5). Few correlations between CV, DMS and TE are found significant. Rational DMS has a positive correlation with the TE ($p < 0.01$) and avoidant DMS correlates negatively with the TE ($p < 0.01$).

Table IV reveals the values of β, R^2, ΔR^2, adjusted R^2, F and ΔF. This table is important for obtaining the results of the hypotheses.

- *Regression 1: Regressing TE on CV*, the variance caused by CV in TE ($R^2 = 0.172$, adjusted $R^2 = 0.008$) and the F value 1.372 is insignificant ($p > 0.05$); however, the β coefficients of annual income ($\beta = 0.163$, $p < 0.05$) is significant.

- *Regression 2: Regressing TE on Rational DMS after controlling for CV (to test H1)*, Rational DMS positively predicts TE ($\beta = 0.121$, $p < 0.05$). The β of rational DMS signifies that a change of 1 SD in rational style will result in a positive change of 0.121 SD in the TE. Variance in TE by CV and rational style is 4.4 per cent ($R^2 = 0.044$, adjusted $R^2 = 0.018$). The significant change in R^2 means that the unique contribution of the rational DMS toward TE is 1.4 per cent ($\Delta R^2 = 0.014$). The $\Delta F = 3.317$ is significant ($p < 0.05$).

- *Regression 3: Regressing TE on intuitive DMS after controlling for CV (to test H2)*, the prediction and explanation of variance by intuitive style is insignificant ($p > 0.05$).

	M_d & M	SD	OS	Edu	WE	AI	Age	R	I	D	A	S	TF	TEmp	TE
OS	Private	–	1												
Edu	Management	–	-0.089	1											
WE	p to 10 yr	–	0.075	-0.219**	1										
AI	Middle	–	0.033	0.221**	0.388**	1									
Age	31 to 40 yr	–	0.043	-0.257**	0.767***	0.345**	1								
R	4.0719	0.35806	0.027	-0.038	-0.010	0.103	0.046	1							
I	3.6788	0.77067	0.031	-0.082	-0.068	-0.120	-0.034	0.096	1						
D	3.4952	0.74386	0.097	-0.009	-0.145*	-0.136*	-0.092	0.034	0.126	1					
A	2.3965	0.81379	-0.005	0.073	-0.145**	-0.217**	-0.163**	-0.034	0.084	**0.239****	1				
S	3.0623	0.62074	-0.026	-0.008	-0.073	-0.116	-0.083	0.085	0.243***	0.068	0.277***	1			
TF	3.7778	0.68759	0.076	-0.049	-0.045	0.049	-0.053	0.135*	0.114	-0.093	-0.335**	-0.084	1		
TEmp	3.7173	0.59264	0.092	-0.006	0.082	0.196**	0.138*	0.132*	0.030	-0.038	-0.329**	-0.105	0.765***	1	
TE	3.7475	0.60156	0.088	-0.031	0.015	0.124	0.037	0.142*	0.080	-0.072	-0.354**	-0.100	0.948***	0.930***	1

Notes: **$p < 0.01$; *$p < 0.05$; 2-tailed; $n = 231$; M_d = median; M = mean; SD = standard deviation; OS = organization sector; Edu = education; WE = work experience; AI = annual income; R = rational; I = intuitive; D = dependent; A = avoidant; S = spontaneous; TF = team functioning; Temp = team empowerment; TE = team effectiveness

Table III.
The central tendencies, standard deviations and correlations

Antecedents	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5	Regression 6	Regression 7
Org. Sector	0.082	0.080	0.082	0.090	0.080	0.081	0.084
Education	−0.072	−0.063	−0.066	−0.072	−0.035	−0.072	−0.050
Work Exp.	−0.096	−0.076	0.089	−0.107	−0.087	−0.095	−0.100
Annual Income	0.163*	0.145†	0.171*	0.156*	0.086	0.155*	0.112
Age	−0.038	0.021	0.029	0.037	0.006	0.028	0.018
Rational	–	0.121*	–	–	–	–	–
Intuitive	–	–	0.087	–	–	–	–
Dependent	–	–	–	−0.072	–	–	–
Avoidant	–	–	–	–	−0.344**	–	–
Spontaneous	–	–	–	–	–	−0.085	–
Rat. × Avo.	–	–	–	–	–	–	−0.294**
F	1.372	1.708*	1.438	1.336	6.037**	1.424	4.725**
ΔF	–	3.317*	1.741	1.149	28.728**	1.661	20.880**
R^2	0.172	0.044*	0.037	0.035	0.140**	0.037	0.112**
Adjusted R^2	0.008	0.018*	0.011	0.009	0.117**	0.011	0.089**
ΔR^2	–	0.014*	0.007	0.005	0.110**	0.007	0.083**

Notes: Org. = Organizational; Exp. = Experience; Rat. = Rational; Dep. = Dependent; Coefficients are standardized beta values (β); **$p < 0.01$; *$p < 0.05$; $^\dagger p < 0.10$; Dependent Variable is Team Effectiveness; ΔR^2 = Change in R^2; ΔF = Change in F

Table IV.
The regression-determination coefficients and the F statistics

- *Regression 4: Regressing TE on dependent DMS after controlling for CV (to test H3)*, the prediction and explanation of variance by dependent style is insignificant (*p > 0.05*).

- Regression 5: *RegressingTE on avoidant DMS after controlling for CV (to test H4)*, avoidant DMS negatively predicts TE ($\beta = -0.344$, $p < 0.01$). The β of avoidant DMS signifies that a change of 1 SD in avoidant DMS will result in a negative change of 0.344 SD in TE. Variance in TE by CV and avoidant style is 14 per cent ($R^2 = 0.140$, adjusted $R^2 = 0.117$). The significant change in R^2 means that the unique contribution of the avoidant DMS toward TE is 11 per cent ($\Delta R^2 = 0.110$). The $\Delta F = 28.728$ is significant ($p < 0.01$).

- *Regression 6: Regressing TE on spontaneous DMS after controlling for CV(to test H5)*, the prediction and explanation of variance by spontaneous style is insignificant ($p > 0.05$).

- *Regression 7: Regressing TE on interaction term of rational and avoidant DMS after controlling for CV*, rational and avoidant DMS interactively negatively predict TE ($\beta = -0.294$, $p < 0.01$). The β of interaction of rational and avoidant DMS signifies that a change of 1 SD in interactive rational and avoidant DMS will result in a negative change of 0.294 SD in TE. Variance in TE by CV and interactive rational and avoidant DMS is 11.2 per cent ($R^2 = 0.112$, adjusted $R^2 = 0.089$). The significant change in R^2 means that the unique contribution of the interactive rational and avoidant DMS toward TE is 8.3 per cent ($\Delta R^2 = 0.083$). The $\Delta F = 20.80$ is significant (*p < 0.01*). (Despite the significant correlations, the

interaction term of "rational and dependent DMS" and interaction term of "intuitive and spontaneous DMS" had insignificant prediction toward TE).

VIF showed near 1 values for all the styles. Kutner *et al.* (2004) suggested less than 10 VIF for not having the problem of multicollinearity. Thus, despite having correlation amongst them, the styles were not identical but mutually in-exclusive.

Results of the hypotheses

The significant coefficients and *F* statistics of Rational DMS as predictor of TE (in Model 2) provide support for *H1* (*H1: Rational DMS is positively associated with TE*). Similarly, the significant coefficients and *F* statistics of avoidant style as predictor of TE (in Model 5) provide support for *H4* (*H4: Avoidant DMS is negatively associated with TE*). Whereas the insignificant values of model fits and coefficients of the intuitive, dependent and spontaneous DMS could not fetch any support for *H2, H3* and *H5*.

Results of path analysis – structural equation modeling

As decided, after fetching support for certain hypotheses, the path analysis –SEM was done to obtain the model fits for rational, avoidant and their interactive DMS as exogenous (independent/predictor/explanatory/regressor) variables and TE as endogenous (dependent/predicted/explained/regressor) variable. Tested model is represented as Figure 1.

Absolute fit indices includes χ^2, χ^2/df, RMSEA, GFI, AGFI, RMR, etc. are used to look that how well the model fits the sample data. Incremental/comparative/relative fit indices utilize the comparison of chi square value to a baseline model. The results of the model fits for the model shown in Figure 1 are summarized in the Table V.

The χ^2 of the model ($p = 0.200$) is observed as insignificant ($p > 0.05$), which indicates that the model is recursive. The χ^2/df (1.64) as an indication of GFI is below 2 as recommended by Tabachnick and Fidell (1996). The comparative fit index (CFI) may range from 0 to 1; the value toward 1 is a very good fit, while value less than 0.9 can usually be improved substantially (Bentler and Bonett, 1980). Accordingly, the model's CFI (0.999) indicates very good fit. The CFI is an advancement of NFI (normed fit index), and it takes into account the discrepancy, the degrees of freedom and a non-centrality parameter estimate (Spicer and Sadler-Smith, 2005). The GFI furnishes the proportion of
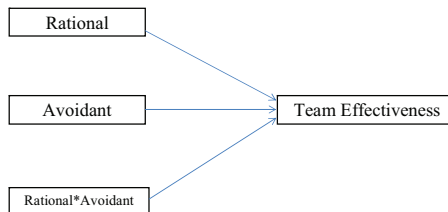

Figure 1.
Path analysis (tested model)

Table V.
The fit indices of the path analysis based on the supported hypotheses

χ^2	df	p	χ^2/df	CFI	GFI	AGFI	RMSEA	LO 90	HI 90	RMR	PCLOSE
1.640	1	0.200	1.640	0.999	0.996	0.965	0.053	0.000	0.193	0.003	0.321

variance accounted for by the estimated population variance; and the AGFI adjusts the GFI to a more saturated model. Observed GFI (0.996) and AGFI (0.965) are appropriate as per the recommended value criteria of above 0.90 (Bentler and Bonett, 1980). The RMSEA signifies how well the model fits the population covariance matrix, where 0.08 or less is a reasonable fit (Browne and Cudeck, 1993). So forth, the RMSEA (0.053) of the model is showing a reasonable fit. "PCLOSE" statistic is the probability of a hypothesis test that the population RMSEA is not much greater than 0.05. Hence, this result should be non-significant ($p > 0.05$) to prove that the RMSEA is not significantly greater than 0.05. The observed value of PCLOSE is also appropriate (0.321 i.e. $p > 0.05$). The RMR is the square root of the difference between residuals of sample and hypothesized covariance model. RMR <0.05 is indicator of a good fit (Byrne, 1998). Henceforth, the RMR of the model (0.003) is also good. LO90 (0.000) and HI90 (0.193) are also acceptable as per the recommended criteria of <0.2.

Discussion
As observed from the responses of Indian manufacturing executives, on an aggregate basis, the rational DM approach is the major DMS demonstrated during important DM by the executives. The average response on rational style had a minimum variation (SD) compared to the response on other styles. Rationality helps in exploiting the high growth potential markets (Goll and Rasheed, 1997), and the economic transformation of a country relies upon the manufacturing sector (Lewis, 1954). Therefore, the rational attributes of planning the decisions carefully; double checking information sources for the right facts; logical and systematic manner of deciding; and considering various options seem promising for the fast development of Indian economy. The least average avoidant DMS (with most variations) can be attributed to the fact that majority respondents are from private sector, with adequate management qualification and considerable (up to 10 years) experience were concerned for making decisions well in time with a great sense of responsibility. Perhaps, their median work experience and private organization sector would not allow them to procrastinate DM tasks. Thus, they generally do not avoid their DM tasks unless it is essential to do so. Further, it is also true that more or less the avoidance comes due to "too much rationality" (a tendency to take more time to determine best option) which in turn causes delays (Parker *et al.*, 2007).

The second highest average of intuitive DMS symbolizes the use of inner feelings while making decisions. According to Patton (2003), only intuition is not enough to make good decisions but a proper blend of intuition, logic and emotions will be beneficial for being effective. Hence, it can be said that Indian manufacturing executives use rationality as well as intuition in their DM to operate effectively. The third highest dependent DMS attributes that respondents emphasize social conformity and collective decisions (Mau, 2000). Their responses on the items of dependent DMS were analogous and less varied. Moreover, the response pattern also affirms that intuitive and dependent styles are the back styles of the executives, whereas the rational DMS is their major DMS (Verma *et al.*, 2012a, 2012b). Forth highest average of spontaneous DMS was comparatively less than the dependent DMS, but it was much higher than the avoidant DMS. It means that perhaps the executives at least decide at the spur of the moment rather than avoid making decisions. However, it is not an appreciable approach. Spontaneity should not prevail unless it is the need of the work profiles or the situations.

The respondents are inconsistent in their responses on spontaneous style (SD = 0.620) and this might be because their spontaneity is impulsive rather than learnt via training.

The CVs had correlations amongst themselves as well as with the DMS. From public to private sector, the work experience and annual income are observed to have lessened, having a negative correlation. It is perhaps because the public sector offers job security with lifetime employment, and in the private sector, the executives strive for their existence. Moreover, in the public sector, the promotions are mostly seniority based, while in private sector, merit-based promotion policy prevails. From public to private sector, the rational and dependent DMS are observed to rise having a positive correlation. Comparatively, the rationality in the public sector is lesser and dissimilar to that of the private sector. Rational DMS of the public sector signifies a procedural (rule based) requirement, whereas in the private sector, it denotes the real rationality of developing appropriate alternatives and choosing the best (Verma et al., 2012a). The tough performance review systems and stringent performance-based advancements in the private sector demands such approach. Dependent style can be either due to social conformity and decisional quality improvement or due to the compelling positional requirement. The dependence is higher in the private sector because here advice is given to improve the decisions. Whereas in the public sector, dependent style is comparatively lower but inescapable due to the red tapism phenomenon – where proper positional channels hamper the decisions unless various sanctions are obtained (Verma et al., 2012a).

Work experience correlated negatively with dependent and avoidant DMS, indicating that the past experience of DM makes the executives less dependent and less avoidant. Similarly, the increase in annual income makes the executives confident enough that they consider themselves self-sufficient and depend less on others for DM. Annual income also has negative correlation with avoidant DMS. It means that with rising income levels, people become less avoidant in their DM. Team empowerment also correlated positively with annual income. Perhaps the executives with greater income levels demonstrate higher task functions like task clarity, accountability, support and autonomy; hence, they have higher perceived empowerment. Age negatively correlated with avoidant style to demonstrate that the executives become less avoidant with growing age. Also the rising age levels seems to bring in more empowerment.

The correlation amongst the styles indicates that the respondents had simultaneously more than one style in their DM behaviors. This finding was in favor of the proposition by Scott and Bruce (1995) that the general DMSs are not mutually exclusive. Other scholars have also found the positive correlation between "intuitive and spontaneous" and between "rational and dependent", for e.g., Scott and Bruce (1995), Loo (2000), Gambetti et al. (2008), Salo and Allwood (2011). In present study, rational and dependent DMS significantly correlated attributing that perhaps the executives take advices from their colleagues and coworkers to make rational choices. However, scholars, for e.g., Fischhoff (1992), Schwartz et al. (2002) and Iyengar et al. (2006), have argued that consultation with inappropriate people may deteriorate the quality of decisions, while the advice from experts can increase the decision quality. Hence, it is important to follow and include right advisors in DM. The correlation of intuitive and spontaneous DMS symbolizes that Indian manufacturing executives rely on their gut feelings and make decisions on the spur of the moment. This intuition is not based on expertise and experience because the average experience of participants was up to 10

years and an experienced person can rely on the intuition of experience (Patton, 2003). The intuition of executives could also be drawn from their educational expertise. It is important to highlight that neither intuitive nor spontaneous style had a significant correlation with the TE. However, the positive correlation of rational style with TE somehow added to the hypothesis that this style enhances the TE, and the negative correlation of avoidant style with TE reflected support for the hypothesis that the TE lessens with rising avoidance.

In addition to the correlation, the regression analyses revealed few interesting facts about the associations of the variables. The CV showed insignificant model fits as predictors of TE; however, the annual income seems to have a positive impact on TE. This attributes that the TE increases with the rising income levels. The addition of rational style in the model has positive prediction toward TE as well as it has significant *F* value. Rational decision-makers assess long-term effects of their decisions and they have a strong fact-based task orientation toward DM (Tambe and Krishnan, 2000). Earlier also this style was related to higher performance through the initiation of structure and an internal control orientation (Kohli, 1989; Bagozzi 1980). Our findings also propound that rational DMS leads to better TE (team and task functions). It implies that higher levels of cohesion, collaboration, confrontation and empowerment are associated with the higher levels of rational approaches of the executives. With the view of Spicer and Sadler-Smith (2005), rational and intuitive styles are alternative ways of approaching a problem, and both should ideally be balanced. The impact of intuitive style on TE is however insignificant. Considerably dependent DMS of the executives reflects the collectivist Indian culture. However, this style also does not predict their TE.

The avoidant style is observed as a significant negative predictor of TE. This style is characterized by delay and denial, and is linked to poor performance (Russ *et al.*, 1996; Tambe and Krishnan, 2000). Perhaps, it is so because the avoidance creates a bulk of dependency and any team cannot function effectively if the members are too much avoiding. It causes delays in tasks and goal achievements. Our results supported the arguments of Parker *et al.* (2007) that too much rationality (maximization) might cause too much avoidance, which, in turn, reduces the effectiveness. The avoidant approaches could be because of the rational procedures, but it should be removed from the DM behaviors of team members. Executives should be made competent as well as authorized enough to take their decisions well in time.

Spontaneous DMSs did not predict TE as attributed to the fact that the sample of the study was drawn from the Indian Manufacturing Industry. The nature of the jobs of the participants was less risky and less sensitive. The peculiarities of emergencies and hardships were not involved in their job profiles (Flin *et al.*, 1996). The element of spontaneity came in their DM due to the need of completion of DM tasks within time. But the respondents did not require quick identification of facts and had no compulsion of DM despite the distractions and chaos (Kaempf *et al.*, 1996). Therefore, their Spontaneous DMS did not account for significant variation in the TE.

Rational DMS contributed positively towards the TE (measured as a combination of team functions and task functions) to indicate that whenever a rational choice is made, it increases the TE. But, the avoidant DMS also is also found to have contributed toward TE, but in a negative direction. It means that being avoidant, the executives may degrade their TE. It may be argued that possibly this avoidance is itself inevitable due to much time needed in weighing and measuring various alternatives in order to make

rational decisions. However, having noticed the negative consequences of avoidant style, it is suggested to be vigilant that the rationality does not take the form of maximization and delays.

The interaction terms of "rational and dependent" style and "intuitive and spontaneous" style were developed to test the impact on TE. The correlation of these styles had prompted to test the associations. The results were not significant. However, the interaction of rational and avoidant DMS came out to be a significant predictor of TE. It implies that the avoidance while accumulating as many options for making rational decisions is detrimental for TE. However, the negative impact is lessened in avoiding being rational as compared to that in the case of being procrastinating (avoidant) without any reason. The test of path analysis fit indices provide firm support for the rational and avoidant DMS as predictors of TE. Their interaction also bears significant impact on TE. Therefore, ultimately, the rational and avoidant DMS independently as well as interactively can be called as the predictors of TE in the Indian Manufacturing Industry.

Conclusion

This research unleashes important findings pertaining to DMS and TE of Indian manufacturing executives. The reason why DMS was chosen as a predictor of TE is that the DM is a crucial activity and member styles of DM could affect the dimensions of TE. Manufacturing industry has significant contribution toward the economic growth of India. As per the results of this study, the executives foremost endorse rationality in their DM that is based on advices and suggestions sought from others. The long process of rational DM leads to delays and thus brings avoidance in their DM behaviors. Perhaps with such delays, the executives decide at the last moment for the sake of meeting deadlines leading to spontaneity. Their major rational style is backed up by the intuitive and dependent styles. Whereas, the avoidant DMS is minor but considerable in their DM behaviors. This study provides empirical evidence that DMS bears significant impact on TE (measured as a combination of interactive team functions and procedural task functions). The relationship of interactive and independent rational and avoidant DMS with TE attributes that rationality assures right facts which bear positive associations with the TE, whereas procrastination and ignorance degrades the TE. Also the avoidance turns rationality into maximization that reduces the TE. The edge in this research over the previous studies is that earlier scholars like Campion *et al.* (1993, 1996), Mathieu *et al.* (2008) advocated significant associations between composition variables and team process-effectiveness measures, but they did not examine individual-member traits' impact on TE. Even those who did so (Barrick *et al.*, 1998; McGrath *et al.*, 1995; Mannix and Neale, 2005), did not considered DMS as a predictor of TE. Ross *et al.* (2008) propounded TE as a function of member style and appealed for diagnosing the standard variable to measure the member style. This research is, therefore, unique in its kind. Moreover, unlike other researches, it focuses on DM style rather than the DM process itself. Also, the focus on the sample of Indian manufacturing executives bears importance in IMOI-based TE researches.

Implications

Significant practical and theoretical implications might be drawn from the current study. Prevalent rational approach reflects planfulness and thoughtfulness on the part

of the Indian executives. Also, least-avoidant DMS further adds to this. The executives may scrutinize their DMS and adopt rational DMS to better their team/task functions. Going by the negative prediction of TE through avoidant DMS, the executives may lessen procrastination to improve the TE. Interactive rational and avoidant DMS predict TE to imply that the tendencies of delaying decisions in lieu of obtaining most alternatives reduces the TE. This study highlighted the socially acceptable DM behaviors for improving organization as a team and, therefore, it bears substantial social implications. Rational DMS is the most desirable DMS for enhancing and sustaining effective team and task functions. The paper brings out important understandings that will enable teams to function more effectively in the practical world and especially in organizations. The results may also guide the practitioners to address issues related to DM and teams in Indian manufacturing contexts. It may help select and train executives who may be successful in position profiles with endorsement of correct DMS. Management development and training activities may be directed based on the findings to raise best approach to making decisions (Al-Omari, 2013). Consultants and practitioners may experiment upon behavioral change training programs to transit DMS of executives to fetch improvement in their teams. The findings also tend to add to the knowledge base of academicians and researchers in the field of teamwork and team building. This study extends research on identifying predictors of TE. It serves as a source of important literature on DMS as well as on TE. In general, the researchers may learn about the existence of various DMS (rational, intuitive, dependent, avoidant and spontaneous) and TE components (TF and TEmp) in Indian manufacturing firms. Researches may be carried out to check for generalization of findings in other industries and contexts. Implications are thus for the psychology of DM and teamwork. Management education programs may be guided to incorporate the awareness regarding suitable DM approaches for raising effective teams.

Limitations and scope for future research
Like any other survey-based research, personal self-serving bias and particularity of questions are the limitations of this research. However, individual self-reports are the best (Humphrey *et al.*, 2010) and preferred measures in management development researches (Groves *et al.*, 2008). The cross-sectional research design where the data are gathered one time using questionnaires is also a limitation. Artificial covariation between the independent and dependent variables (common method variance) could be another limitation. Though, genuine responses were ensured through anonymity, and the SEM results have also accompanied the hypotheses results. Prior, a single factor analysis based on Podsakoff *et al.* (2003) was run to diagnose the single source bias and common bias error. Here, the first factor accounted for 13.881 per cent variance. As the first factor did not account for majority (above 50 per cent) of the variance, it removed the concern of common method bias or single source bias (Podsakoff *et al.*, 2003). Also, the sample size ($n = 231$) might not be the absolute representative of the entire Indian manufacturing industry. Though, subject to time and budgetary constraint, the response rate (32.76 per cent) is satisfactory. The study has considered only one independent variable, i.e. DMS; it may not be the only predictor of TE and hence a major part of the TE remained unexplained with it. Additional variables which may have certain influence on TE (for e.g. leadership, efficacy, etc.) have not been considered in

this study. An associated limitation is the constraints of specific DMS and TE frameworks.

The present study not only reveals significant interesting facts but it also marks out immense prospective research suggestions. Executives of the collectivist Indian society should be involved with their colleagues. This is reflected as well from their third highest scores on the dependent style. However, such dependence bears no significant impact (positive or negative) on their TE. It is, therefore, critical to investigate, why is it so? It may also be enquired that why spontaneous DMS did not relate with TE even if the executives have to address contingencies at work? Researchers may address the existing research limitations and further advance this work via new contextual (regional and industrial) diagnosis, longitudinal research design, use of 360 degree stakeholders responses and so on. Cross-national studies with increased sample size can also be done to see the change (if any) in the impact of DMS on TE. Longitudinal research design as well as situational analyses can be followed in future researches. This study tried to analyze the impact of aggregates of various DMS on TE. Individuals contribute a diversity of skills, expertise (Espinosa *et al.*, 2004) in teams. Therefore, in addition to the mean levels of member's style, the diversity-based analysis could also be used to predict TE. Moreover, it would be interesting to further analyze the relationships of DMS and TE by using other DMS, e.g. maximiser, satisficers, behavioral coping, consultative, participative, delegatory, autocratic, etc. (Parker *et al.* 2007; Yousef, 1998). Other TE frameworks (Campion *et al.*, 1996; Erez *et al.*, 2002, etc.) may also be used. Suggestively, an alternate relation, i.e. the impact of TE on DMS, can also be explored. An additional linkage to the variable of team leadership may also be explored in future researches.

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Appendix 1

DMS	Sample item
Rational	When making a decision, I consider various options in terms of a specific goal
Intuitive	When I make a decision, it is more important for me to feel the decision is right rather than to have a rational reason for it
Dependent	I rarely make important decisions without consulting other people
Avoidant	I avoid making important decisions until the pressure is on
Spontaneous	When making decisions, I do what seems natural at the moment

Table AI.
Sample items GDMS

TE dimension	Factor	Sample item
Team functioning (team function)	Cohesion	Members generally feel that their concerns and views are ignored by other members (negatively sentenced)
	Confrontation	The team generates alternative solutions for a problem
	Collaboration	Members do not volunteer to help others (negatively sentenced)
Team empowerment (task function)	Task clarity	Each member knows what his or her role in the team is
	Autonomy	The team does not have autonomy in vital aspects of its working (negatively sentenced)
	Support	The team has adequate resources and enough competent members needed for its work
	Accountability	No one cares to assess the true extent of achievement of the goals of the team (negatively sentenced)

Table AII.
Sample items, TEAM

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