A Framework for Assessing Best Practice in Decision Making

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ABSTRACT

Businesses are nowadays faced with complex and ill-defined decision problems. Decision making is an organisational process of paramount importance. Yet, evidence in organisational decision making suggests that businesses incur substantial losses due to bad practice in decision making. This work proposes a conceptual framework for assessing the performance of organisational decision making practices. By critically examining the literature on decision making, the paper identifies eight critical factors (process, information, technology, people and skills, context, management structures, efficiency and overall decision performance) for studying organisational decision making practices. In-depth interviews with practitioners in the field of decision analysis have been conducted to identify examples of best practice in decision making. The findings of the ongoing project are presented.

Keywords:
Best practice; decision making; multi-criteria decision analysis model.
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INTRODUCTION

Decision makers are nowadays expected to take more decisions than ever before, often without much support and in a short period of time (Capgemini, 2004). As the complexity of decision making increases, the issue of developing decision making capabilities within organisations remains a challenge. Several studies on organisational decision making have revealed that decision makers often take bad decisions (Janis, 1989), solve the wrong problem (Forrester, 2003) and cannot cope with uncertainty (Bazerman, 2002). Such delayed or bad decisions cost businesses millions of dollars every year (Forrester, 2003).

Over the years, several measures and valuation methods have been devised to help businesses assess the performance of financial decisions such as IT investment including ROI (Return on Investment) and EVA (Economic Value Added). Management control frameworks such as EFQM (European Foundation for Quality Management) and the Balanced Scorecard encourage managers to view the organisation from different perspectives and define financial, internal, customer and learning related goals. KPI (Key Performance Indicators) can be devised to help companies assess their progress in achieving goals.

This work seeks to develop a new conceptual framework for measuring the performance of organisations in relation to decision making practices. The emphasis is placed upon competencies that must exist within an organisation in order to successfully execute decision processes rather than short-term financial gains. The main aim is to investigate how organisations support decision processes to generate value for their stakeholders (i.e. employees, customers, investors, suppliers and other business partners and the society) and enhance their business performance. Unlike other studies that attempt to collect a large number of case studies and identify patterns that lead to successful decisions (see for example Nutt (2005) and Miller et al. (2004)), this work seeks to devise a set of practical guidelines to help organisations develop decision making capabilities that will allow them to become more competent at taking decisions. The paper reports the results of the first phase of this project. The research objectives are:

- to identify critical factors in the assessment of decision making practices; and,
- to identify examples of best practice in decision making.

We have conducted a thorough literature review to identify critical factors or criteria that organisations should take into account in the assessment of their decision making practices. These factors highlight issues affecting individuals and stakeholders involved in the decision making process, groups of decision makers or organisational units. In order to validate the findings of the literature review and identify best practice examples, we have interviewed several practitioners. This is an ongoing process. In this paper, we report the preliminary results of six interviews that we have conducted with decision analysts who have helped a wide range of organisations to take decisions in different settings.

The structure of the paper is as follows. The findings of the literature review are described next. We then discuss the results of the interviews. This is followed by the conclusions of the study.
LITERATURE REVIEW

Research Approach

To gain an understanding into decision making practices, a literature review has been conducted. This aim of the review is to identify critical factors that contribute to successful decisions, which would help organisations to improve their decision making practices.

A research approach similar to the one applied by Knoben and Oerlemans (2006) is used for this literature review. The databases used in the investigation were ABI/INFORM and ISI Web of Knowledge, with 12 keywords listed in Table 1. These keywords help us gain an insight into the way that people take decisions. The papers were selected based on their content of abstracts. The search based on the keywords yielded 50 relevant papers. Furthermore, the literature review search identified 5 papers that were repeated multiple times in the literature review groups. The papers were categorised based on the criteria used by various authors to describe the effectiveness of good decision practices and outcomes of successful decisions.

It should be noted that the ABI/INFORM database yielded more relevant results than the ISI Web of Knowledge. The ABI/INFORM includes the Asian Business and Reference that contains papers from 1971 to 2005, while the ISI Web of Knowledge included citation databases (A&HCI, SSCI and SCI - Expanded) published after 1956. It is our view that the search produced satisfactory results from a range of journals giving an overview of the various aspects of decision making.

Following the identification of the relevant papers, we processed the material and synthesised high level concepts or themes that represent high-level factors, attributes or criteria that can be used for the assessment of decision making practices. These were structured into a framework that is depicted as an attribute tree. The tree may appear to be subject to interpretation. The interviews discussed in the next section have been used to validate parts of the framework. It is our plan though to set up a panel of experts (decision analysts and practitioners) so as to further validate the structure as well as the content (i.e. the themes/criteria) of the framework.

Figure 1 illustrates the high-level conceptual framework. The framework can be applied as a multi-criteria decision analysis model to compare decision making practices across organisations or assess the performance of a particular organisation (for more details about the discipline of decision analysis see Belton and Stewart (2002)). This constitutes a contribution to the decision analysis community of practitioners, who may want to use (parts of) the framework to obtain quantitative measures of an organisation’s performance.

Instead of providing a discussion of the concepts, we have decided to present the material as an outline of critical factors identified in our study. This will allow the readers to use the findings of the literature review as a checklist and re-use some of the material to assess aspects of decision making practice.

Criteria

1 Process

1.1 Stages

1.1.1 Initial Stage

Mintzeberg et al.(1976) in his research on unstructured decision processes identifies decision recognition as one of the most critical parts in decision making. It contains a range of elements including opportunities, problems and threats which need to be identified and decomposed into smaller elements (Klein et al., 1995). This can be followed by the definition of complex problems (Courtney, 2001). As Hall et al. (2005) points out, in a fast paced
environment, inefficiently defined problems result in missed opportunities. Therefore, proactive information acquisition plays a vital role. Other decision making functions that induce changes in behaviour include apprehending the scope of a problem and establishing trade-offs and incentives (Jacobs, 2003).

1.1.2 Formulation
Nutt (1993) establishes measures such as decisions adoption (ultimate adoption, partial adoption and partial failure), merit (what was known about benefits) and duration (the time - in months - taken to make a decision) for assessing the success of the formulation process. Objective directed formulation processes shaped by expectations (goals, aims or missions) appear to be successful. An inquiry based decision making approach to formulating problems that includes the 3 C’s of decision making (constructive conflict, consideration and closure) also yields good results (Roberto et al., 2001).

Another successful formulation tactic is that of reframing that binds learning and development (Nutt, 2001). It uses solutions (to illustrate opportunities for action) or problems (solutions are inferred) as a focus of presentation that calls for action. Acceptable levels of performance are defined by (external or internal) limits or constraints (Eilon, 1972).

During the formulation stage, individuals form values and beliefs that call for an action (Paul, 2001). Direction guides a decision maker to act during the course of an action and plays a vital role in considering what to be included and excluded. Information gathering is also essential in group discussions (Chudakov, 1994). Eldin (2005) suggests that information sharing strengthens individuals trust (consensus driver) and willingness to consider others’ points of view within groups. The outcome of a decision also depends on whether the reason behind a decision has been identified, how well a group contributes to the decision making process, whether potential solutions have been listed out, whether there were constructive conflicts, whether the group has looked beyond the symptoms of the problem, whether the group committed to the decision and whether or not information was shared among them.

Another tip is to avoid discussing token alternatives that are insignificant (Roberto, 2004). It is important to involve stakeholders and uncover and reconcile their considerations or concerns (Nutt, 2001). Devising search tactics and considering a range of alternatives is also important (Nutt, 2001; Roberto, 2002) as is brainstorming (Chudskov, 1994) and exploring compatibility with existing operating constraints (Eilon, 1972; Trull, 1966; Andreoli et al., 2004; Levitt et al., 1989).

1.1.3 Evaluation
Defining evaluation criteria in the decision making process improves efficiency and consensus prior to analysing and evaluating alternatives (Roberto, 2004; Kirs et al., 1988). Managers tend to compromise on the criteria when they are under time pressure due to deadlines (Roberto et al., 2001). An effective evaluation tactic is the contingency approach that explores possible contingencies before a particular decision is to be implemented (Roberto, 2004).

Hammond et al., (2006) recommend evaluating alternatives with reference to the present and future, as the desirability of status quo would change with time. It is then essential to weigh the pros and cons of these alternatives and measure success rates, suitability (adequate, practical, handle constraints), feasibility, flexibility (openness to possibilities), variability and durability in handling the problem (Garris, 2006).

Decision rules can be used to correlate the best pieces of information when making particular assessments (Sutcliffe et al., 2001). These are determined by factors such as performance feedback and the usefulness of the available information in making the decision. It is also important to separate advocacy (e.g. a simple suggestion influencing a decision) from evaluation (Roberto, 2004). Decision makers may also struggle with complex decisions during critical times due to lack of clarity in their objectives (Kopeikina, 2006). When they arrive at a desirable solution, it then becomes a necessity to constructively evaluate and think of uncertainties and risks (Nutt, 2001). Having a rich
picture, rich context (where the problem is embedded) and addressing the consequences early on are features that improve the understanding of complex decisions (Naglewski, 2006).

Nutt’s (2001) research shows that questions about ethics arise when alternatives never presented before are presented during discussions. In order to facilitate later decision stages (e.g. implementation) there may be the need to compromise on individuals or organisational goals such as adjustments from external environment, realignment of standards or pressures encountered by goal conflicts (Trull, 1966). Finally, one of the most important decision objectives that decision makers and managers need to take into account is to ensure that the underlying assumptions are effectual (Naglewski, 2006).

1.1.4 Appraisal

‘It is difficult to separate good decisions with bad outcomes from bad decisions with good outcomes’ (Nutt, 2001, p. 13). Managers should be encouraged to pose ethical questions during decision-making deliberations. Managing risks and ensuring that all aspects of risks have been considered are important elements of the process (O’Connell et al., 2006). The continuous reviewing of the decision process is another key aspect of the appraisal stage (Mintzberg et al., 1995) as is assessability i.e. the extent to which the criteria for success were clear (Miller et al., 2004). Involving the right people as well as the right number of people while informing all stakeholders about the status of the decision making process is also important (Garris, 2006).

Strategic planning is commonly used to help organizations devise long term objectives and goals and steer their direction (Nickols, 2005). Focusing on one issue at a time, deriving alternatives and making a decision(s) can only be facilitated if strategic plans are continuously reviewed. (Mankins et al., 2006). Closure is another critical aspect in decision making. Closure is the extent to which the problems that stimulated a decision were solved (Hickson et al., 1995). Early or late closures are to be avoided (Roberto et al., 2001). Commitment to action shows that the decision is complete (Mintzberg et al., 1976; Pinfield, 1986; Nickols, 2005; Hammond et al., 2006).

1.1.5 Implementation

Understanding the rationale behind a decision is essential to build consensus among groups (Roberto, 2005). Therefore, it is helpful to involve individuals who participated in the formulation stage (Trull, 1966). Commitment to action during the implementation stage helps build consensus, overcome obstacles and enhance critical thinking among individuals (Roberto, 2005). Premature commitment on the other hand, where decision makers make hasty judgements should be avoided (Nutt 2001). Having arrived at a set of significant decisions, managers need to be able to collate them and prioritize their implementation (Miller, 2004). Prioritizing could be carried out based on managerial commitment or experience (Wolverton, 2004).

1.2 Process type

Decision processes have been classified in a number of studies. After examining 150 cases in 30 organisations, Cray et al. (1991) differentiates process types into three categories: sporadic (enhanced time delays), fluid (quick with less delays) and constricted (channels of information). Pinfield (1986) discusses the anarchic and structured perspectives of decision making that are complementary and ambiguous in nature. Mintzberg et al. (1995) depicts organisational decision making processes in the form of schematic models namely the sequential (driven by making a diagnosis of the decision problem), anarchic (driven by sequence of events) and iterative (driven by opportunities that may arise).
1.3 Prescribed approaches

There are several successful structured approaches to organisational decision making discussed in the literature. For example, Roberto (2004) describes the cognitive approach that places an emphasis on building consensus and achieving efficiency and the substantive approach of progressively structuring the decision problem. Effective tactics that can be used in the face of uncertainty include reasoning by analogy, rules of thumb and rigorous debate (Roberto, 2002). Decision making guidelines (e.g. ‘manage decisions as projects’) are given in Huber and McDaniel (1986). An example of a well-defined set of steps for assigning roles and responsibilities to decision actors is described in Rogers and Blenko (2006). Finally, Keeney (2004) discusses the well-tested decision analysis approach.

1.4 Conflict

Stimulating task-oriented disagreements while minimising interpersonal conflict appears to benefit decision making (Roberto, 2005a). Conflict can take two forms: affective and cognitive (Edlin, 2005). For example, in affective conflict, a group member adheres to his/her position and raises justificative arguments which obstructs information exchange and minimises commitment among members (Amason et al., 1997).

1.5 Resources

Instead of utilizing resources wisely, managers occasionally spend considerable time in the formulation and evaluation process that leads to decision debacles (Nutt, 2001). Resourcing is defined as ‘the extent to which what was needed was available (including people, money and time)’ (Miller et al., 2004). Constructs for measuring resources include resources availability (whether resources were available during decision making and implementation) and resources importance (whether resources were critical for decision making) (Rodrigues and Hickson, 1995).

2 Information

a. Quantity of Information:
Information provision (Edlin, 2005) or quantity of information is the extent to which information was available during the decision making process (Hickson et al., 1995). Companies can become prone to crises if they lack access to adequate amount of information in the decision making process (Small Business Report, 1987). Therefore, searching effectively for information is an important decision function (Hickson et al., 1995). However, as Trull (1966) points out “the correct amount of data is, or should be, contingent upon the probable total decision reward”.

b. Timeliness of Information:
The time dimension of information has two elements: duration (time lag between decision recognition and decision implementation) and tardiness (whether the duration of a decision process was prolonged) (Hickson et al., 1995). Timeliness of information as defined by Hickson et al. (1995) is the extent to which information was available on time. Good decisions can be attained when information is timely and reliable, especially that fed to top management (Small Business Report, 1987). Moreover, information should be compiled and disseminated to others such as stakeholders involved in the decision making process in a time conscious manner.

c. Accuracy of Information:
Top management must emphasise the importance of accurate and sufficient information before processing it. The extent to which the information available is considered to be right and correct (Hickson et al., 1995) as well as complete (Dean et al., 1996) impacts on the effectiveness of the decisions taken. Dean et al. (1996) argue that managers who like to pursue their own interests defer from sharing accurate and adequate information, which is likely to have a negative effect on the decision outcomes. Delivering the right information to the right people at the
right time is a critical decision making function as accurate information could reduce the amount of risk involved.

d. Information importance:
The need for significant information (Hickson et al., 1995) is very important in strategic decision making. Elements of such information include the ‘effects of key decisions’, ‘acceptable levels of risk’ and ‘deviations from long-range plans’ (Small Business Report, 1987, p. 26).

e. Relevance of Information:
The amount of relevant information that was taken into account during activities such as propagation of alternatives is a contributor to the effectiveness of strategic decision making (Dean et al., 1996; Sutcliffe et al., 2001). Managers who systematically collect information (Sutcliffe et al., 2001), make well-informed decisions on ‘environmentally viable choices’ (Dean et al., 1996) which leads to effective decision making and improved performance.

f. Nature of data:
Data may be fuzzy or non-structured when the need for rapid decisions arises. Fuzzy data is more right brain oriented, while harder data is left-brain oriented. Various problem solving techniques of managing different forms of data can be introduced (Rickards, 1987).

g. Information provision and gathering:
Two critical decision making functions are information provision and information gathering (Edlin, 2005). Edlin’s (2005) study on how company boards make decisions shows that 80% of the ‘speaking episodes’ that occur in the decision making process take place during these activities. Information gathering (interviews, questioning, discussions) can produce a range of organisational facts such as past and present events, stakeholders and other decision makers views and opinions. The information gathered must contain relevant information that drives the entire decision process. Debating on the topic under discussion generates alternatives, induces collective thinking and poses challenges. Therefore, the process of information gathering/provision acts as a filter for information.

3 Technology

a. Decision Information:
Companies use IT to facilitate the dissemination of information to those people who have developed the skills to process it (Malone, 1997). Technological advances now support distributed decision making and assist decision makers at different locations in exchanging information as necessary. This is subject to the type of the decision to be taken and the people involved in the process.

b. Trust:
IT helps decision makers to monitor and control other decision actors who are remotely placed and assists centralised decision makers in implementing their own decisions (Malone, 1997). Building IT systems aids effective processing/operations within the business by maintaining confidentiality and security of information, providing access to a wide range of transactions and by making the work easy and effective. Therefore, IT can potentially increase trust or help individuals cope with the lack of trust (Malone, 1997).

c. Inquiring Systems:
Inquiring systems ‘have the ability to gather and model evidence in a way that represents the systems’ view of reality’(Hall et al., 2005). The entire decision making process can be supplemented with these systems that maintain
a central knowledge store, facilitate member communication and substantiate feedback loops. As Hall et al. (2005) points out inquiring organisations search and investigate their environment and impose behaviour-based learning.

d. Management Information Systems
Companies develop management information systems to fulfil their information management needs (Small Business Report, 1987). Whenever there is an interruption in the flow of information, managers identify new information sources from internal informants (employees, suppliers) and encourage them to contribute by means of incentives. Organizations use feed forward loops to route information directly to the top and eliminate information delays through hierarchical channels. This approach helps managers and other employees to monitor the information at a number of control points. Furthermore, managers use information audits to evaluate the number and quality of information reports produced to fulfil the needs of the decision makers.

e. Decision support systems
A number of studies illustrate the impact of decision support systems (technologies that support decision makers in taking decisions) on decision effectiveness. Such systems provide a wide range of facilities (e.g. varying the effect of decision parameters) and comprehensive output to assist decision makers (Bailey and Pearson, 1983). They help decision makers learn about the decision domain in a structured and systematic way, which is very important in improving decision effectiveness (Finlay and Forghani, 1998; Parikh et al., 2001). They can generate a complete set of alternatives (Nissen, 1999) and encourage decision makers to explore a large number of options (Sharda et al., 1988). By adding transparency to the decision process, they improve public understanding and acceptance (Papamichail and French, 2003). Understanding their services and functionalities has been found to contribute to their successful adoption (Bailey and Pearson, 1983; Finlay and Forghani, 1998). Artificial intelligence techniques can be used to augment the decision making process and enhance the capabilities of the decision makers (Buchanan et al., 2006).

4 People and Skills
a. Creative problem solving
The need for creative problem solving arises when decision makers are faced with complex decision problems. Rickards (1987) discusses closing-down techniques that are frequently used in creative problem solving namely voting (identifies commitment and ownership), clustering (output acts as starting point of idea exploration), hurdles (sorts fast-track ideas over time) and weighting (sets of ideas assessed against a set of criteria). Managers may choose not to use creative techniques that lack a procedural problem-solving method.

b. Intuitive gut-feeling decision:
“Gut is a personal, non-transferable attribute, which increases the value of a good one” (Buchanan et al., 2006). Gut decisions are established mainly during crises where managers need to instantly react to situations that lack time in terms of weighing probabilities or arguments. Buchanan et al. (2006) states that gut decisions are made by courageous leaders. They illustrate a leader’s confidence and trust in her own abilities (Rickards, 1987).

c. Avoiding hidden traps:
Decision makers may fall into a number of psychological traps which impede the effectiveness of decision making (Hammond et al., 2006). For example, they tend to highly weigh the first piece information they receive, make judgments based upon it and anchor it (anchoring trap) or they may take an inappropriate decision so as to justify another decision they had taken in the past (sunk-cost trap). Hammond et al. (2006) provide practical guidelines to
overcome such traps while Keeney (2004) illustrates the usefulness of applying decision analysis techniques and emphasises the importance of developing decision analysis skills such as structuring decision problems.

d. Decision making skills:
Decision makers need to develop decision making capabilities to cope with complex decisions during critical times. For example, according to Kopeikina (2006), in order to reach clear and speedy decisions, leaders need to reflect on their standing and performance and actively seek to adopt best practice examples. This will resolve or reduce difficulties that arise due to lack of objectives, constraints, perspectives and the ability to choose from alternatives. In addition to the above, Keeney (2004) prescribes decision making steps such as identifying objectives, assessing the consequences of alternatives, identifying and quantifying uncertainties, and planning ahead to coordinate decisions.

e. Interpretation skills:
Decision makers have to be adept enough to be able to differentiate between sets of information at their disposal. Therefore, they need to develop interpretation skills such as the ability to acquire pertinent information based on past experiences or via internal/external company sources even when availability is scarce, the ability to thoroughly analyse and classify information and the ability to identify patterns (Kress, 1995).

f. Awareness:
Most executives are unaware of their limited awareness, for example failing to notice information changes in their business environment and this can have adverse consequences. Bounded awareness prevents individuals from seeking, relevant, readily available information (Bazerman et al., 2006).

g. Learning:
Executives can learn to be observant of relevant information and changes in the business environment which can then eradicate decision-making blinders (Bazerman et al., 2006). They can learn from colleagues who are perceived as effective decision makers (Garris, 2006) as well as teach decision analysis techniques to other less experienced active learners (Keeney, 2004).

h. Seeking key information:
Decision makers need to vigilant about considering the kind of information they are seeking and assign someone the role of devil’s inquisitor i.e. a person who continuously asks questions (Bazerman et al., 2006).

i. Ability to use and share information:
Decision makers may fail to utilise information, for example about competitors, because they do not appreciate its relevance or they assume that individuals with access to information will provide it as needed (Bazerman et al., 2006). It is important to collect information in a more systematic way (Sutcliffe et al., 2001) and share it in groups which will help individuals build their confidence and consider other viewpoints (Edlin, 2005).

j. Consistent decisions:
Organisations that execute critical decisions with consistency and speed outperform those who make brilliant decisions that are implemented slowly (Rogers et al., 2006).
k. Risk attitudes:
Risks, directly related to the outcomes, need to be taken into consideration when making critical decisions (Hurley, 2006). This may require tolerance and willingness to trust and adjust. Unreliable information increases potential risks (Trull, 1986).

l. Organisational goals:
Focusing on organisational goals increases decision success (Young, 2004; Dean and Sharfman, 1996).

m. Familiarity:
Familiarity i.e. the extent to which decision makers have access to relevant experience and information (e.g. past events and situations of successful or unsuccessful decision making) which can be helpful when taking a decision (Miller, 2004).

n. Top management teams
Individual characteristics affect the way decision processes unfold in an organization. For example a CEO’s dominance shows positive hierarchical decentralisation (Papadakis et al, 2002) and contributes to less rational decision making (Tushman et al., (1985); Bantel (1993)).

5 Context
a. Problem Complexity:
Elements of problem complexity include novelty (Roberto, 2004), rarity, precursiveness, openness, seriousness, radicality of consequences and diversity (Cray et al., 2001), as well as clarity of evaluation criteria (Bronner, 1986) and number of people involved in the decision making process. Moreover, unfamiliar problems require a new analysis and evaluation process (Butler et al., 1979; Hage 1980).

b. External Environment:
Managers must shape the rules and norms that influence how a decision process unfolds and take into account the environment in which the decision takes place (Roberto, 2005a).

c. Organisational type:
The type of the organisation (e.g. business firm, public sector) has an impact on decision success (Rodrigues and Hickson, 1995).

d. Threat/crises:
The conditions (e.g. threat, crises, uncertainties, time pressures) under which decision processes unfold should be taken into account (Roberto, 2004; Naglewska, 2006; Herek et al., 1987; Mintzberg, 1976).

e. Contextual dependence:
In a structured perspective the context of organisational decision process is implicit as it focuses on certain problem flow only, whereas an anarchic perspective handles the context explicitly – the decision processes to a great extent depend on system load, time, choices, opportunities, constrains, problem and decision makers. (Pinfield, 1986).
6 Management Structures

a. Politicality:
The term political behaviour refers to complexities and is negatively related to decision making effectiveness (Dean et al., 1996, Cray, 2001). For example, politicality may influence the way that managers take decisions that may appear to be premeditated (Simons et al., 1998). It often raises issues such as opposition of aims or exercising pressure on decision actors (Cray, 2001). Such behaviours are non-goal oriented, non-constrained and result in collecting incomplete or incorrect information (Dean et al., 1996). A positive aspect of politicality is that it increases interest and involvement of participants (Hickson, 1987).

b. Structural Facilitation:
Structural facilitation is the extent to which the organisational structure (decentralised or centralised) eases the implementation of decisions by appropriately allocating authority (for example, by setting up a project team) (Miller et al., 2004). The decision making authority could be delegated to someone up the hierarchy (Hickson et al., 1995). If the structure impedes (high or low) the decision process then managers should consider restructuring or redesigning the organisation to maximise the quality of a decision (Huber et al., 1986). However, as the number of people involved in the decision making process increases, the level of communication and complexity also increases. Therefore, decision makers must have control over the interaction (Trull, 1966).

c. Diversity of Interest:
The range of interests of different individuals (employee, stakeholders, experts, etc) both internal and external to the organisation that practice influence on the decision process constitutes the diversity of interest (Rodrigues and Hickson, 1995).

d. Specialist Involvement:
The specialist involvement and its hierarchical level of functional units contribute to decision effectiveness (Rodrigues and Hickson, 1995). When solving complex unstructured decisions, experienced specialists can identify patterns of behaviours, draw inferences, pose challenges and handle situations efficiently (Roberto, 2002).

e. Composition:
A manager should try to develop constructive conflict and consensus when determining the composition of the decision-making body (Roberto, 2005a), e.g. composition of boards (Edlin, 2005). Instead of relying on particular teams that make high stake decisions on a regular basis, new teams should be set up taking into account group dynamics (Buchanan et al., 2006). However, decision actors are sometimes constrained by access structures that limit their behaviour (Pinfield, 1986). Roberto (2005) recommends that organisations should structure their communication channels and determine the level of control the directive leader exerts.

f. Communication:
Communication is the core to any decision making process in progress. Leaders should structure and decide how participants will exchange ideas and information in a debate in order to maximise efficacy of the discussion and the resulting outcomes (Roberto, 2005a). According to Roberto (2005a), a devil’s advocate can contribute constructive arguments to discussions that explore risk.

g. Ethical issues:
Top management teams should follow an ethical conduct to foster effective decision making. They should embrace commitment, build comprehensive ethical perspective at all levels, continuously renew their processes and make good assessments (Klein, 1991). Successful organisations should have structures in place that support the well being
of their employees, while clearly defined values (honesty, integrity, work ethic) and external accountability (stakeholders) should drive ethical decision making (Payne, et al., 2006).

**h. Decision Making Structures:**
Malone (1997) uses three elements to contrast centralised and decentralised decision structures: decision information, trust and motivation. For example, in a decentralised system, local decision makers are more effective when they take their own decisions; they do not trust central decision makers and often hold vital information that cannot be communicated easily. In a centralised system, central decision makers can receive valuable remote information at moderate cost; they do not trust local decision makers who tend to be less motivated.

**i. Clarity:**
Decision makers need to achieve clarity and to enhance the possibility of a good decision. The factors that contribute to clarity are authenticity (quality of decision making process, data involved in decision and level of internal alignment of choice), responsibility, vision (intuition and imagination) and courage (Kopeikina, 2006). These should be controlled by managers.

**j. Trust culture:**
Organisations can easily fall a prey for distrust if decision makers or leaders do not model ways to manage it. Hurley’s (2006) trust model takes into consideration factors such as risk tolerance, level of adjustment, relative power, security, alignment of interests, capability, predictability and level of communication, to build trust among decision actors and create a good foundation for productive relationships.

**k. Structured approach.**
Organisations could have well-defined procedures in place for taking decisions. They could introduce decision structures to decide how to decide (Garris, 2006; Roberto, 2005b) as well as structured debates (Garvin and Roberto, 2001). An example is the RAPID Approach that assigns roles to decision actors (e.g. who is responsible for providing input and taking the decision and who is accountable) (Rogers and Blenco, 2006).

**l. Perceived Fairness:**
It is crucial to involve decision actors throughout the decision making process to ensure fair level of participation and avoid drop outs during the implementation (Roberto et al., 2001). All participants should have equal access to information. If managers disseminate information prior to key meetings, the level of efficiency and consensus has been shown to be high (Roberto, 2004).

### 7 Efficiency

#### 7.1 Time

**a. Duration:**
Hickson et al. (1995, p.676) defines duration as the “time between recognition of the decision trigger and the authorisation of implementation”.

**b. Length:**
Length is measured in terms of the number of months between the initial decision activity and the authorisation to implement. This represents the period of identifiable decision making activity (Hickson et al., 1995).
c. **Speed:**
Decision speed is concerned with factors such as promptness, tardiness (how much was the duration prolonged), delay in recognising the decision stimulus and delay in the decision making process (Hickson et al., 1995). This is an important factor in assessing the performance of decision making (Rogers et al., 2006).

d. **Proximity to optimal time for decision:**
The cases that Trull (1966) studied show that “decisions had an optimal time dimension at which the maximum probability for success occurred”.

7.2 **Cost**
This is the cost of taking a decision that includes communications costs. For example, centralised decision makers have high communication needs as the cost of obtaining remote information may be high (Malone, 1997).

8 **Performance**
a. **Decision Outcome:**
In order to assess decision outcomes, Roberto (2005a) outlines three criteria: decision quality, implementation effectiveness and timelines. The quality of the decision process in particular is important in order to reach clarity (Kopeikina, 2006).

b. **Achievement:**
Achievement is defined as the “extent to which the performance over time of what was done was as intended or better” (Miller et al., 2004).

c. **Successfulness:**
Rodrigues and Hickson (1995) have defined four variables for measuring how successful a decision is: realisation (whether the opportunity was taken), propitiousness (whether advantages were identified), non-disturbance (whether any problems arose) and perceived success (how successful the decision was perceived to be). These variables enable making comparisons between different kinds of decisions in different organisations.

**Interviews**

**Data collection**
This following session is written to validate the criteria obtained in the literature review with those of the interviews conducted. The objectives of these qualitative interviews (Patton, 1987) are to understand a decision analyst’s point of view on the key factors that contribute to the exploration of good and bad decision making constructs and to formalise the interviewees’ experiences and perceptions on effective ways for making successful decisions.

The interviews were conducted with six decision analysts so as to gain an in-depth understanding of the constructs identified in the literature. The interviewees had considerable expertise in relevant areas and came from different backgrounds with years of experience in consultancy and organisational decision making. The participants were selected based on personal contacts. All the interviews were taken within the duration of a month. The material collected from the interviews has been used to study and compare the decision analysts’ views with those themes identified in the literature review. An interview protocol and a set of questions was compiled to ensure coverage of a range of decision making issues. The Critical Incident Technique described by Flanagan (1954) was applied for the
interviews. The technique identifies a situation (or incidents) and an action that has critical significance in determining the effectiveness or ineffectiveness of an outcome.

We followed a semi-structured approach for the interviews. Every interview was recorded using a recoding device with the interviewee’s consent and lasted for 40 to 60 minutes. After each session, the recording was transcribed and documented for data analysis. This was followed for all the 6 interviews conducted.

Data analysis

The 6 interview respondents R1, R2, R3, R4, R5 and R6 contributed to various aspects of the validation of the attribute tree (Figure 1) as shown in Table 2, where the main criteria are listed vertically and the respondent responses indicated horizontally by a tick mark (“✔”). We asked questions such as “What is good practice in decision making? Could you give us some examples of good and bad decision making? What factors contribute to the success or failure of a decision?” The respondents suggested various examples of good (and bad) decision making practice, how people make decisions and critical factors that can be used in assessing decision making. For example a quote was as follows:

“...a good decision is something that has the right or the intended impact. It is a course of action, course of intended impact.”

The criterion that was widely covered by all the respondents was management structures, where the respondents discussed about structured and unstructured decision making processes. One of the respondents felt that a structured environment will pose risk to organisations when having to deal with irregular situations, whereas bureaucratic organisations have structures that are good for making regular decisions. Factors such as leadership, seeking/sharing information and effective collective decision making were discussed for the people & skills criteria. Information and technology were another two criteria that seemed to be interdependent, while data analysis appears to play a vital part as an input to information systems that drive the business in organisations:

“The company is heavily reliant on its systems, which are the type of business that we are operating. We can’t run the business without systems. The system needs the data for operating and we can get the information we need in order to improve decision. That’s why I’m building these graphical models in order to visualise the problem space better.”

Many other factors that contribute to the process, context, efficiency and performance were discussed. The interviews suggest that effective group dynamics, equal group participation, constructive conflict, external specialist involvement, commitment to action, well structured information, willingness to invest time and money, willingness to restructure the organisation from traditional approaches, good stakeholder relationships and performance management all increase the probability of a successful decision.

The only aspect of the attribute tree (i.e. conceptual framework) of Figure 1 that was not discussed in this interview process was resources. More interviews are scheduled to shed more light into the assessment of decision making practices.

Conclusions

This work is of great interest to the academic community. Even though several studies have investigated the success of strategic decisions and performance of decision makers, the area of identifying and assessing decision making
practices is unexplored. The study will provide qualitative descriptions of practices from a range of perspectives e.g. people and processes. Decision consultants will be able to apply the proposed conceptual framework to a range of decision settings to generate a set of important decision making questions and help organisations improve their practices.

We are currently observing a shift in the literature from ‘decision quality’ to ‘decision making capabilities’. The paper introduces the concept of assessing decision practices that encompasses the set of capabilities and competencies that must exist within an organisation in order to successfully execute decision processes and generate value for all stakeholders.

Organisational decision making practices will only improve if businesses understand the decision processes they own and analyse decision making processes and behavioural aspects instead of assessing short-term measures such as decision outcomes. Concepts such as ethics and organisational learning have not appeared high in the agenda of researchers and practitioners. This work will highlight such criteria that are important elements of good decision making practice.

Acknowledgement

We would like to thank all the decision analysts who participated in our study. Special thanks to Stephen Brewis for his important and valuable contribution to our project. This research is funded by EPSRC (EP/D015391/1).

REFERENCES

TABLE 1

Inclusion criteria for the literature review

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<th>KEYWORDS</th>
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<td>3 RIGHT DECISION(S)</td>
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<td>4 ORGANISATIONAL DECISION MAKING</td>
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<td>5 DECISION MAKING</td>
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<td>6 DECISION PRACTICE(S)</td>
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# TABLE 2

## Topics covered during the interviews

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<th>R5</th>
<th>R6</th>
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FIGURE 1

A Conceptual Framework for Assessing Decision Making Practices