



Barnard's model of decision making: a historical predecessor of image theory

Milorad M. Novicevic, Russell W. Clayton and Wallace A. Williams
University of Mississippi, Oxford, Mississippi, USA

Abstract

Purpose – The purpose of this paper is to examine Chester Barnard's decisional model utilizing the lens of image theory. The main claim is that the individual decision-making model proposed by Barnard in his *Notes on the Significance of Decisive Behavior* can be evaluated within the framework of image theory.

Design/methodology/approach – The paper performed a comparative analysis of Barnard's and image theory's models of decision making to outline congruence and incongruence between Barnard's early conceptualization of individual decision making and the contemporary understanding of image theory.

Findings – The findings provide support to the claim that image theory is an appropriate framework to describe Barnard's model.

Originality/value – The unique contribution of this study is that it provides the first theoretical analysis of Barnard's model of individual decision making. Barnard's model of individual decision making is little known because it was posthumously published in his *Notes on the Significance of Decisive Behavior* 35 years after Barnard's death.

Keywords Chester Barnard, Image theory, Decision making, Management theory

Paper type Conceptual paper

While I was working with William Scott on our Barnard papers the image theory work was going on at the same time. So, I'm sure there was spillover in terms of ideas. But, I do not think Lee (Beach) and I explicitly talked about Barnard because it was the decision literature that actually drove the work, and Lee [Beach] was the master of that literature. You can certainly make a comparison between the two and to the extent that image theory supports some of Barnard's ideas, it is certainly confirming of them. We did not think of it that way but that doesn't mean it is not true (Mitchell, 2010).

Historical foundations of decision making in organizations were established in *The Functions of the Executive*, the seminal work of Barnard (1938). In particular, in the two closing chapters of *The Functions of the Executive* Barnard provided a comprehensive examination of the decision-making process. However, Barnard's (1995) actual model of individual decision making has not been examined so far because it was only posthumously published in his *Notes on the Significance of Decisive Behavior*. Barnard's *Notes* were made widely available to the academic community due to Wolf's (1995) inspiration to publish a special issue in the *Journal of Management History*. The *Notes* were part of Wolf's Barnard collection and it is due to Wolf's generosity that Barnard's *Notes* were published in this forum.



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In this paper, we examine Barnard's decisional model using the lens of image theory. Our main hypothesis is that many of the principles and relationships found in Barnard's individual decision-making model have been included in the conceptualization of image theory. To test this hypothesis, we outline congruence and incongruence between Chester Barnard's early conceptualization of individual decision making and the contemporary understanding of image theory. Our findings provide support to the conclusion that Barnard's model is overlaps significantly with the image theory model. As evidenced by the above quote excerpted from the authors' *post hoc* correspondence with Professor Terrence Mitchell, one of the two originators of image theory, the relationship between Barnard's model and image theory's model turned out to be serendipitous rather than intended.

In the forthcoming sections of this paper, we first describe Barnard's model of individual decision making. Second, we present the image theory model of individual decision making. Third, we conduct a comparative analysis of Barnard's and image theory models of decision making to assess their similarities and differences. In conclusion, we outline the implications and limitations of our research.

Barnard's model of individual decision making

In his model published in the *Notes*, Barnard gives primacy to social environment as the most important contextual factor affecting individual decision making. In particular, he claims that "certain kinds of social conditions primarily evolve and function as material or equipment of decisive behavior" (p. 45). In other words, specific social context can trigger a decision-making process and influence it to evolve in stages. Barnard identifies seven stages that comprise the processes of making individual-level decisions. These stages are:

- (1) The apprehension and acceptance of the end-in-view (goal adoption).
- (2) The organization of the situation (goal context).
- (3) The discrimination of the factors of the situation (filtering).
- (4) The discrimination of alternatives (determining the best alternative).
- (5) The integration of alternatives and end (to act or not to act).
- (6) The translation of the strategic factors into terms of acts (implementation).
- (7) The fixing of choice (execution) (p. 45).

As these stages often occur simultaneously, each stage is "discriminated only as merely analytical elements" (p. 45). This means that Barnard's individual decision-making process is modeled to occur in interdependent stages. Most problems occurring in these stages of the decision-making process could be resolved logically, where Barnard defines logical as "a conscious operation with concepts and facts, deliberate observations, investigation and testing" (p. 46). This use of formal logic highlights the need for decisions to be justifiable in order to be accepted by others as reasonable decisions.

Although the decision stages occur either simultaneously or sequentially, problems occurring in each stage have a definite timeframe. Barnard argues that a major role in resolving these problems is played by the decision maker's intuition, particularly relative to the timing of the stages (Novicevic *et al.*, 2002). He therefore insists that problems in most stages are resolved intuitively, as a result of "responsive,

habitual [processes] [. . .] originating in sentiments, and not conscious” (p. 46). In effect, the stages leading to the decisive behavior of individuals are not always conscious, but rather habitual, inspired or prescribed. These stages are shown in Table I and the role of intuition and other factors affecting problem solving in these stages are described in the following section of this paper.

Stage 1: the apprehension and acceptance of the end-in-view (goal adoption)

In this stage, Barnard posits that alternative ends (goals) become ends-in-view (adopted goals) if they are desirable to the individual. For an alternative to be adopted, the particular end or goal must appeal to one’s “sentimental or non-logical factor – desire, want, need” (p. 47).

This appeal is highly influenced by the way goals are presented to individuals. Goals are presented to individuals in one of three ways. First, they can be presented to individuals internally by the individuals themselves. This process is often intuitive in nature, with the presentation driven by previously determined goals, past experience, habit, instinct, or “inculcated by the cultural environment” (p. 48). This process is also driven by subsidiary goals that assist the individual in reaching a major end (i.e. an overarching goal). Second, goals can be presented externally, coming to the person from other individuals or from other actors including the organization or society. When external goals are assigned by fiat, they may not be logical to the decision maker, and therefore engender goal conflict. Finally, goals can be presented through a combination of internal and external factors.

When in any of the above three ways an individual is presented a goal that is consistent with his or her desires, but the goal goes against the social attitudes, the individual will usually reject that goal. Conversely, if the goal is in line with both his or her desires and the societal view, then the goal becomes more attractive and desirable for the individual’s adoption.

Stage 2: the organization of the situation (goal context)

When a goal is adopted by the individual, “it at once serves as a basis for organizing intelligibly the situation in which the decider finds himself” (p. 51). The situation is structured by the elements of external environment which become influential, enabling, or constraining factors. The individual now begins to recognize the relevance of the adopted goal for the perception of the situation. Therefore, social values and norms may have a major impact on the goals that an individual adopts. Barnard argued that without an adopted goal, the external environment is seen as a “conglomeration of objects and forces” (p. 51) that contains few cues to assess direction or meaning. But the adoption of a goal organizes and focuses the attention of the decision maker regarding the situation.

Table I.
Barnard’s seven stages of
decision making

Stage 1	The apprehension and acceptance of the end-in-view
Stage 2	The organization of the situation
Stage 3	The discrimination of the factors of the situation
Stage 4	The discrimination of alternatives
Stage 5	The integration of alternatives and end
Stage 6	The translation of the strategic factors into terms of acts
Stage 7	The fixing of choice

The elements of the situation are organized simultaneously and often intuitively through the decision maker's attention to objects, elements and factors of the situation, and by the discrimination of strategic (influential and constraining) factors in the background and the foreground of the situation.

Stage 3: the discrimination of the factors of the situation (filtering)

This is the process of relegating certain factors to the background as complementary, of taking certain others to be important or limiting factors and of selecting among the latter those on which operations or change by action could affect the future situation [. . .] (p. 53).

Barnard again pointed to the importance of logical/rational resolutions for discriminating/filtering of relevant factors in this stage, but contended that the non-logical or intuitive "gut-feeling" of the situation would be more important. As such, strategic factors are usually selected on the basis of habit because familiarity with a particular adopted goal would allow for an understanding of situational conditions encountered. The selection of the means to achieve the adopted goal depends on the individual's determination of which factors would have the highest impact on the overall goal. "Not merely solution is intuitive; the appraisal of the type of situation is also" (p. 53).

Stage 4: the discrimination of alternatives (assessing the best alternative)

The decision maker's objective in this stage of the decision-making process is focused on reducing the alternatives down to as few as possible. If only one goal is adopted, the individual decides to either act on it or to abandon the attempt altogether. When several goals are adopted, discrimination between the alternatives occurs through further evaluation. Like the process in stage 3, the process in this stage is also habitual and/or experiential. This is mostly an intuitive decision, as the individual under time and other pressure constraints recalls similar ways in which the goal has been reached in the past.

Stage 5: the integration of alternatives and the goal (resolution to act or not to act)

In this stage, the remaining discriminated (i.e. filtered) alternatives are narrowed down to one. The decision maker's attempts of combining and rebalancing the strategic plans of action or non-action results ultimately in his or her "do" or "do not" decision relative to the need for acting or not acting on the situation. Barnard suggests that this combining or rebalancing of plans occurs in one of three ways:

- (1) the alignment of alternatives;
- (2) modification of the adopted goal; or
- (3) further search for alternatives.

The objective is to reduce the "alternatives to one so that the final choice is either to act on that one or not act at all" (p. 56). If no satisfactory solution exists, the new alternatives are considered or the goal will be changed.

Stage 6: the translation of the strategic factors into terms of acts (implementation)

If the decision requires action, then the next step is to convert the decision into actions. Barnard states that the main purpose in making a decision is to ultimately act on that decision. "If there is any point to making a decision, it is so to determine the injection of the effort of the decider to change the natural course of events" (p. 56). Not acting is futile;

failure to translate the decision into action (and to then act) will ultimately amount to negative action (i.e. the decision maker's avoidance to implement the decision as an action).

Stage 7: the fixing of choice (execution)

This stage focuses on the ultimate decision of "to do or not to do". When this point is reached, the emotions and courage or fear involved in actually "pulling the trigger" come into play. Barnard argues that this may be easy to do when the stages have been resolved in a mostly logical way; however, when the stages are more intuitive in nature, having the nerve to act may prove difficult. In other words, the main derivation from Barnard's model is that actions based on rational decisions are more likely to be executed than those based on intuitive decisions.

Image theory model of decision making

The origins of image theory

Image theory was developed out of Beach and Mitchell's skepticism about the validity of expectancy theory and subjective expected utility's conceptual base in the gambling analogy (Beach and Mitchell, 2005). Having conducted a programmatic stream of research studies, they found that the gambling analogy only fits if decision makers make a series of decisions that are highly homogeneous. However, since in practice most decisions that are made are unique, Beach and Mitchell began to build an alternate theory of decision making. As both authors previously worked with Fred Fiedler, whose most important contribution was contingency theory of leadership, their initial attempt focused on developing a contingency theory of decision strategy selection (Beach and Mitchell, 1978). Nevertheless, empirical testing and refining of their contingency theory of decision making led them to "think outside the accepted canon and lore about decision making" and write the first development of what is now known as image theory (Beach and Mitchell, 2005, p. 42).

Development of image theory

Image theory reflects the view that individuals will typically not go through the extensive weighting of alternatives process that traditional decision theory suggests (Miner, 2005). Image theory addresses individual decision making within the social context, with the assumption that the decision made may either be implemented or abandoned in a concrete situation (Beach and Mitchell, 2005). The theory emphasizes the importance of the screening/filtering process in decision making (Potter and Beach, 1994). Specifically, the proponents of this theory propose that decision makers use three informational representations, known as images (i.e. standards) against which all decision alternatives are screened (Seidl and Traub, 1998). These three images are the value, trajectory, and strategic images. The value image reflects the decision maker's principles associated with his or her morals, beliefs, religious precepts, and ethics (Beach and Mitchell, 1990). These principles form the foundation of values based on which the decisions are made.

The trajectory image reflects the goals of the decision maker. These goals, which are related to the decision maker's principles, commonly stem from some dilemma encountered in the environment. If the environment does present a problem to be solved, the decision maker's principles will influence the decision (Beach and Mitchell, 2005).

The strategic image reflects the way that goals are adopted, known as tactics and forecasts (Seidl and Traub, 1998). Tactics involve the plan for achieving a goal, whereas forecasts are predictions of how well the plan will work. It should be noted that any of the decision maker's options that are irreconcilable with any of the three images will be discarded (Table II).

According to image theory there are two kinds of decisions that are typically made. The first kind of decision is the adoption decision that is made when the decision maker is thinking about adding and accepting new principles, goals, or plans (Mitchell and Beach, 1990). The second kind of decision is the progress decision that is made relative to the extent of plan implementation and progress toward achieving the adopted goal (Beach and Mitchell, 2005). There are also two decision test mechanisms in image theory:

- (1) compatibility test; and
- (2) profitability test.

A compatibility test, which is used during the screening process, filters potential decision alternatives to see if they are compatible with the decision maker's principles (Mitchell and Beach, 1990). A profitability test, which is used during the choice stage, helps the decision maker find the best alternative among those that passed the compatibility test (Beach, 1990; Seidl and Traub, 1998). When performing these two tests, decision makers will first focus on the violations (i.e. wrongs) of the alternatives, and then turn their attention to the non-violations (i.e. rights) (Beach and Mitchell, 1996). Furthermore, when focusing on the violations, they will use a rejection threshold which states the level or number of violations they are willing to accept before screening out an alternative (Pesta *et al.*, 2005). Once the decision maker has screened the available alternatives he or she will make a final choice based on the available alternatives. This is often done in a compensatory manner where non-violations can compensate for violations (Pesta *et al.*, 2005).

<i>Decision type</i>	
Adoption decision	Whether to add new goals or plans to the trajectory and strategic images
Progress decision	Whether to continue with existing plans based on how much progress is made
<i>Decision alternatives^a</i>	
Violation	The "wrong" of an alternative
Non-violation	The "right" of an alternative
<i>Images</i>	
Value image	Contains the decision maker's beliefs, values, and general views about what is proper
Trajectory image	The agenda for what the decision maker wishes to gain
Strategic image	How the decision maker attempts to reach the agenda set in the trajectory image
<i>Profitability test</i>	
	Finding the best alternative among those that initially passed through the images – this may be done in a compensatory manner where non-violations will compensate for violations

Final decision

Note: ^aCompatibility test is used to assess the "fit" of the alternatives with the decision maker's images

Table II.
Image theory

Empirical support for image theory

Beach and Mitchell, in cooperation with their colleagues, have conducted an extensive research program to examine the empirical support for image theory. For example, when they examined the nature of the screening process (Beach and Strom, 1989), their research results showed that a rejection of a hypothetical job occurred when a job option violated three to four relevant decision standards (Beach and Mitchell, 2005). Beach's research also suggests that information used in screening is not used when making the subsequent choice (Van Zee *et al.*, 1992). In addition, time constraints of decision makers (Benson and Beach, 1996), the role of images in employee turnover (Lee *et al.*, 1996), and organizational culture as a shared value image (Weatherly and Beach, 1996), have been empirically examined, indicating support for image theory.

Beyond Beach and Mitchell, several other researches have also conducted empirical studies to examine the support for image theory. For example, Galotti tested image theory in the context of high school students choosing a college, college freshmen choosing what major to pursue, expecting mothers selecting a birth attendant (e.g. obstetrician, physician), and parents selecting a first-grade placement for their children (see Galotti, 2007 for a review). Pesta *et al.* (2005) tested image theory in an organization-performance evaluation context and found support for image theory's screening process. Specifically, the number of non-violations accounted for 11 percent of the variance in predictions of promotion rates related to a fictitious bookstore employee in the experimental study. Decision making on justice evaluations (i.e. Did the organization act in an ethical manner?) was tested by Gilliland *et al.* (1998). Three studies were used to assess the impact of justice violation and non-violations on perceptions of fairness in evaluations. The context of the study was fairness as it related to how downsizing was conducted in a company. Gilliland *et al.* (1998) supported the violations/non-violations facet of image theory but offered mixed support for the rejection threshold. Seidl and Traub (1998) found support for image theory's compatibility test using an experimental design where participants selected a chief secretary from a pool of 25 applicants. These authors' experimental findings showed that the compatibility test of image theory had a consistency rate of 70 percent compared to a 15 percent consistency rate for the elimination of alternatives in the editing hypothesis. Finally, using a sample of auditors, Asare and Knechel (1995) replicated Beach and Strom's (1989) design and found support for image theory's screening process in that the effect of positive evidence (in the context of a client-acceptance decision) did not counterbalance negative evidence, thus leading to rejection decisions based primarily on negative evidence about the potential client. Overall, significant support for image theory was found across most of these studies. Although a complete review of all empirical studies of image theory is beyond the scope of this article, Table III provides a comprehensive overview of the findings of several empirical studies of image theory.

Comparison of Barnard's and image theory models of decision making

In the first part of this section, we first summarize and then juxtapose Barnard's and image theory's models of decision making. In the second part of this section, we compare these two models for congruence and incongruence to assess their similarities and differences.

Study	Sample	Primary findings
Asare and Knechel (1995)	$n = 29$; audit partners from four international accounting firms	Found support for image theory's screening process, in that the effect of positive evidence (in the context of a client-acceptance decision) did not counterbalance negative evidence, thus leading to rejection decisions based primarily on negative evidence about the potential client
Beach <i>et al.</i> (1988)	$n = 29$ across two studies; executives	Tested the descriptive sufficiency of a measure of compatibility in the context of executives assessing compatibility between plans for reaching a specified goal and the principles that guide the operation of their respective firms. The results of the studies suggest that the measure is sufficient
Benson and Beach (1996)	$n = 93$ across two studies; undergraduate business students	Screening options under time constraints were shown to lead to increased speed of execution. This lead to participants becoming less exacting in their execution, thus leading to inconsistencies in acceptance/rejection of options
Brougham and Walsh (2007)	$n = 238$; full-time faculty and staff	Incompatibility of personal goals with paid work provided a better (8 percent) prediction of retirement intent than alternative predictors (e.g. goal importance) did
Dunegan (1993)	$n = 63$; college students in upper-level management courses	Compatibility scores between a project's current and trajectory images were significantly different depending on the framing (positive vs negative) of a project team's performance record (within a written scenario). Positive framing led to greater perceptions of compatibility between images than did negative framing

(continued)

Table III.
Empirical support for
image theory

Study	Sample	Primary findings
Dunegan (1995)	<i>n</i> = 111 across two studies; college students in upper-level business courses	Decision makers (in two lab studies) were more likely to continue projects and commit additional resources when their perceptions of current and target images were compatible. Furthermore, image compatibility accounted for variance above and beyond that predicted by feedback (positive/negative) and dissatisfaction with the project
Dunegan (2003)	<i>n</i> = 193; professional staff at a large Midwestern University	The relative compatibility/incompatibility between a subordinate's image of his/her current leader and his/her image of an ideal leader explained variance above leader-member exchange (LMX) in perceptions of job satisfaction, role ambiguity, role conflict and intentions to quit
Dunegan <i>et al.</i> (1995)	<i>n</i> = 96; graduate business students	High levels of image compatibility led to a decline in information use (in a resource allocation context); low compatibility led to an increase in information use
Nelson (2004)	<i>n</i> = 117; undergraduate college students	Tested all three images in one study: participants ("consumers") with a strong value image were more likely to have strong trajectory images that were expressed through their strategic image
Ordóñez <i>et al.</i> (1999)	<i>n</i> = 297 across three studies; undergraduate business students	Results from the three experiments suggest that the normal screening process (in the context of potential jobs) functions to screen out the bad options instead of screening in the good options
Pesta <i>et al.</i> (2005)	<i>n</i> = 305 across three studies; undergraduate business students	In an organization-performance evaluation context and found support for image theory's screening process. Specifically, the number of non-violations accounted for 11 percent of the variance in predictions of promotion rates related to a fictitious bookstore employee in the experimental study

(continued)

Study	Sample	Primary findings
Potter and Beach (1994)	<i>n</i> = 168 across three studies; undergraduate business students	Found support for image theory's two-stage decision-making process of screening alternatives followed by choosing the best option from among the survivors
Rediker <i>et al.</i> (1993)	<i>n</i> = 130; MBA students	Those participants in the strong-belief structure condition (i.e. completely true or false) made less positive evaluations, requested less information, and allocated less money to explore the incompatible alternatives (in the context of business-acquisition decision scenario) than did those in the weak-belief structure condition (i.e. "not sure" or "neutral")
Richmond <i>et al.</i> (1998)	<i>n</i> = 122; experiment 1 – working adults <i>n</i> = 197; experiment 2 – hourly fast food chain employees	Results show that image compatibility between the current and ideal images of one's supervisor was positively related to satisfaction. Hope of supervisor improvement was found to mitigate dissatisfaction
Seidl and Traub (1998)	<i>n</i> = 45; undergraduate college students	Image theory's compatibility test was more consistent (70 percent) than prospect theory's editing hypothesis (15 percent) in an experimental design study that had participants recruit an employee
Thompson and Dahling (2010)	<i>n</i> = 224; undergraduate students	Individuals have value images that impact their career expectations, aspirations, and perceptions of available career options during the compatibility test – decision makers are likely to rule out career options that appear incompatible with their value images
Van Zee <i>et al.</i> (1992)	<i>n</i> = 833 across seven studies; undergraduate students	Found support for the "screening effect" – when screening out unattractive options (in an experimental study), the earliest information about the options had virtually no impact on evaluations and the repeating of the same information did not increase the odds of using that information for screening

Table III.

Summary of Barnard's model

Barnard's conversations conducted in the late 1930s with Lawrence J. Henderson, a highly respected Harvard Professor, inspired him to start examining the importance of decisive behavior. Barnard (1938) eventually articulated his views of the decision process in chapter XIII, "The environment of decision" and chapter XIV, "The theory of opportunism" in his seminal book *The Functions of the Executive*. However, these chapters provide only an introduction to what Barnard believed should be developed as a model for decisive processes. It is only in his *Notes* that Barnard (1995) explained the function of decision in the behavior of individuals, emphasizing the significance of decisive behavior, particularly for certain kinds of social phenomena. Barnard insisted that decisive processes are of central importance in understanding organizations and the functions of executives, arguing that the difference between organizational decisions and the decisions of individuals is important. This difference is important because organizational structure is determined by psychological limitations of responsive and decisive behavior as well as by physiological conditions of communication. Therefore, the structure and operation of organizations are largely determined by the requirements of the processes both of organized decisions and of the decisions of individuals functioning in the organization (Barnard, 1938).

Barnard (1995, p. 34) defined a decision as a "(1) conscious choosing between (2) two or more alternatives, at least one of which is regarded by the actor as a means (3) to an end-in-view". The process of decision making occurs across seven phases or stages, sequentially or simultaneously. This process, which is rational and/or intuitive, yields the decision maker's decision to act or not to act on the situation at hand (Barnard, 1995).

Summary of image theory model

Image theory offers one of the contemporary models of decision making developed by Beach and Mitchell (1996). This theory merged Mitchell's interest in subjective utility of decisions made in organizations with Beach's interest in psychology of individual decision making. Conceptually, image theory holds that people choose the option (course of action) for which they believe will result in the greatest benefit to them, provided there is a good chance they actually can attain that benefit. Although this conceptualization is based on the rational concept of expected value, the comparison and choice of options is made intuitively (Beach and Mitchell, 1990).

Although image theory focuses on individual decision making, it is assumed that the context of a social relationship matters and may prevail for options or alternatives to be changed or be overruled, particularly when presented to others (Beach and Mitchell, 1996). In the group context, the decision maker has to make up his or her own mind and then differences of opinion must be resolved in some manner that depends upon the dynamics of the group. Image theory does not regard groups or organizations as capable of making decisions *per se*; rather, they are the contexts within which individual members' decisions become consolidated through convincing others, negotiation, and politics to form a group product (Beach, 1990; Beach and Mitchell, 1990). At the core of this process is the intuitively conducted compatibility test of decision alternatives that are screened against individual standards or images. The value image reflects the decision maker's principles; the trajectory image reflects the decision maker's goals; and the strategic image reflects the decision maker's plans.

Based on their habits and policies, decision makers “adopt and implement plans to reach goals in order to satisfy principles” (Beach and Mitchell, 1990, p. 16).

Similarities between Barnard’s and image theory models

While the juxtaposition of Barnard’s *Notes* on the nature of decision making and Beach and Mitchell’s writings on image theory reveals several similarities between the two models, we focus on two main similarities between the two: the decision trigger and formation of alternatives (Table IV). For example, the value image concept that is an important component of image theory is also addressed within Barnard’s *Notes*. The importance of the decision maker’s guiding beliefs in the decision-making process is inherent in Barnard’s *Notes* as well as in image theory. Image theory utilizes the value image which consists of the decision maker’s guiding beliefs, values, and views on what is appropriate (Mitchell and Beach, 1990). In a similar way, Barnard stated in *Note I* in his overview of decisive behavior that socially established conditions may facilitate the acceptance of a decision alternative and may consist of beliefs, social conventions, and attitudes, among others.

Both Barnard and the authors of image theory explain how the set of possible alternatives is formed. Both conceive of the alternatives of reaching ends-in-view as being desirable to the decision maker. Beach and Mitchell (1996, p. 44) contend that “it is customary to think of decisions as involving the pursuit of desired outcomes”, such that the individual’s decision is beneficial to a previously established goal. The same concept is found in Barnard’s *Note IV* where he explained that for an alternative to be considered, it must fulfill some desire, want, or need of the decision maker. Decision framing, which is another prevalent factor within image theory, is also present within Barnard’s *Notes*. Mitchell and Beach (1990, p. 10) state that decisions are affected by their conditions and settings, such that “the context in which decisions occur gives them meaning”. Barnard also points to the setting in stage 3, noting that certain factors of the situation are relegated to the background, and serve as complementary, whereas other factors are important to the specific situation at hand. The importance of one factor over another can and will change depending on the framing of a specific situation.

Differences between Barnard and image theory models

We focus on two main differences between image theory and Barnard’s model of decision making: view of intuition and screening of alternatives. While intuition is a common decision-making mechanism in both Barnard’s model of decisive behavior

	Barnard’s model	Image theory model
<i>1. Similarities</i>		
(a) Decision trigger	Guiding beliefs based on social conventions	Value image based on social acceptance
(b) Formation of alternatives	Desirable ends-in-view (framing of the situation)	Desired outcomes (context gives meaning)
<i>2. Differences</i>		
(a) View of intuition	Gut feeling	Heuristic
(b) Screening of alternatives	Alternatives are narrowed down to one for which “do or do not” choice is made	Alternatives are screened for a few compatible ones for profitability of choice

Table IV.
Main similarities and differences between Barnard’s and image theory models of individual decision making

and image theory, the way in which the authors define intuition differs in some respects. Barnard's definition of intuition includes alternatives (ends) based on previous experience that can be instilled as "instinct" or habit. Also, societal beliefs, practices, and norms, which include the conduct of others within the individual's cultural environment, also constitute part of Barnard's conceptualization of intuition. Furthermore, stage 4 of Barnard's model of decision making refers to intuition playing a role in the discrimination of alternatives whereby an individual recalls how a goal was obtained in the past.

In image theory, intuition refers strictly to a "rapid, smooth process" requiring minimal cognitive processing (Mitchell and Beach, 1990). In this manner, intuition is instinctive and is reduced to an affect (negative or positive) regarding a situation. For example, a decision maker may choose an alternative that they believe "feels right" in a particular situation. Whereas Barnard's definition of intuition seems to contain automatic decision with individuals recalling how they handled decisions in the past, image theory separates intuition from automatic decision making. By automatic decision making, Mitchell and Beach (1990) mean that an individual may recognize a situation as having been dealt with successfully in the past and may automatically reapply the decision.

The second major difference between Barnard's and image theory models of individual decision making is related to the way in which screening of alternatives and choice of an alternative are made. Barnard claims that alternatives are narrowed to one on which the "go or no-go" choice is made. In contrast, image theory posits that screening of alternatives ends up with a few compatible ones on which a profitability test is conducted before the final choice is made.

A practical example that illustrates the main similarities and differences between Barnard's and image theory models of individual decision making is the decision about retirement. Retirement decision "entails adopting a plan of action (retirement) into the strategic image, as it 'fits' with the goals of the trajectory image" (Brougham and Walsh, 2007, p. 209). Both models posit that retirement intent should be a valued image or a desirable end-in-view, as well as based on compatible goals. However, Barnard's model predicts that retirement decision will be made intuitively based on a "gut feeling" by narrowing all retirement options down to one. Conversely, image theory model predicts that retirement decision will be made heuristically with a few screened compatible options subject to a profitability test before making the final choice. It is important to notice that both perspectives model retirement decision as descriptive decision (how it is made) rather than as a prescriptive decision (how it should be made).

Conclusion

In this paper, we have compared and contrasted a historical (Barnard) model of decision making and a contemporary (image theory) model of decision making. Our comparison reveals certain similarities, as well as certain differences between the two models. While there are similarities between the two models, we do not make the claim that image theory developed out of Barnard's model. Rather, image theory seems to bear out the thought process of Barnard as it pertains to individual decision making, and indicates empirical support for several parts of his model. A closer examination of these similarities and differences provides a justification to our claim that Barnard's model is an intellectually historical predecessor of image theory of decision making.

For example, we found that image theory's value image uses the decision maker's guiding beliefs, values, and views of what is considered appropriate (Mitchell and Beach, 1990), which is very similar to what Barnard wrote much earlier (i.e. in *Note I*) regarding the acceptance of decision alternatives based on beliefs, social conventions, and attitudes.

Our analysis, however, is not without limitations. Specifically, our analysis of Barnard's (1995) notes on decision-making behavior was primarily restricted to *Notes I-V*, which focus only on Barnard's basic definitions of and general discussion of decision making along with the seven stages of decision making. Future research should more closely examine *Notes VI-XI* in order to determine if additional congruence exists between Barnard's model of decision making and image theory.

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Corresponding author

Russell W. Clayton can be contacted at: rclayton@bus.olemiss.edu