

# The Cognitive Backbone of Advice Giving and Taking: A Proposal

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## Abstract

Traditional theories on decision-making are based on the assumption that the judge makes decisions without external supports. External resources have been classified as “information” that helps or changes one’s mind. Further analysis is needed for a better understanding of the relationship on the way individual cognitive system is affected (or shaped, as the paper explains) by external resources. Recently, scholars start thinking that social interaction plays a pivotal role in cognitive, and decision-making processes too. Studies on advice taking provide an interesting basis to test whether individuals lean on external social resources or not when making decisions. The main aim of the paper is to argue that advice taking is more than a marginal niche of studies, but it probably explains the most common way individuals make decisions. This is apparent when considering the distributed cognition approach (DCA). The fact that our cognitive system works in a distributed way, and that it is shaped by external resources helps in defining external social supports – such as advice – as one of the ways through which the cognitive system is distributed.

## Introduction

“Why do people take advice?” was the question raised by Harvey and Fischer (1997) in one of the most important contributions on advice taking. While the works of many contributed – and still does so – to a better understanding of decision-making and advice (Bonaccio and Dalal, 2006), more general studies still are in their infancy.

We may argue, many decisions “are social by nature”, but “most research applies only to individual judgment or choice and, consequently, does not represent the social aspects of many decision making situations” (Sniezek and Buckley, 1995: 159). Studies on advice taking have been considered as addiction to decision making, since mainstream literature largely overlook them (Harvey and Fischer, 1997).

This paper tries to shed a new light on advice taking. I will be answering the *why* question on the basis of a different level of analysis. The main hypothesis being that people take advice because the way we process information is based on external resources. Broadly speaking, advice is nothing but an external resource. We can argue and discuss on the complexity of this kind of resource, but still could be classified that way (Luan, Sorkin and

Itzkowitz, 2004). External resources support decision-making, and shape our cognitive system. In other words, people take advice because their cognitive system supports this kind of externalizations, all the time, since we were born. Thus, the answer I provide to the *why* question is probably more radical.

In this paper, I present the distributed cognition approach to rationality, and argue that it provides a sound description the role of advice giving and taking. If these arguments were supported, they should change the way scholars define decision-making. The main point here is that of shifting the attention from advice taking as a fields of studies that adds something to traditional decision-making theories to these ones being but a specific case of a more generalized “social” approach to decision making. Moreover, the social approach to decision-making is part or the distributed cognition approach to rationality, i.e. to the meaningful use of all external resources. Broadly speaking, the general aim of this paper is to (1) define the cognitive backbone of advice taking behavior, and (2) to find a proper cognitive theoretical framework. As far as I know, this might offer an interesting insight for students in this field.

In the first section I summarize one of the major approaches in decision-making, and focus on simplification procedures. In the second section arguments for the inclusion of advice taking among simplification procedures are presented, suggesting that this is probably the main source of simplification. Rather than an overlooked process, advice taking seems to be one of the main sources among which individuals actually make choices. After providing its definition (section three), the fourth section introduces the distributed cognition approach. Docility is then exposed in the fifth last part of the paper, followed by few conclusive remarks.

### **Decision-making: The traditional approach**

In the last ten years studies on decision-making seem to have lost their original appeal to scholars. At least, a shift appears were attention is focused on cognitive, ethical, and psychological contributions to the field (Greenberg, 1994). The way the “social” side of decision-making is far from being considered, can be summarized by one of the leading scholars in the field. James March’s *A Primer on Decision-Making* (1994) provides interesting hints on the issue and, more than a simple contribution, appeared as a real synthesis of 50 years of decision-making theories.

In the first chapters of his work, March analyzes the two logics underlying decision-making processes. The first is what he calls the “logic of consequences,” where rationality is bounded – or limited, to use the author’s word – and falls short of omniscience (Simon 1979 and 1997 could also be mentioned here). Making decisions means to follow a strict logical flows of arguments, dealing with the fact that human beings have limited computational capabilities, and they are not able to get the overall range of information from the outside world. The points are those of expectations, alternatives, preferences, and the decision rule for actually making a choice.

The second considered perspective is the one that falls under the “logic of appropriateness.” This is a situational kind of logic for making decisions, and it deals with recognition, identity, and rules. It emerges when “actions are matched to situations by means of

rules organized into identities” (March, 1994). While the first is based on information being processed rather mechanically, this second logic is based on psychological, and social (or relational) perspectives. The “social” part of the process is apparent when March relates this logic to organizations, their rules, and the roles played by individuals.

March describes few variables that define the very essence of bounded rationality. He considered, among other points, (a) informational constraints, (b) the psychology of bounded rationality, and (c) satisficing as a search rule. Although these arguments here are very intriguing, we better focus on psychological aspects. Among the many contributions one could take into consideration (Kahneman and Tversky, 1979), March considers simplification processes human use to analyze and solve a problem or perform a complex task. Every time we face a problem, we follow one or more of these processes depending on the extent to which the problem is complex: The more difficult the problem, the more these processes occur. These could be defined as:

- Editing;
- Decomposition;
- Framing;
- Heuristics.

There are commonalities between these four variables. Although a detailed analysis should be helpful, it does not fall into the main objective of the paper. Instead, I should suggest to answer the following question: what do these processes share?

Editing, decomposing, framing, and heuristics emerge when the traditional model (the logic of consequences) does not provide a good analysis of decision-making. They are tools for a better analysis, and they work on the basis of traditional hypothesis on human rationality. Hence, these processes are all about individual decision-making, and they occur into the individual’s “isolated brain” (Clark and Chalmers, 1998). It is apparent that these are brain-centered processes where the individual brain is the main player: No matter what happens outside, the individual edits, decomposes, frames, and performs heuristics. The focus here is on the brain’s performance where information sources are important but still play a marginal role.

### **Taking advice as a simplification process**

However, when we think about ways individuals could make decision in an easier way, we must include more than these four processes. If we were to admit that simplification is something that drives our activity as decision makers, we should probably think of it from a broader perspective. What allows simplification? What kind of behavior explicitly allows us to save cognitive efforts? I suggest that, among the ones that March mentions, we have to include “advice taking” too. I am not arguing that this is the only process we want to add to this list, but this looks like the great absentee.

First and foremost advice taking is not a mental, nor a psychological process. This appears to be true: advice taking could be classified as “behavior,” or “attitude.” I suggest in this paper that it is much more than that, and want to present specifications later on this point. Here, I think it should be more appropriate to discuss the way advice taking can add something to March

classification of simplification processes. Again, this is an attempt to “open” the old limited perspective on human rationality, where the judge (or decision maker) operates without any dynamic and dramatic change of his or her views. Decision-making is a stable process here, and the judge is not supposed to handle situations, nor to be involved in any dynamic process of interaction with external resources. There is a cognitive divide between what is internal and what belongs from the outside world. The widespread use of advice taking suggests that we better change this approach, and move to a more socially-embedded (or oriented) one.

Critics might address the point that advice taking might lead to decomposition of certain problems, that it helps the editing of some others, or might help the emergence of heuristics. But, we can argue that, for example, heuristics are connected to a sort of mental frames, and to specific (sometimes non-logical) decompositions of events. Nevertheless, March classifies these processes as different ones. Advice taking is one of the main sources of simplification and, to be explicit, can be thought of as the main basis on which the other four are based. To get a clearer idea, I suggest you to consider examples that follow. However, before moving further, we need to define what “advice” is.

### **What is advice?**

Advice taking can be defined as a system in which an individual (advisor) recommends something to the decision maker (judge). This is the Judge-Advisor System (JAS). One should argue that the most important point here relates to the way advice is defined. What is “advice”? Advice can be defined as judgments or recommendations from individual A to B (Sniezek and Buckley, 1995), as a specific recommendation, or it “could include the provision of social support needed for the decision” (Bonaccio and Dalal, 2003). These definitions are based on laboratory experiments, where scholars need to cope with operative problems. How about advice in practice? A few examples might help you get the point here.

Here is the first example. You are looking for the convention center, where you are going to attend an important conference. This is your first time in that city. A city map is in your hands, and you strive to find the right direction. You impalement is apparent. An old man stops, asks you if you need help, and gives you the right directions to the convention center. This is a common way to take advice. Independent of the outcome (you reach or not the center), advice from the old man is a clear shortcut to the conference. It makes your way to the convention center easier. Is this a way to simplification too?

Let’s take a second example. I borrow this from Sniezek and Buckley: “A perfect example of a simple and common JAS [*Judge-Advisor-System*] structure is the reviewing process to which this paper will be subjected. An editor (the judge) chooses two reviewers (the advisors). The editor evaluates the comments and recommendations of the reviewers and makes the final judgment” (1997: 159). How about advantages of peer reviewing from the simplifying perspective? Suppose the editor is not familiar with issues analyzed in the paper. Instead of studying something new, she or he decides to take opinions from two colleagues familiar with that topic. Of course, the final decision and responsibility remains with the editor however, this is far better than getting used to new literature, new concepts, and topics (i.e. investing time and cognitive efforts on an issue that is new to him or her).

These are two among many examples we can find to prove that advice taking is something that individuals commonly use (ask for) to spend less in cognitive efforts when making decisions. Although the simplifying function of advice is apparent, leading scholars do not consider it as one of the main processes that lead to simplification.

Why is advice taking so worthwhile? Answer to this question could be related to attempts to understanding how our cognitive system actually works.

### **The distributed cognition approach**

The field of organizational behavior has been hanged by the so-called “cognitive revolution” (Ilgen, Major and Spencer, 1994). Many scholars in the field provide evidence of the fact that a more detailed understanding of the ways the human cognitive system works might be helpful in many areas, such as decision making, human resources management, conflict management, and so on. However, there is no unified perspective on which one out of the many existing cognitive approaches (Gardner, 1985) better fits management practitioners and students needs.

Since its beginning, the use of cognitive studies in management dealt with specific problems. For example this is the case for Beach and Mitchell’s image theory (Beach, 1997), or for Simon’s framing of bounded rationality (1979); both of them deal with effective decision-making. The perspective I follow in this paper is similar to these traditional ones. However, the starting point for this work is an apparently narrow research area (advice giving and taking) where cognitive issues remain undefined and thus uncertain.

The so-called *distributed cognition approach* (Hutchins, 1995; Magnani, 2007) defines the way the individual cognitive system actually operates, and might lead to interesting insights on the way the JAS works. I try to explain shortly the main features of the approach, and to use one of the two above-mentioned examples to make the point clearer.

All decision-making approaches, including contributions in the advice taking literature (Bonaccio and Dalal, 2006) make distinctions between internal and external resources. For external resources, I mean “everything that is not inside the human brain, and that could be of some help in the process of deciding, thinking about, or using something” (Bardone and Secchi, 2006: 12). The main assumption of the distributed cognition approach is that external resources are fundamental when defining the human cognitive system. They shape it, so that external resources exploitation becomes the only way to explore how the cognitive system actually works. In other words, these resources help defining our cognitive capabilities, so that it seems to be embedded in the external environment.

The main assumption of this approach is that external resources are core to the human cognitive system, and that we could not understand how this works without analyzing their nature, and functions. The next step strictly follows this first one.

The cognitive system is distributed in the sense that external resources carry part of people's cognitive activity. They are part of individuals processing information, and cognition couldn't exist without them. To this extent, the cognitive system is thus distributed. Of course, when analyzing cognitive processes we need to stress the fact that all these are active processes, and that people try to exploit as much external resources as they can. This means also that there is a "transfer" or "exchange" between internal and external resources. Individuals tend to externalize their cognitive capabilities. The many externalization processes allow us to make decisions, to understand how things happen, to establish relationships, etc., i.e. to live in a socially construed *material* world (Magnani, 2007).

Externalizations are the way we usually make things rational. I think that the following example gives the exact meaning of what "externalization" means and implies. I would like to borrow this example too from Bardone and Secchi (2006): "writing is a mimetic activity, because we *represent* and *reproduce* thoughts, ideas, etc., in another means (the sheet of paper). Besides, the process of externalization makes it possible to use external objects, and the environment in general, as *information storages* that people can take advantage of in many ways (Mithen, 1996; Donald, 2001). [...] Once our thoughts have been secured to an external support (the sheet of paper), we are able to think and operate on them in a way that would not otherwise be possible. As a matter of fact, we cannot *re-read* our thoughts, because they are fleeting and immediately fade away. But, once written, we can use the sheet of paper as a *cognitive and epistemic mediator* (Hutchins, 1995; Magnani, 2001) and perform some cognitive activities otherwise impossible. More precisely, external supports allow individuals to *re-project* their own thoughts so that they can uncover hidden information and concepts. In this sense, external objects do not simply help to accomplish some cognitive activities – serving as cognitive mediators –, but they allow us to find room for new ones – the epistemic function" (2006: 17).

### **A framework for advice giving and taking**

The distributed cognition approach might help in understanding advice taking, and its role among studies in decision-making. Since this approach to cognition is based on the role of external resources, the main point is the following: is advice an external resource? The answer might not be as simple as it appears to be.

First of all, I suggest a slight change in the definition of advice. The aim of this paper is that of finding a different way to interpret advice taking and giving, so that the definition shall fit the cognitive domain needs. Studies on advice taking and giving have been related to a simple schema where the advisor provides recommendation to the judge on a specific problem the judge has to solve (see above). Hence, we have: (a) a limited amount of information on a problem that needs to be solved, (b) an individual with defined (or bounded) cognitive capabilities, (c) resource(s) to which the judge has access (i.e. the advisor). However, this is the traditional way to define a set of resources for cognitive operations (Gibbs, 2005). If we move on, we notice that cognitive activities cannot be regarded only as internal processes that occur within the isolated brain (Clark and Chalmers, 1998). Hence, the cognitive system is shaped by the exploitation of external resources, the advice, in the JAS case.

Why does the judge lean on the advisor's recommendation? My answer is that of Herbert Simon (1990; 1993), and it is an easy one. The judge leans on advice because they are "docile" (Simon, 1990; 1993; Secchi, 2007; Secchi and Bardone, 2007). As Simon pointed out, individuals tend to "depend on suggestions, recommendations, persuasion, and information obtained through social channels as a major basis for choice" (1993: 156). Moreover, he continues, "[i]n large measure, we do what we do because we have learned from those who surround us, not from our own experience, what is good for us and what is not" (1993: 157). This is what he called *docility*, and this tendency is widely diffused among human beings (Simon, 1993; Secchi, 2007). We can expand the meaning of docility (if we still want to use this term), and add an active (i.e. giving advice) to Simon's passive (i.e. taking advice) definition (Secchi and Bardone, 2007).

Docility can be explained as a particular kind of behavior that leans on the way our cognitive system is shaped by external resources. To be more explicit, it could be thought of as the behavioral way to interpret the DCA, and thus when we relate advice taking to that, we are also arguing that there is a connection to the DCA. Anthropological psychology of primates helps us understand this point better. Humphrey suggests that "the life of the great apes and man may not require much in the way of practical invention, but it does depend critically on the possession of wide factual knowledge of practical technique and the nature of the habitat. Such knowledge can only be acquired in the context of a *social community* – a community which provides both a medium for the cultural transmission of information and a protective environment in which individual learning can occur. I propose that the chief role of creative intellect is to hold society together" (Humphrey 1976: 307; italics added). As I specified elsewhere, "[i]f we transpose the passage using our terms, we can affirm that docility [...] make these 'transmission of information' and 'individual learning' possible. It is this bias towards society and the others that leads individuals not to spend too much in creative efforts. In other terms, much of these efforts had been previously done by other society members in the past, and are now shared" (Secchi, 2007: 156). Docility, and thus advice taking, seems to play a fundamental role in the social environment.

Magnani, Secchi, and Bardone (2006) define the main variables of docile individuals as being the tendency to:

- Share one's own information;
- Give a public and social dimension to one's thought/work;
- Render communication easier by creating, maintaining, and developing standards.

These three are also the elements that characterize the way a docile social environment is shaped. The main point here is that the proposal of Magnani, Bardone, and Secchi goes in the direction to see how social channels become structured in a social organization. Individuals need to get their cognitive system work at best, so that this docility trait becomes one of the variables of the social organization. Advice taking and giving is then part of the way any social group is shaped. Especially organizations provide individuals with these facilities, being the normative, and behavioral structure (Scott, 2003) nothing but a way to let people get an easier access to the others' advice.

I would like to show overlapping between docility and advice taking through one of the above-mentioned examples. Consider the editor of the journal to which this paper has been

submitted, this was described as a JAS system. Now, I suggest you to consider also the peer review system as a whole. I argue this is a docile system, and composed by docile individuals, because the three variables have been matched:

- (a) *Share information.* The peer review process is based on the sharing of information, so that editor and the reviewers read the paper, share information, and send comments back to the authors. The process may continue, depending on the final judgment of the editor; but it is all about (anonymous) information sharing.
- (b) *Public and social dimension to one's thought.* The fact that the author wants to be published reveals the aim to get the social/public dimension. However, this is not the point here. The fact that the entire process is based on the social/public dimension of one's (the author's) work is worth noting here. Reviewers, once they accepted their role, allow their advice (opinions, comments, suggestions, etc.) being publicly considered. The editor shares this point too.
- (c) *Standard fidelity.* The process is a formal one; it is based on rules, and the respect of these rules is fundamental for the understanding, and communication of the final judgment (or outcome). The advice is provided using specific channels to do so. The editor can ask for a more informal opinion on the paper, but the official advice remains the most important thing.

At the end, this – i.e. why does the judge lean on the advisor recommendation? – comes up not to be the right question, if we need a cognitive explanation. Broadly speaking, the right point here is whether the human cognitive system supports the use of external resources in general.

## **Conclusions**

In recent years a special emphasis has been given to the way individuals use information from the others to make better (or worst) decisions (Bonaccio and Dalal, 2006). Many studies have been published in the last two decades on the issue that became known as advice giving and taking (Bonaccio and Dalal, 2006).

This area is worth and interesting since it addresses one of the core points in making decisions, and in individual behavior. Thus, this paper attempts at re-defining advice taking and giving in relation to docility, since this (a) underlines the wider meaning of this trait of human behavior, and (b) provides a clearer connection to the way our cognitive system works.

The work presented here is intended to be a preliminary study on the cognitive side of advice taking. Many questions need to be addressed when going further in this research. For example, it is not clear how can we classify external resources, and what is their impact on decision-making. We need to get a better (more operational) definition of docility, and to understand if this conceptual framework really helps in analyzing, and defining decision-making procedures. It is also undefined what a “social channel” is, or how can we “play” with externalization processes. Moreover, we need to test whether the distributed cognition approach

offers a common framework to decision-making studies, and to advice taking in particular. Experiments could be done with the aid of studies on advice taking as background literature.

This paper tries to shed a new light on advice giving and taking, suggesting that it should be probably re-considered as a more important contribution to decision-making, organizational behavior, and management. If I am right, advice giving and taking stays at the core of our cognitive system works, and of the way individuals actually make choices and behave.

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