



# Cultural and Ethical Effects on Managerial Decisions: Examined in a Throughput Model

Waymond Rodgers  
Susana Gago

**ABSTRACT.** Financial and cost accounting information is processed by decision-makers guided by their particular need to support decisions. Recent technological advances impacting on information as well as organizations such as the European Community mandating financial reporting requirements for many countries is rapidly changing the landscape for decision making using accounting information. Hence, the importance of individuals' decision making is more important than it was previously. These decisions are also influenced by individuals' ethical beliefs. The *Throughput Modeling* approach to cultural and ethical concerns provides a way of dealing with accounting information processed through various pathways by decision-makers. This modeling approach captures different philosophical perspectives from which to understand what is involved in "thinking scientifically." In the *Throughput Modeling* approach, pathways highlight the importance of how different philosophical perspectives may be used by individuals in arriving at a decision. This paper highlights key concepts involved in rethinking the basis of moral decision making in terms of an underlying process, rather than focusing on the application of principles or the development of a virtuous character. Examples are provided from both English and Spanish settings to help emphasize the importance of modeling ethical decision making globally.

**KEY WORDS:** decision making, ethical behavior, judgment and choice

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*Waymond Rodgers is Associate Professor of Graduate School of Management, University of California, Riverside.*

*Susana Gago is Associate Professor of Financial Studies and Accounting, University of Santiago de Compostela (Spain).*

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## Introduction

Decision-makers use accounting information to help improve their judgments and choices. Accounting information affects managerial decisions as well as financial reporting decisions. Even though there has been new management accounting innovations fraud is still a major threat to businesses and statistics indicate that this problem is growing (Turpen and Messina, 1997). In this information age, intellectual capital and knowledge laborers have replaced manual laborers and natural resources (e.g., wood, coal, oil, electrical and nuclear energies) as the main source of developing competitive advantages since the industrial revolution (Drucker, 1989; Eisenberg, 1997). In this context the importance of individuals' decision making is more important than it was previously.

Many individuals define unethical behavior, as conduct that differs from what they believe would have been the appropriate decision given the circumstances. Each of us decides for ourselves what we deem unethical behavior for others and ourselves. Within our global economy, beliefs about what is right or wrong may vary widely across and within cultures. For example, in the past some cultures believed that the world was flat. However, no matter how many individuals believe the earth is flat, it still remains round.

This paper discusses a decision making model that capture the various stages of individuals' morality and ethical reasoning processes. In a latter section, examples are provided from English and Spanish setting to help emphasize the commonality of ethical decision making pathways among different cultures. Our model helps us

understand what causes individuals to act in a manner that we decide are unethical. Ethical behavior is a prerequisite for a society to function in an orderly way (Kahn, 1990). Therefore, it can be argued that ethics is the glue that binds a society together. The need for ethics in society is such an important factor that many commonly held ethical values are incorporated into laws. However, many ethical values of a society cannot be incorporated into law due to the judgmental nature of certain values. For example, it is impractical to have laws that deal with loyalty, integrity and caring for others. This does not imply that these principles are less important for an orderly society. Ethics can then be classified as a set of moral principles or values. We each have such a set of values, although we may or may not have considered them explicitly. Philosophers, religious institutions, and others have defined in many instances ideal sets of moral principles or values. Examples of prescribed sets of moral principles or values at the implementation level include laws and regulations, church doctrine, codes of business ethics for professional groups such as notary publics, and a code of conduct within distinct organizations. Quite a few people distinguish ethics and morality. However, in this article, we adopt what other philosophers tend to use that is ethics as a general term referring to both moral beliefs and ethical theories (Beauchamp and Bowie, 1997).

While this study provides an overview of group and individual decision-making processes, it does not prescribe any one philosophy or process as best or most ethical. Rather our goal is to understand how decision-makers' current values and convictions are implemented in their actions. One difference between an ordinary decision and an ethical one lies in "the point where the accepted rules no longer serve, and the decision maker is faced with the responsibility for weighting values and reaching a judgment in a situation which is not quite the same as any he or she has faced before. The other difference relates to the degree of emphasis placed on a decision-maker's values when a process occurs on route to a decision. Hence, values, perceptions and judgments play a critical role rendering ethical decisions (Trevino, 1986).

Building on these definitions, we provide a conceptual framework called "*Throughput Modeling*," which enables us to depict the various stages influenced by one's ethical reasoning. The importance of this model is that it imports four major concepts (perception, information, judgment and decision choice) that suggest how they interact before making a decision. The significance of this model is that it illustrates several different pathways and stages that can influence a decision. Basic information processing modeling normally involves serial processing. Yet, we take this approach one step further by assuming parallel processing. That is we assume that there are many (often times simultaneous) pathways leading to a decision. One of our main contributions is that individuals, depending upon their philosophical viewpoint, may weight certain pathways heavier than others may. Decision-makers can benefit from understanding that other pathways may improve or modify their decisions. Finally, this novel approach enables us to complement several philosophical approaches with unique decision-making paths leading to a decision. The model begins with how an individual thinks about *perceived* ethical dilemmas. In the context of business, an ethical issue has consequences for others inside the organization and/or external to the organization. The intensity of an ethical issue relates to the perceived importance of the issue to the decision-maker (Jones, 1991). Ethical issue intensity, then, can be defined as the perceived relevance or importance of an ethical issue to the individual or group. In our model, the perceived importance of "ethical issue intensity" has been found to have a strong impact on both ethical judgment and choice (Robin, Reidenbach and Forrest, 1996). The more likely individuals are to perceive the importance of an ethical issue, the less likely they are to engage in questionable or unethical behavior associated with the issue. Therefore, ethical issue intensity should be considered a key factor in the ethical decision process as depicted by "perception" in the *Throughput Model*.

Figure 1 illustrates how the process of an individual's decision choice is made. If perceived relevance is an important determinant of how

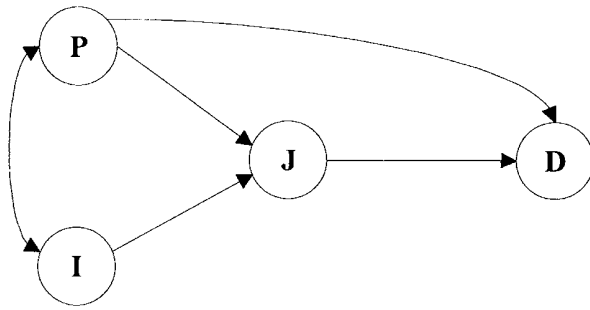


Figure 1. Individuals' decision processes diagram where **P** = perception, **I** = information, **J** = judgment, and **D** = decision choice.

an individual represents a problem and uses the information, it is necessary to know what determines the perception of relevance in the *Throughput Model*. The proposed specific relations will be explored and developed further in a series of processes for future research.

First, perception is the framing of our environment and how we view information. Perception discussed in this paper is of a higher mental activity level that involves categorization and classification of management information. Lower levels of perception include how people pick up or process information through their senses, such as vision, touch, hearing, etc. The lower level of perception normally involves automatic (and sometimes unconscious) reactions or responses to stimuli (information). An example would be a person experiencing an increase circulation of blood due to a charging lion.

Since we are examining a much more developed cognitive state of mind, perception is often termed as classifying and categorizing of events or information. Since individuals have different ways of viewing (classifying and categorizing) places, people and things, certain biases and heuristics generally occur in the processing of information.

In relationship to  $I \rightarrow P$ , information influences and reshapes an individual's perception. This reshaped perceptual frame provides an individual with a modified or new perspective in problem solving or decision making.

$I \rightarrow J$  infers no inference from a person perception. That is, in a problem solving task, the

information is processed or retrieved from memory and acted upon by decision rules as practiced or used in one's profession (e.g., loan officers, auditors, medical doctors, lawyers etc.). These decision rules are encoded in the judgment stage in the model. These rules provide guidance in sorting, arranging, ranking and rating information before a decision choice or action is taken.

Finally, the relationship  $I \rightarrow J$  does not imply an incorrect learning or memorization of the individual. However,  $P \rightarrow I \rightarrow J$  or  $I \rightarrow P \rightarrow J$  could lead to a bias judgment. Of course time pressures, uncertain information, unstable environment and the expertise of the decision-maker contribute to whether or how many biases can distort the judgment stage.

Since information typically is processed subjectively by decision-makers, it is interdependent with perception in the conceptual model (Alloy and Tabachnik, 1984; Anderson, 1985). The situational information and the decision-maker's prior expectations or beliefs about the information are relevant to perceiving the degree of covariation between them. Both of these information sources jointly determine covariation perception (Alloy and Tabachnik, 1984). Ignoring covariation perception may lead to conceptual difficulties in understanding and interpreting results (Phelps and Shanteau, 1978). Einhorn et al. (1979) advocated that the execution of an individual's decision choice may be made ambiguous and difficult due to redundancy of cues (i.e., prior expectation and presented financial statement information). In particular, the fact that cues are related not only to perceptions but to each other, as well, means that the role of interdependency of perception and information should be considered in a model. For example, Anderson (1974, p. 236) argued that individuals' perceptions result from an integration of diverse pieces of information. The interdependency and redundancy of perceptual effects and presented information have important effects on the kinds of judgment and decision choice strategies individuals use (Ebbesen and Konecni, 1975). Finally, by illustrating a correlation between information cues and perception, the *Throughput Model* is consistent with the Lens Model as modified by

Hammond (e.g., Hammond, McClelland and Mumpower, 1980; Abelson and Levi, 1985).

In the *Throughput Model*, information (circle 1 in Figure 1) also affects judgment. For example, information stored in memory affects decision makers' evaluations of framed prospects. Typically, before an individual can make a decision, that individual encodes the information and develops a representation for the problem (Johnson-Laird, 1981). Finally, perception and judgment can affect decision choice. Some authors, notably Kahneman and Tversky [1982], have suggested that both automatic, perception-like heuristics and more deliberate information processing strategies (judgment) are involved in most decision choices. Errors, biases, and context-dependent heuristics may result from cognitive mechanisms of which decision makers are largely unaware, and these may have a direct impact on decision choice (Rodgers, 1992). The strategies of judgment that influence decision choice are under an individual's deliberate control.

*Throughput modeling* begins with individuals stating their philosophical views of what should be done. The advantage of this approach is that it helps decision-makers understand why individuals have selected some information, which supports their position, and have ignored other information, which does not support their position. This approach helps uncover the observations and values on which individuals rely upon when taking positions on issues. Also, the model is useful in depicting latter stages of processes, such as judgment, that are implemented in supporting individuals' positions.

*Throughput Modeling* helps us clarify and evaluate decision-makers' responses to controversial issues. Controversial issues are matters on which individuals have different philosophical views of what is right. Controversial issues also involve conflicts between different views of what is right. *Throughput Modeling* depicts the most influential pathways employed in arriving at a decision. That is, what we hold as valuable enters into our *perception* of the information. Our *judgments* about what the information is, what is acceptable as information, what evidence we will believe, and what philosophical theory is appro-

priate to answer questions about a particular part of reality are all influenced by what we hold as valuable.

### *Throughput Model's pathways*

The decision-making processes of individuals can be represented in an organized manner. In order to study the methods of these decision processes it is important to break up all the paths marked with arrows in Figure 1 into sets of individual pathways. These fragments can then be independently analyzed for their contributing properties to individuals' decision processes (Rodgers, 1997). Further, it is common for decision-makers to differ in their moral philosophical values. Even if two individuals agree on the ethical principles that determine ethical behavior, it is unlikely that they will agree on the relative importance of each principle. These differences are highlighted in Figure 1, depicting several pathways toward making a decision.

Based on Figure 1, we can establish six general pathways:

- (1)  $\mathbf{P} \rightarrow \mathbf{D}$
- (2)  $\mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$
- (3)  $\mathbf{I} \rightarrow \mathbf{P} \rightarrow \mathbf{D}$
- (4)  $\mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$
- (5)  $\mathbf{P} \rightarrow \mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$
- (6)  $\mathbf{I} \rightarrow \mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$

There are many philosophies, which are complex in nature. We discuss six prominent approaches depicted in the *Throughput Model* six general pathways. The six philosophies discussed below are psychological egoism, deontology, relativist, utilitarianism, virtue ethics, and ethics of care.

- (1)  $\mathbf{P} \rightarrow \mathbf{D}$  represents *psychological egoism* that stresses individuals are always motivated to act in their perceived self-interest.
- (2)  $\mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  depicts the *deontology viewpoint* that emphasizes the rights of individuals and on the judgments associated with a particular decision process rather than on its choices.

- (3)  $\mathbf{I} \rightarrow \mathbf{P} \rightarrow \mathbf{D}$  highlights the *relativist perspective* which assumes that decision-makers use themselves or the people around them as their basis for defining ethical standards.
- (4)  $\mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  reflects the *utilitarian position* which is concerned with consequences, as well as the greatest good for the greatest number of people.
- (5)  $\mathbf{P} \rightarrow \mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  under scores the *virtue ethics outlook* which is the classical Hellenistic tradition represented by Plato and Aristotle, whereby the cultivation of virtuous traits of character is viewed as morality's primary function.
- (6)  $\mathbf{I} \rightarrow \mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  represents the *ethics of care philosophy* which focuses on a set of character traits that are deeply valued in close personal relationships, such as sympathy, compassion, fidelity, love, friendship, and the like.

#### *Six dominant throughput modeling pathways*

These six pathways are viewed as the most dominant and influential for decision making dominated by particular moral perspectives. Although, it is important to note that other pathways in the *Throughput Model* also contributes to the above philosophical positions. Our argument is that the corresponding pathway to each particular philosophical view is the most dominant.

Rodgers (1992, 1997) performed a covariance structural analysis with unobservable variables, based on a survey of loan officers' and novices' decision processes in order to derive covariance among *perception, information, judgment, and decision*. The results of his calculation from his survey, the coefficients, represent the coherence between the analyzed variables. A coefficient,  $r$ , is a number such that:  $-1 \leq r \leq +1$ .

Even though we are not interested in the actual real values of these correlation coefficients or in their respective signs, we are interested in their approximate sizes. That is, we will use negative and positive signs to represent the *depth of coherence* of the variables on a particular path.

A positive sign will imply strong coherence while a negative sign will imply a weak one, respectively. In order to give direction to a necessary pattern, we will assume that any correlation coefficient that is larger than or equal to 0.5, in absolute value, will be considered supportive of a high coherence and thus will receive a positive sign, while any correlation coefficient that is smaller than 0.5, in absolute value, will receive a negative sign and will imply a weak coherence of the variables associated with that path. Each path can have a positive (+), negative (-), or zero (0) flow going through it that can be represented numerically with the data collected by Rodgers' original survey with actual loan officers. The sign of the flow is dependent upon the relative importance of the use of that pathway for reaching a decision.

In Figure 2 through Figure 7 the missing pathways are either (-) or (0). In other words, all the paths drawn are the pathways with large absolute value correlation coefficients, thus they are the ones influencing individuals' decision choices the most. Since this analysis is not just a theoretical exercise, we need only find the combinations that *make sense* for our specific application, i.e., a decision *must be made* by our decision makers. Therefore, all zero pathway combinations can be disregarded when they lead to no decision. Hence, all the pathways drawn represent logically possible pathways that yield decisions. Even with this reduction in number of combinations, it is clear: decision makers' processes can involve a series of complicated steps. These six pathways are viewed as the most

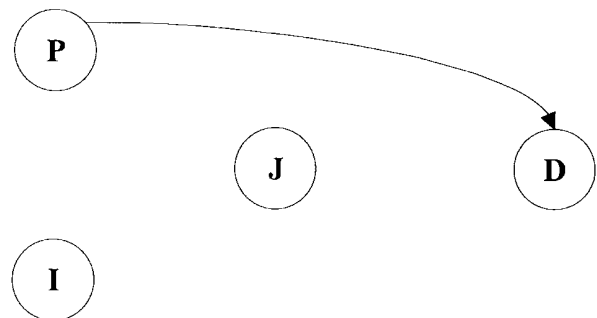


Figure 2.  $\mathbf{P} \rightarrow \mathbf{D}$  Decision is made based on perception only.

dominant and influential for decision making dominated by particular moral perspectives.

In statement (1)  $\mathbf{P} \rightarrow \mathbf{D}$  implies that all information from  $\mathbf{I}$  is disregarded and decision is made without any judgment. Lipshitz and Strauss (1997) advocated that there are three basic issues surrounding downplaying data sources, namely those reflecting incomplete information, inadequate understanding, and undifferentiated alternatives. These basic issues may downplay an individual's use of information during the first stage of processing.

$\mathbf{P} \rightarrow \mathbf{D}$  represents *psychological egoism*, which indicates that individuals are always motivated to act in their perceived self-interest. This theory is a subset of the Teleological theories of ethics, sometimes called consequentialist theories. These theories hold that the moral worth of an action or practice is determined solely by the consequences of the action or practice. Figure 2 assumes that the decision-maker's choice is driven by his or her predisposition or framing of the problem. In other words, the psychological egoism perspective relies heavily upon one's preconceived notions of framing the problem. Due to the above three basic issues (i.e., incomplete information, inadequate understanding and undifferentiated alternatives), information may be very limited or unreliable in contributing to a decision. Also, time pressures may prevent a thorough analysis via the judgment stage. For example, Housel and Rodgers (1994) reported that high-analytic loan officers were more likely to go directly from their perception of the loan data to decision choice than low-analytic loan officers (when the effect of experience level biases are accounted for). The authors reasoned that high-analytic loan officers' abilities allow them to perform more precise analysis of the loan data. That is, they are better able to disembed the meaningful information from the less meaningful. The low-analytic types are more likely to aggregate data into larger chunks, thus not permitting a finely tuned analysis and more often requiring the additional analysis of the judgment stage.

In a study by Prieto (1995), the greater fear of an audit inspection as compared to a civic duty led to the elimination of the fiscal fraud.

Therefore, the decision about paying taxes ( $\mathbf{D}$ ) was influenced by the perception of the individual about his self-interest (to avoid to be an object of an inspection – perception).

Llorens (1996) analyzed for the clients of cafeterias and restaurants the relationships among client satisfaction ( $\mathbf{J}$ ), the perception of quality ( $\mathbf{P}$ ) and future intention of repeating the service provided ( $\mathbf{D}$ ). The clients were habitual clients. He found that (1) the perception of quality influenced the future intention of buying ( $\mathbf{P} \rightarrow \mathbf{D}$ ), and (2) that the perception of quality influenced the satisfaction of the client ( $\mathbf{P} \rightarrow \mathbf{J}$ ). Since the relationship of (1) was stronger than (2), the association of  $\mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  was not established.

In Figure 3,  $\mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  depicts the *deontology viewpoint* that emphasizes the rights of individuals. This viewpoint examines the judgmental effects on decision choices. A basic premise to this viewpoint is that equal respect must be given to all individuals. Therefore, the judgment stage implement decision rules that help guide individuals to a decision. Apart from egotists and utilitarians, deontologists advocate that there are certain things that we should not engage in, even to maximize utility. Deontologists also regard the nature of moral principles as permanent and stable, and that compliance with these principles defines ethicalness. Further, they believe that individuals have certain absolute rights, which include (1) freedom of conscience, (2) freedom of consent, (3) freedom of privacy, (4) freedom of speech, and (5) due process.

Statement (2)  $\mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  implies that information from  $\mathbf{I}$  is disregarded, as above, and a

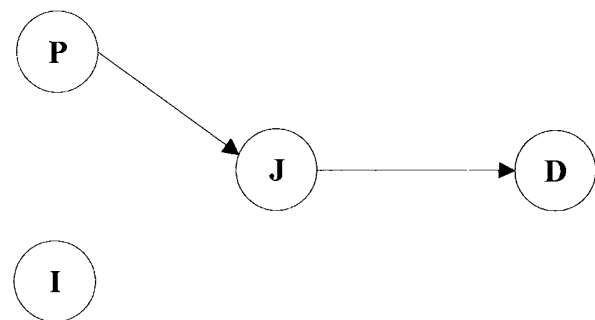


Figure 3.  $\mathbf{P} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  The decision path is: Perception to Judgment to Decision.

decision is reached via judgment. There are at least several reasons for this occurrence. First, information may be disregarded due to its unreliability. For example, a pre-medical student depiction of a patient illness would not carry the same weight as an experienced medical doctor. Another reason for ignoring information may result from noise interfering with the main signal or message. In this particular scenario, the decision maker may be confused regarding the intended message of the information. Finally, conflicting informational signals may obfuscate a decision-maker from determining the proper weights to place on the information sources.

For example, to contract a person, a company or to give a subsidy in the Spanish public system requires a public offer, which avoids whatever possible kind of discrimination among citizens caused by whatever reason. During the final campaign election days some politicians were accused to be involved in illicit situations with members of their families or friends by the press. This pressure caused a particular politician to renounce his candidacy, even though he was attacked without valid reasons. Evidently the press accused the politician (**D**) based on their perceptions regarding friendship involvement with certain people (**P**), judging that he was at fault (**J**).

De Elizagarate et al. (1996) were interested in why some people purchased merchandise in the South of France (Aquitania) instead of Spain (Pais Vasco, Guipuzcoa) (**D**). The economic reasons were not considered as they found that although most of the interviewees thought that the devaluation of the peseta affected them, the majority pointed out that they might not buy less than before. Motivations for buying were based upon their perceptions of the big shops (which did not exist in Spain) (**P**) and the consideration that they provided an interesting combination of “leisure and interesting shopping” (**J**). Hence, the pathway appears to be governed by the following pathway: **P** → **J** → **D**.

Hernández (1997) studied the reasons and consequences of voluntary renouncing of women to work. He found that marriage, maternity and education of children were reasons for them to leave work (nevertheless, these reasons had a

practically null effect on men). The decision to leave employment (**D**) was based on their judgment (**J**) that marriage, maternity and education of the children (**P**) were not compatible with the work. A major indication of this conclusion rests with the fact that most women that left employment for these reasons did not return to work.

In the Spanish administration the system to contract a person as a public person should follow some steps which tried to guarantee that the access would be free, under equal conditions and without any kind of discrimination among citizens caused by whatever reason (constitutional principles). Hence, the decision-making activity related with contracting a person as a public person would be quite dominant in this pathway.

In Figure 3, an individual forms a perception without the use of any information, weighs the possible outcomes before making any judgment and then concludes with a decision. Culbertson and Rodgers (1997), for example, demonstrated that perceptions influence the interpretation of inappropriate sexual behavior (judgments). In other words, perceptions regarding the organization’s climate toward sexual harassment influenced individuals’ decisions regarding satisfaction with the organization, whether they would recommend the organization to others, and their intention to stay with the organization. *Throughput Modeling* may assist us in understanding the important factors that can guide and increase our awareness of improving managerial effectiveness in the workplace.

**I** → **P** → **D** highlights the *relativist perspective* which assumes that decision-makers use themselves or the people around them as their basis for defining ethical standards. They observe the actions of members of some relevant group and attempt to determine the group consensus on a given behavior. Relativism recognizes that people live in a society in which they have varied views and positions from which to justify decisions as right or wrong. Therefore, ethical relativists maintain that all ethical beliefs and values are relative to one’s own culture, feelings, or religion.

That is, individuals’ knowledge structures are influenced by their education, religion, books they reads, and their environmental setting. What

one person accepts could be rejected by another one, in both cases being not rejected by the social group.

A recent study concerning Galician Business Directors (Gago et al., 1997a, 1997b), reported that their strategies in decision-making (**D**) were mainly negotiation and political agreement. The informal information was considered very primitive in aiding their decisions. The directors mentioned, amongst other things, telephone calls, conversations and casual meetings, and pointed out their interest in providing information for day to day activities and the renovation of operative functions. The fellowship between members of business schools permits easier exchange of information. Their perception of informal information (**P**) was what they implemented for decision choice (**D**).

Díaz de Rada (1996) studied people who purchased clothes and shoes during discount periods (**D**). The purpose of this study analyzed how many people purchasing behavior was motivated by locating a bargain without considering the utility of the product (**J**). Further, it was found that 49.1% of people perceives the bargain (**P**) based on the information about the discount (**I**) and decided to buy (**D**).

In Figure 4, a decision maker reads the information presented and without any consideration of the alternatives makes a decision based on the perception he or she formulated from the information presented earlier. In a study conducted by Rodgers, Culbertson, Olmsted and Thomas (1998), enlisted navy personnel's maturity and sex influenced their perception of fitness use, which in turn influenced their quality judgments. Many

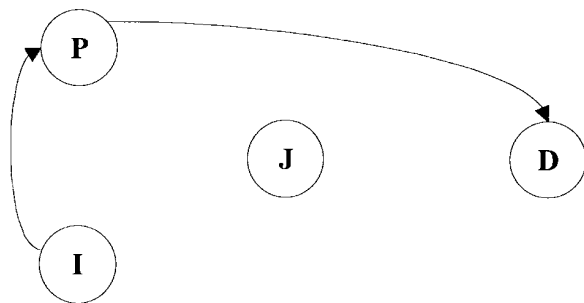


Figure 4. **I** → **P** → **D** The decision process goes from Information to Perception and to Decision.

Navy's policy makers have believed that Navy morale, welfare, and recreation programs does contribute to performance. The use of this model demonstrated that fitness use does impact on one's intentions to remain in the Navy. The modeling approach demonstrates how complex relationships between morale, welfare, and recreation programs and important outcomes variables can be combined into a single model that can assist Navy leaders help when facing hard funding choices regarding quality of life programs for Navy personnel.

**I** → **J** → **D** pathway reflects the *utilitarian position*, which is similar to *psychological egoism* in that it is concerned with consequences, as well as the greatest good for the greatest number of people. Utilitarianism is generally traced to Jeremy Bentham (1748–1832) who sought an objective basis for making value judgments that would provide a common and publicly acceptable norm for determining social policy and social legislation (Velasquez, 1998). This position is committed to the maximization of the good and the minimization of harm and evil. Further, this theory advocates that society should always produce the greatest possible balance of positive value or the minimum balance of negative value for all individuals affected. Therefore, the utilitarian principle infers that quantities of benefits produced by an action can be measured and added and the quantities of harm can be measured and subtracted. This will determine which action produces the greatest total benefits or the lowest total costs.

Figure 5, for example could represent a

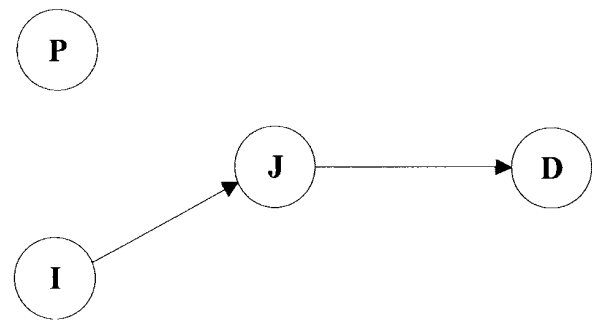


Figure 5. **I** → **J** → **D** Decision path: Information to Judgment to Decision.



manager whose decisions evolve around a structured environment offering very little change. For example, a cost accountant determining the total costs of a company manufactured product, may select this pathway if the costs involved are fixed due to contractual relationships with his suppliers. The manager's judgment regarding future costing of the product will probably be based upon the past supplier cost sheets (Rodgers and Thomas, 1998).

In this approach the "egoist" concern about consequences is supported by an utility function which allows individuals to establish a judgment based on the benefits and cost of their decisions. To collect information about the consequences is necessary in this approach.

Gago (1999) concluded in a decision making study that profits were the primary factors involving ecological innovations in Galicia (**D**). That is, most Companies' Directors felt that the main interest for introducing co-operation with environmental concerns (**J**) involved the economic interest (mainly cost savings) (**I**) of the company. Only one Director felt that the company actions were guided mainly by ecological concerns (reducing waste products).

Huerta and Sánchez (1998) analyzed the reasons for introducing Information Technology in four Spanish companies' (**D**). They argued that in two companies the judgment about the convenience of introducing Information Technology (**J**) was based on financial aspects (**I**). And in one company, judgment was based on costs and efficiency (**I**) and in another company on strategic aspect (**I**).

Sánchez and Gil (1997) studied the structure of preferences about red wine pertaining to "denominación de origen" (which is similar to a government guarantee for the quality and the origin of the wine). They found that preferences about the wine (**D**) were influenced in a non-significant way by the price, the origin of the wine (**I**), and the kind of wine (**I**). These were the critical attributes contributing to judgment (**J**).

$\mathbf{P} \rightarrow \mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  under scores the *virtue ethics outlook* which is the classical Hellenistic tradition represented by Plato and Aristotle, whereby the cultivation of virtuous traits of character is

viewed as morality's primary function. Aristotle argued that virtuous character is cultivated and is part of an individual, similar to language or tradition. The virtue ethics outlook not only assumes a disposition to act fairly but also a morally appropriate desire to do so. Figure 6 implies that an individual's perceptions or framing of the problem will influence the selection and type of information to be employed in judgment. That is, an individual is motivated to act appropriately (perception), which influences the information set (**I**) used to be analyzed (judgment) before a decision is made. This perspective suggests that a morally bound individual with good motivations is more likely to understand what task should be performed more so than a morally bad individual. In other words, trust is the moral cement of the business community. Beauchamp and Bowie (1997, p. 39) advocated that "A person who simply follows rules of obligation and who otherwise exhibits no special moral character may not be trustworthy."

A point of clarification regarding the interdependence between perception and judgment is that the pathway shown as  $\mathbf{P} \rightarrow \mathbf{I}$  is a continuous forward and backward path (see Figure 1). Also, this pathway suggests that perception dominate information. Thus, when the path direction is  $\mathbf{P} \rightarrow \mathbf{I}$ , we suggest that **P** *dominates* **I** in an individual's actions toward reaching a decision. When the direction of the arrow is reversed:  $\mathbf{P} \leftarrow \mathbf{I}$  implies that **I** *dominates* **P** and an individual's primary method of decision making is via information (Rodgers, 1997).

In the  $\mathbf{P} \rightarrow \mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  pathway, Rodgers (1997) argued that auditors' perceptions domi-

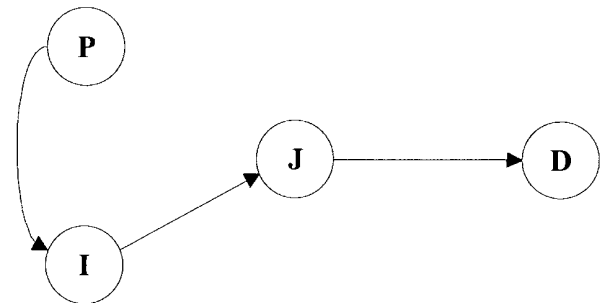


Figure 6.  $\mathbf{P} \rightarrow \mathbf{I} \rightarrow \mathbf{J} \rightarrow \mathbf{D}$  Perception to Information to Judgment to Decision.

nate the information that would be used to construct a judgment to decide on. The individual's perception will determine the information that he will consider at the time of forming a judgment. Such judgment will determine the decision-making. The "utilitarims" will be dominated by the perception in the sense that will be the perception that determines the rules of the play.

Blanco and Gago (1993) discussed students' perceptions pertaining to the need of introducing an ethic subject on accounting in the curriculum. Most students (82,7%) considered that the system of values provided by the family (**P**) could be reoriented or continued by an adequate education (**I**). In addition, only 28,2% of the students defended that the educational system promoted ethical lines of behavior. Finally, 81,2% of the students defended the necessity of an ethics subject in accounting as a way to influence the way in which decision-making is developed (**J**), resulting in perhaps more ethical decisions (**D**).

Canay and Gago (1999) studied the strategic plan for *Information Technology* (i.e., internet, intranet and centralized telephone service) in the University of Santiago de Compostela. During Rector Pajares' term of office in 1987, a preliminary strategic plan was developed for *Information Technology*. This plan was based on the advantages that *Information Technology* could provide for the scientific community (**P**). After the successful development of a single switchboard for the whole Southern Campus (**P**), the Rector approved a preliminary survey for examining the viability of providing the University with a more effective communications service to an external consultancy (**I**). Even though this project was never executed, the decision on the Strategic Plan (**D**) was made during the Rector Villares' term of office in 1990. That is, from other sources he approved the contracting of an external-consulting agency to make an investment plan (**I**). This process involved the University's information technology experts, as consultants they aided in its development. Once technical and economic viability had been confirmed (**J**), the strategic plan was adopted for the academic year 1992/1993 and provided with a

budget of 750.000.000 pesetas (about 4.500.000 euros) (**D**).

$I \rightarrow P \rightarrow J \rightarrow D$  represents the *ethics of care philosophy* which focuses on a set of character traits that are deeply valued in close personal relationships, such as sympathy, compassion, fidelity, love, friendship, and the like. Figure 7 represents the last possible fragmented way for individuals' cognitive processes. In this sequence, an individual studies the given information, frames the problem, and then proceeds to analyze the problem before rendering a decision. Information helps guides an individual's perceptual perspective. That is, the ethics of care philosophy incorporates a willingness to listen to distinct and previously ignored or unaccustomed viewpoints.

In the  $I \rightarrow P \rightarrow J \rightarrow D$  pathway, information dominates the perception in an "open-minded" individual. The judgments used to decide on will be the result of the perceptions that the individual produced as a result of the information. The "altruism" is modeled in this model by the information available to decide on.

Rodgers (1999) found that managers received valuable information (**I**) from internal auditors' recommendations. Bank managers' often times formed personal relations with their customers. The internal auditors' recommendations were instrumental in help guiding managers' assessments of expenses. This information influenced managers' perceptions (**P**) regarding controlling their expenses. Their perception (**P**), included non-financial information related to customers'

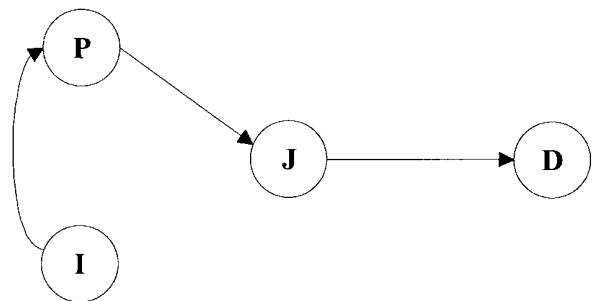


Figure 7.  $I \rightarrow P \rightarrow J \rightarrow D$  Information to Perception to Judgment to Decision.

satisfaction, influenced their judgment (**J**) before a decision (**D**) was made.

Blanco and Gago (1993) asked students about how they could regulate the ethical conduct of the accountant. 39,1% pointed out rules, 39,1% pointed out recommendations, 10% both and 2,7% no regulation. The students made recommendations (**I**), argued that (a) ethics could not and should have not been imposed on accountants, (b) the need for society and the individual to be conscious about the behavior ethical repercussions, and (c) individuals have the responsibility to act in an ethical way. These assertions assume that accountants' judgments (**J**) were based on their perceptions of what is ethical (**P**), as well as what can be influenced by information via recommendations (**I**).

Rodríguez (1998) studied the informational variables that exerted an influence over the decision of eliminating a product. She affirmed that companies observed the same variables related to the profitability of the product (**I**), which allows the company to detect the perceived weakness of the product (**P**). The company then evaluated whether to eliminate certain products based upon its weaknesses (e.g., existence of a substitute product, pressure from external groups, profitability of alternative products, etc.), before arriving at a decision (**D**). In relation to the periodic supervision of the products (or the influence of the weakness detection and the detailed evaluation), she demonstrated that there exist a positive correlation among the existence of a periodic supervision and the number of products eliminated.

## Conclusions

Tolerance and respect for cultural diversity is an ongoing challenge in the international business community. We believe a framework addressing major ethical positions can help guide decision making on not only a domestic level but also on an international level. A model that can highlight the various pathways in which ethical reasoning can affect a decision may be helpful for our future decisions. Understanding individuals' ethical reasoning processes may lead to more

efficient and profitable procedures and outcomes. Global business is continually bringing people and countries together that have different cultures, values, and ethical standards. Communication and information flow may be improved by the development of a model that captures and integrates decision-making processes along with ethical reasoning.

Psychological egoism, deontology, relativist, utilitarianism, virtue ethics, and ethics of care represent six prominent philosophies of ethics. Understanding these six prominent ethical philosophies may aid in financial and managerial decisions across cultures. These philosophical positions were embedded in a decision-making paradigm called the *Throughput Model*.

The *Throughput Model* described in this paper may help assist decision-makers in their financial and managerial tasks. This approach is one way to relate major ethical philosophies in one model. However, decision making modeling approach emphasizing ethical philosophies is strengthened by considering the following:

- (1) an analysis of decision makers' framing of the information (i.e., perception);
- (2) an analysis of the framing effects have on their judgments;
- (3) the decisions that decision makers make; and
- (4) feedback designed to help decision makers understand the effects of their accounting information processing on their decisions.

Future research can test and validate decision makers' processes with the *Throughput Model*. Assisting individuals to make improve moral decisions is one of the most important components of any decision making model incorporating ethical processes. The approach suggested here may help solve ethical dilemmas, and thereby improve the overall decision-making processes of individuals. This research article moves toward a vision of business ethics research that will help move the field through its current developmental stage.

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Waymond Rodgers  
Graduate School of Management,  
University of California,  
Riverside, CA 92521

Susana Gago  
Facultad de Ciencias Económicas y Empresariales,  
University of Santiago de Compostela,  
Santiago,  
Spain