A Literature Review-Bird Eye View of Decision Making Concepts

Dr Rima Bin Saeed

College of Business Administration; King Saud University, Riyadh, Kingdom of Saudi Arabia

Abstract

Decision-making is a critical feature of every organization and in daily undertakings, decisions are taken at every step. It is also considered as one of the significant function of management. Understanding this vital concept is critical for every business success since it will help strategists and authoritarians to make more cautious, thoughtful and rational decisions by organizing relevant information and defining alternatives. In light of this, the current paper will review the relevant theories and models to offer insights on the decision making process, theories and models.

Keywords: Decision making, Group decision making, decision making techniques, theories of decision making

1. Introduction

Stoner et al. (1994) stated decision making as the procedure by which a sequence of action is designated as the resolution to a precise problem. Mintzberg et al. (1976) stated a decision process as: "*a set of action and dynamic factors that begins with the identification of a stimulus for actions and ends with a specific commitment to action".*In organizations decision making is mostly made by group rather than one person, so basically it is the process that is social whose results are mostly spread between collection of members in organization (Chen, Lawson, Gordon & McIntosh 1996; Gioffre, Lawson & Gordon 1992; Offermand & Gowing 1991; Sniezek & Henry 1990).Lawson & Shen (1998) stated that it is significant to acknowledge that decision making in firm mostly comes within blustery and inharmonious circumstances where nothing is constant. (Bartol et al.1998) argued that many critical decisions in firms with far reaching impact are taken by groups. Moreover he further elaborates the significance of group decision making by stating that competitive position of the firm is sustained and promoted if the decision making is done by groups. The decision taken by groups are better than the ones taken individually (Michaelson,Watson & Black 1989; Henry 1993; Paese, Bieser & Tubbs 1993; Gigone & Hastie 1993;Straus & McGrath 1994).However decision effectiveness in terms of speed is better if taken individually. The process of group decision is defined by give and take, which takes time. Effectiveness might mean the extent to which a decision shows creativity (Robbins et al. 2000).The theorists exhibit that if creativity is vital, groups tends to be more effective decision makers than the individual, moreover it was also noted that size of the group influences group decision making (Bartol et al. 1998; Robbins, et al. 2000; Stoner et al. 1994).Bobbins et al.(2000) states that the larger group has more opportunity for diverse demonstrations, but due to the size of the group the coordination is difficult and a lot of time taken by members to contribute (Bartol et al. 1998).It is suggested that the effective group should have 5 to 7 members so that dead lock can be avoided. Such groups are good enough for participants to swap roles and pull out from unfavorable position yet small enough for participants to be active in discussion (Henry 1993; Paese et al. 1993; Gigone & Hastie 1993; Straus & McGrath 1994).Decision making is commonly assigned to a group, board or any ad hoc committee. However many millennial organizations are trying to give more responsibility to the lower level staff for taking decisions. Lewis, et al.(2001) stated firms are pushing decision making at lower levels since they are more focused on improving customer services and quality management. Therefore in light of the current discussion it can be stated that decision making is critical to every organization and mostly taken at the top management level. Mostly business are taking decisions in groups, and in this new era line staff has also been given decision making rights since they are in direct contact with the end user and consumer. But what is the best way to take a decision is a dilemma, keeping this in view the paper will shed light on few of the approaches theoreticians have contributed in decision making literature. Lewis et al(.2001) stated that participative decision making is not the technique that is applicable to all the situation. Managers may use range of techniques to include firm's members. It all depends on manager, firm, members of firm and the nature of the decision. The section below will briefly discuss different theories and models given by scholars for decision making comprehension.

1. The models of decision making

1.1 The Rational Model

Manager using this model is assumed to be fully informed and rational which is defined as "economic man" under neoclassical microeconomic theory around the middle of the previous century. Simon (1977) provided steps for rational decision-making procedure that consisted of the following steps.

Research on Humanities and Social Sciences
www.iiste.org
ISSN 2224-5766 (Paper)   ISSN 2225-0484 (Online)
Vol.8, No.6, 2018

1. Intelligence: Searching for events to make a decision.
2. Design: Inventing, developing and analyzing of possible solutions.
3. Choice: Making a selection from potential solutions; and
4. Review: Evaluating previous choices.

In conventional rationality, there is a numerical value which is assigned to each of the alternatives while making a selection. The alternative having highest value or is expected to have maximum value is chosen. Managers under the rational model are assumed to be aware of all possible alternatives and consequences of their implementation, having a systematic set of alternatives' preferences and their numerical comparisons to make a choice. Simon (1979) worked on the concept of bounded rationality in which he showed that rational manager may have incomplete information so the best choices are not always necessary. According to Simon (as quoted by Chase et al. (1998), "human coherent conduct is formed by a clippers whose two blades are the arrangement of task surroundings and the computational abilities of the actor." These clippers censor the problem space into a much lesser zone that is viable to examine. Bounded rationality is considered by the actions of probing and satisficing. Alternatives are sequentially examined and evaluated. Alternatives' search ends if an alternative satisfies a specific criterion whether it is implicitly or explicitly stated and is called to "satisfice". Identification of regularities in the task environment can make searching easier. While Simon is well known for the bounded rationality theory, it still explains rational behavior because of which some researchers such as Huber (1981) and Das and Teng (1999) do not differentiate while classifying decision-making.

1.2 The Incrementalist view
A traditional view includes a step-by-step process of incremental changes and keeps the strategy flexible. Lindblom's (1959) explained incrementalist view with the concept of "muddling through" in which appropriate smaller changes are made to solve existing issues rather than accomplishing the broader end goals. Decision making in incrementalist view is considered to be evolutionary and not revolutionary because the strategy is not supposed to be definite.

1.3 The organizational procedures view
According to this view decisions making is the result of fixed standardized procedures followed by organizational subunits. March (1988) has worked around the concept. Huber (1999) calls this view "program model" to signify that existing procedures and routinized thinking of the people consist of pre-programmed decisions. Das and Teng(1999) call it as the "avoidance mode" because of a standard routinized decision-making approach which maintains the status quo and doesn't encourage innovation. On contrary, Krabuanrat and Phelps (1998) consider this view positively as the use of formal explicit organizational experience.

1.4 The political view
According to this view, decisions are the outcome of personal interests' satisfaction rather than being rational for organization's wellbeing. People in organizations have different goals, preferences and relevance of information. People with similar self-interest form different groups while decision making is delayed due to the quest between various groups in satisfying one's own agendas through influence and power. Pfeffer (1981) has made valuable contribution in the area of power and politics in decision-making.

1.5 The garbage can model
Cohen, March and Olsen (1972) worked on "Garbage Can Model". It views decision making in organization as "Organized Anarchy". This model, like political model; considers conflicting interest of the organization's members but also views the nature of the decision-making as fragmented and chaotic instead of being political where power and influence overtake decision making. According to this view, decision is an outcome of understanding of various organization's independent streams mainly:
Problems: (In search of solutions and opportunities to be solved)
Solutions: (In search of problems to provide solutions)
Participants: (Whose presence is temporary and their attention is divided)
These streams combine at a chosen opportunity which is termed as "Garbage Can". Garbage Can is removed on making a decision. Decision-making is majorly dependent on the participants in the garbage can and since their presence is temporary so garbage can might be removed without even having all or few problems resolved.

1.6 The individual differences perspective
This perspective takes the attitude of the manager in consideration. According to this perspective, the problem-solving behavior of the manager is influenced by the decision-making style, background and personality. Since different managers have different personalities and characteristics so they may differ in their problem-solving behavior therefore, they come to different solutions. According to Keen and Scott Morton (1978), this view has

not been given much consideration.

1.7 Naturalistic Decision Making

It is about understanding decision-making in its natural context. This model differs from other descriptive models, organizational procedures, garbage can or political views. Klein's (1998) recently introduced "Recognition-Primed Decision (RPD) model" in the field of naturalistic decision making. Klein examined over 600 decisions made by people in life-or-death situations, such as firemen, nurses and soldiers. Decision-maker's ability of recognizing the situation as being similar to that of a past experience is considered to be the fundamental of RPD model where problem and a strategy to solve it is expected to be recognized by the decision-maker. Decision-maker then visualizes, evaluates and reviews the implementation of that strategy until he gets comfortable with it. Decision-making becomes complex and more information in needed in case the decision-maker is unable to recognize it as similar to the past situation. According to this model, experience increases the person's ability to recognize the situation and hence, increases the likelihood of good decision making.

1.8 The multiple Perspectives approach

Mitroff and Linstone (1993) introduced the multiple perspectives approach to decision-making to bring in all the possible perspectives of an issue. Singer and Churchman's (1971) concept of unbounded systems thinking which assumes that any problem is a member of any other problem, is the foundation of this approach. According to this approach, perspectives are classified as either technical, organizational or individual in nature. Technical perspective would encompass analytical models that collect data as a basis of understanding the system. Different technical views and suggestions would be presented by different analyst or modelling projects regardless of the project presenting only an objective and rational picture of the situation. Therefore, different views are appreciated. Similarly, for the organizational and individual perspective; different role players and stake holders should be considered. Data collection, especially in organizational and technical perspectives; from multiple sources and modes is another way of ensuring the "sweeping in" approach i.e. bring in various views. In addition to technical, organizational and individual views, Mitroff and Linstone (1993) suggest to consider ethical and aesthetical perspectives too since a decision that is right from a technical perspective might not be ethical.

2 Techniques for decision making
2.1 The Vroom-Yetton Technique

The vroom yetton(1973) designed a model for participative decision making that tend to help manager identify when group decision making is appropriate. The model shows the decision making context of managers more appropriately, and this model expands the three main decision making methods that are individual, consultative and group. In order to come up to the best decision a manager require to assess the situation and then select one of the 5 styles that have been developed by vroom (1998).As indicated in the table below the five styles of the model are spread on the scale. The decision procedures become increasingly more participative as one moves from the very autocratic style (AI), in which the manager decides alone, to the consultative style (CI), in which the manager consults with the group before deciding, to the group style (GII), in which the group is allowed to decide by the manager. Table 1 has explained the same concept

Table:1

AI The manager resolves the problem alone using information accessible at the time. **AII** The manager resolves the issue all by himself after attaining essential data from assistants. **CI** The manager resolves the issue after taking ideas and recommendations from subordinates Individually. The decision may or may not show their advice.	**CII** The manager resolves the issue after taking ideas and recommendations from subordinates as a group. The decision might or might not reveal their counsel. **GII** The group studies the issue classifies and evaluates substitutes and then decide.The manager then works as coordinator of the group of subordinates and agrees and implements any resolution that has the provision of the group.

Source: Adapted from Vroom-Yetton (1973). *Leadership and decision-making…*

The Vroom-Yetton (1973) model delivers decision tree, which permits the manager to slim the portions accessible and decode the correct range of group participation in decision. This model also permits the manager to propose the quantity of participation and time desired for the correct resolution.
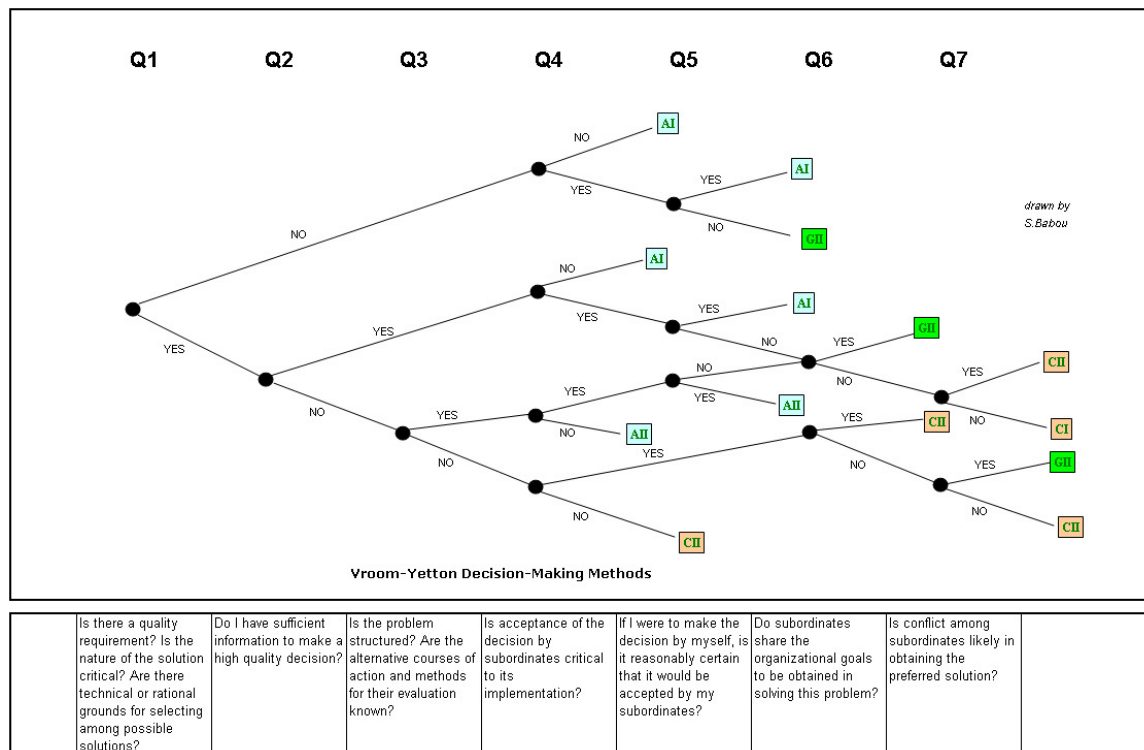
| Is there a quality requirement? Is the nature of the solution critical? Are there technical or rational grounds for selecting among possible solutions? | Do I have sufficient information to make a high quality decision? | Is the problem structured? Are the alternative courses of action and methods for their evaluation known? | Is acceptance of the decision by subordinates critical to its implementation? | If I were to make the decision by myself, is it reasonably certain that it would be accepted by my subordinates? | Do subordinates share the organizational goals to be obtained in solving this problem? | Is conflict among subordinates likely in obtaining the preferred solution? | |

Figure 1

Source: Adapted from Harrison E.F. (1993). 'Interdisciplinary models of decision-making',
Management Decision.

In the first fragment of the model the manager deals with the meaning of the decision and range of styles of leadership that fluctuate from extremely autocratic to extremely participative. The four styles of group comprise of the autocratic leadership style, the consultative style, the group decision style and the delegated decision style. The second portion is the description of decision efficiency, which deals with the association of the decision to the productivity of group .This feature poses, for the manager, the question of how significant group approval of the decision needs to be for it to be effectively executed. The manager directs the extent of participation in decision. The manager must decide the decision efficiency and the best way to stretch the preferred level of efficiency. The Vroom-Yetton model determines that the manager, as the vital player, must make rulings about the features of the problems being confronted. Successful leadership style selection is established on how the manager is capable to response the analytic question. Precisely (Lewis et al. 2001). The common measurement of supervision-found in all Situations of leadership is the capability to notice a required aim and to aid others participate to this idea and to act in agreement with it (Lewis et al. 2001).

2.2 The Nominal Group Technique(NGT)

Nominal group technique is a well designed process developed to fuel creative decision making by groups, where there is a disagreement or the group members lacks knowledge about the problem (Bartol et al.1998; Lewis et al. 2001;Pashiardis 1993; Robbins et al. 2000).This model increases creativity and decision making that incorporates both individual work and group interactions with assured major guidelines. Model was aimed to enhance creativity at both levels of decision making that is individual and group and further get over with the trend of criticism for new and unique ideas whenever they were contributed by the members. This was used in the circumstances in which group participants should collect their opinions and ideas to resolve the issue and identify a satisfactory action plan (Bartol et al.1998; Lewis et al. 2001;Pashiardis 1993; Robbins et al. 2000).When the decision nature is one that is complex and complicated or the members are being faced with hindrances like few members who are dominating). Lewis et al (2001) & Pashiardis (1993) stated that the model is overall effective in breeding large creative substitutes while keeping satisfaction of group at place

2.3 Brainstorming

This technique is aimed at producing as many novel ideas as possible by enhancing creativity and not judging the ideas participated by the members of the group (Bartol et al.1998)

Robbins et al. (2000) figured out that classic brainstorming sitting, six to 12 individuals sit around a table.

The leader of the group tells that problem in a succinct manner that is understood by all members. Stoner et al. (1994) stated that brainstorming method has four basic rules, do not condemn any idea during its generation, freewheel, give as many ideas and progress on already existing ideas. Bartol et al. (1998) also propose that brainstorming is frequently joined with other methods such as selecting a word in a dictionary and brainstorming associations among the word and features of the problem.

2.4 The Delphi Technique

This was designed by the Rand Corporation in the early 1960 (Pashiardis 1993),is a tool utilized to sum up the view without a group ever gathering or forming. Lewis et al. (2001) stated that this technique is majorly beneficial for a busy manager to use with his busy subordiantes who can reply and their free time or even from their homes and without formal meetings. The Delphi technique defines the issue, consider the substitutes and then select the most appropriate one Pashiardis (1993), however it is being used under distinct conditions. Lewis et al. (2001) differentiate the main variance between The Nominal Group Technique (NGT) and the Delphi technique on the foundation that the Delphi technique members do not meet face to face. Pashiardis (1993) points out a significant benefit of the Delphi technique; members do not know each other so there is privacy among the players. This is a good attribute of the technique because it safeguards more impartiality in the comments made and it also defends the process from the impact of those who are more influential or extroverted from altering other ideas.

3.0 Conclusion

To sum up, the group decision-making models and the techniques discussed in this paper offers the managers a set of choices, which can be embraced to match any specific task at hand. The Delphi Technique looks to forthcoming requirements. Subordinates may poll the managers to see what they need in order to give for them in the most operational way. Brainstorming is an idea breeding method that inspires different opinions while squashing criticism. If a manager requires a benign and arranged surroundings, the decision-making model should reflect the Nominal Group Technique (NGT). By using this technique managers can enlist their opinions of what is essential for a harmless and arranged learning surroundings. If a manager are not certain of the suitable group method they may refer the Vroom-Yetton model. This allows to ask analytic questions for example "Should I involve others? Or "Should I direct my assistants to make a group?" In order to use the Vroom-Yetton Method the manager should choose whether to include others and which employee retain the appropriate information or skill. Therefore these models provide substitutes that might allow groups to have any level of participation in any form of decision making. A good understanding and the establishment of sound decisions and policies are very imperative for governance in all companies. Decision making helps the business to face and tackle new difficulties and challenges. Quick and correct decisions taken on time aids to solve problems faced by organizations and help these organizations to excel. This article would be useful for managers or employees with any decision-making capacity in their organizations moreover this paper will also guide the head starters to get the knowledge of decision making significance.

References

- Bartol, K., Mattin D., Tein, M., & Matthews, G. 1998, *Management: a Pacific Rim focus,*McGraw-Hill, Sydney.
- Chase VM, Hertwig R & Gigerenzer G, 1998, Visions of rationality, Trends in Cognitive Sciences, 2(6), pp. 206–214.
- Cohen, M.D., March, J.G., & Olsen, J.P. 1972, 'A garbage can model of organizational choice', *Administrative Science Quarterly,* vol. 17, pp.1-25.
- Chen, Z., Lawson, R.B., Gordon, L., & McIntosh, B. 1996 ' Groupthink: Deciding with the leader and the devil', *Psychological Record*, vol. 46, pp. 581-590.
- Das TK & TENG BS, 1999, Cognitive biases and strategic decision processes: An integrative perspective, Journal of Management Studies, 36(6), pp. 757–778.
- Gigone, D & Hastie R., 1993 'The common knowledge effect: Information sharing and group judgment', *Journal of Personality and Social Psychology,* November, pp.959-974.
- Gioffre, K., Lawson, R. B., & Gordon, L.R. 1992 ' The effects of decision outcome dispersion upon organisational decision-making', *Psychological Record*, vol. 42, pp. 427-436.
- Harrison, E.F. 1993 'Interdisciplinary models of decision-making', *Management Decision,* vol. 31, pp. 27-33.
- Henry. 1993, 'Group judgement accuracy: Reliability and validity of post discussion confidence judgments', *Organisational Behaviour and Human Decision Process*,October pp.11-27.
- Huber GP, 1981, The nature of organisational decision making and the design of decision support systems,

Management Information Systems Quarterly, June 1981

- Krabuanrat K & Phelps R, 1998, Heuristics and rationality in strategic decision making: An exploratory study, Journal of Business Research, 41, pp. 83–93.
- Keen PGW & Scott Morton MS, 1978, Decision support systems: An organizational, perspective, Addison-Wesley, Reading (MA).
- Klein G, 1998, Sources of power: How people make decisions, MIT Press, Cambridge (MA).
- Lindblom CW, 1959, The science of muddling through, Public Administration Review, 19(2), pp. 79–88.
- Lawson, R & Shen, Z. 1998, *Organisational Psychology: Foundations and Applications*, Oxford University Press, Oxford.182
- Lewis, P., Goodman, S.H., & Fandt P.M. 2001, *Management: Challenges in the 21st century,* 3rd edn, South-Western College Publishing, Ohio.
- Mintzberg, H. 1979, *The Structuring of Organisations*, Prentice-Hall, Englewood Cliffs, New Jersey.
- Mintzberg, H. 1983, *Power in and around Organisations,* Prentice Hall Sydney.
- Mintzberg, H., Rasinghani, D., & Thearet A. 1976, 'The structure of unstructured *decision* process', *Administrative Science Quarterly*, vol. 21, pp. 246-275.
- Mitroff II & Linstone HA, 1993, The unbounded mind, Oxford University Press, New York (NY).
- March JG, 1988, Decisions and organizations, Basil Blackwell, Oxford.
- Michaelson, L.K., Watson, W.E., & Black R.H. 1989, 'A realistic test of individual vs. group consensus decision making', *Journal of Applied Psychology,* vol. 74, pp. 834-839.
- Offermand, L.R., & Gowing, M.K. 1991 'Organisations of the future: Changes and challenges', *American Psyhologist,* vol. 45, pp. 95-108.
- Pashiardis, P. 1993 'Group Decision Making: The Role of the Principal', *International Journal of Educational Management*, vol. 7, pp. 8-11
- Paese, P.W., Bieser, M & Tubbs, M.E. 1993 'Framing effects and choice shifts in group decision making', *Organisational Behaviour and Human Decision Process,* October pp. 149-165.
- Pfeffer J, 1981, Power in organisations, Pitman Publishing, Marshfield (MA)
- Robbins, S.P., Bergman, R., Stagg, I & Coulter, M. 2000, *Management,* 2nd edn, Prentice Hall, Sydney.
- Stoner, F. A., Yetton, W., Craig, F. J., & Johnston D. K. 1994, *Management,* 2nd edn, Prentice Hall, Sydney
- Sniezek, J.A., & Henry, R.A. 1990 'Revision, weighting, and commitment in consensus group judgment', *Organisational Behaviour and Human decision Process*, vol. 45, pp. 66-84.
- Straus, S.G., & McGrath J.E. 1994 'Does the medium matter? The interaction of task type and technology on group performance and member reaction', *Journal of Applied Psychology*, February, pp.87-97.
- Simon, H.A. 1977, The new science of management, Englewood Cliffs, NJ: Prentice Hall.
- Simon HA, 1979, Rational decision making in business organisations, American Economic Review, 69(4), pp. 493–513.
- Vroom, V.H., Yetton, P.W., 1973, *Leadership and decision-making,* Pittsburgh Penn: University of Pittsburgh
- Vroom, V.H., Jago, A.G., 1988, *The New Leadership: Managing Participation in Organisations*, PrenticeHall, Sydney.