

: *What are characteristics of decision processes?*

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In the past 50 years, a number of authors have identified and described characteristics that vary in organization decision processes. Characteristics are attributes of the decision, the process or the situation, for example, risk, routinization or anticipated amount of discussion. Evaluating the level of these characteristics can assist in determining if computerized decision support will be useful in a decision process. Also, the level of some characteristics may help prescribe what type of decision support will be useful and is a good fit. So let's examine in some detail the characteristics models of Snyder (1958), Hage (1980), and the Bradford Group (1981).

Snyder Model

Snyder (1958) developed a decision making approach for studying political phenomena. His major contribution is a typology of decision situations. Snyder argues that three key variables, in addition to the decision situation, explain decision-making behavior: 1) spheres of competence, including specialized functions, authority relations, the basis of participation and reciprocal expectations; 2) communication and information; and 3) motivation of the decision makers, including personality of decision makers.

Snyder's analysis emphasizes the interaction of the decision-maker with the various elements of the situation. He suggests this interaction affects the decision makers' scale of preference and the set of rules that govern the actions of the decision-makers, e.g., the manner in which alternative choices are presented and the procedure for voting.

According to Snyder a "situation" is an analytical concept that points to a "pattern of relationships among events, objects, conditions, and other actors organized around a focus (objective, problem, course of action) which is the center of interest for the decision-makers (p.18)." He presents the following typology for classifying decision situations:

- a) Structured vs. unstructured situations – the relative degree of ambiguity and stability
- b) Degree of requiredness – situations have differing amounts of pressure to act and pressure comes from differing sources
- c) Cruciality of situations – their relatedness to, and importance for, the basic purposes and values of the decision-makers

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- d) Kinds of affect with which the situation is endowed by the decision-makers – threatening, hostile
- e) How the problem is interpreted and how its major functional characteristic is assigned – political, moral, economical, military, or a combination of these
- f) Time dimension – the degree of permanence attributed to various situations, and
- g) Degree to which objective factors impose themselves on the decision-makers – the number of uncontrollable factors and imponderables.

Synder says of his typology that "perhaps the chief advantage of such a breakdown is to remind us of the fact that certain objective properties of a situation will be partly responsible for the reactions and orientations of the decision-makers and that the assignment of properties to a situation by the decision-makers is indicative of clues to the rules which may have governed their particular responses (p.18)."

Hage Model

According to Hage (1980) "Whether the decision is of high or low risk, it goes through a process. To analyze this process, it might be useful to think of the decision-issue as having a trajectory. This trajectory passes from individual to committee to individual to staff meeting and the like (p.116)." Hage argues the process by which decisions are made can be predicted even if it appears to be a highly unique phenomenon.

Hage defines the following thirteen characteristics of a single decision trajectory: 1) **Degree of routinization** is the extent to which specified steps in the process are defined and used; 2) **Degree of delegation** is the extent to which the bulk of the process occurs at lower echelons; 3) **Duration** is the length of time between the first proposal and final decision outcome; 4) **Intensity of participation** is the amount of effort each interest group expends; 5) **Amount of discussion** is the amount of time spent considering verbally the decision-issues; 6) **Extensivity of participation** is the number of interest groups involved; 7) **Amount of information search** is the extent to which the interest groups seek facts relative to a decision-issue; 8) **Stability of coalition** refers to the extent of change in the combination of people governing the organization; 9) **Amount of joint creation** is the extent to which the final decision outcome is the product of the ideas of various interest groups and/or individuals; 10) **Amount of negotiations** is the amount of time spent bargaining; 11) Amount of deliberate delay is the amount of time spent in avoiding a final decision; 12) Amount of conflict is the extent of disagreement amount the interest groups; and 13) Duration of conflict is the amount of time the disagreement continues.

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Hage also develops a model for what he calls a single decision trajectory. Two variables determine the content of the decision process in his model: 1) risk and 2) frequency of the decision.

For high risk decisions, Hage hypothesizes that high risk of the decision-issues is positively related to intensity of information search, amount of discussion and stability of coalitions. Duration of the process and amount of joint creation are considered outcomes in Hage's model and both are positively related to information search and the amount of discussion. The model has a number of other relationships.

Low risk decisions, according to Hage, have different decision processes that are determined by the frequency of occurrence of the decision issue. Frequency is positively related to the degree of routinization and delegation. Routinization is negatively related to information search and the amount of discussion, but positively related to extensity of participation. Degree of delegation is negatively related to extensity of participation and intensity of participation.

The Bradford Group Model

Astley, Axelson, Butler, Hickson and Wilson (1981), a group of researchers at the University of Bradford, argue that there are two fundamental factors that explain the nature of decision making: the task complexity of the decision and the political cleavage of the interests involved. They think that separately and jointly these factors explain the content of the decision making process.

The Bradford Group defines complexity as the extent to which the topic of the decision making process is intricate, is made up of multiple considerations and is difficult to evaluate. Astley et al. think that complexity may be measured by a combination of indicators; 1) by the rarity or novelty of a topic, 2) by the precision or specificity of the criteria for evaluating a topic, and 3) by the clarity of the definition of the topic.

They define cleavage, a concept taken from the political science literature where it denotes divisions in a community, as the extent to which interested parties to the decision tend to split apart. Cleavage in the Bradford model may be measured by: 1) the number of objectives represented by interest groups involved in a decision; 2) the disparities between interest groups; and 3) the distribution of influence. Astley et al. note that the two concepts of complexity and cleavage are related and interact. For example a more complex topic might attract more interest groups, and more interest groups may make the decision process more complex.

The Bradford Group hypothesized that complexity and cleavage explain the content or activities of the decision-making process. Astley et al. (1981) build on the work of Butler et al. (1979,1980) to define concepts related to the content of the decision process. Their purpose is to develop an arena theory of the decision process. They state "the term arena is used because the theory deals with all kinds of processes and not only those that proceed through bargaining. It denotes that sphere of

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action energized by the identification of the decision topic (pp. 9-10)."

The Bradford group defines the following concepts associated with the content of a decision process: 1) Scrutiny is the degree of effort given to collecting, examining, and diagnosing information; 2) Negotiation is the degree to which involved interest units interact in the arena to obtain mutual accommodation; 3) Discontinuity is the degree to which decision making is subject to disruptions, delays and reconsideration; 4) Routinization is the extent to which specific steps in the process are defined and used and the precedent for decision making. Four characteristics of outcomes are also identified, 1) rapidity, 2) incrementality, 3) optimality and 4) crecivity. A crecive process is one that occurs without a premeditated plan, participants cannot predict where the decision process will lead. It seems possible but difficult to measure these outcome variables.

Critique of the Characteristics Models

Characteristics models are relevant for evaluating decision processes. Decision process examples however suggest processes for similar decisions in different companies may have different characteristics. A decision situation can be characterized along Snyder's dimensions or in terms of risk or frequency dimensions from the Hage model. To create a predictive or prescriptive model we must anticipate the level of the characteristics discussed above. For example, duration is an outcome characteristic in the Hage model, to anticipate decision support needs we need to either examine average duration in past similar situations or estimate average or maximum anticipated duration in a new or novel situation. A similar analysis is needed for characteristics like cleavage, complexity, and intensity of participation.

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