

**Is It Best to Have It All: Emotional, Cognitive and Behavioral  
Consequences of Conflicting Expert Advice on Decision Makers**

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## **DEDICATION**

This thesis is dedicated to my dearest parents, for your endless love and support throughout my life. Your continuous passion for science and bright attitude to life teach me to be a good researcher and a better person.

谨以本文献给我最亲爱的父母，感谢你们在我成长过程中给予的无尽的爱与支持。你们对科学的不懈追求和对生命美好的态度不仅让我懂得要成为一名优秀的研究者，更让我懂得要做一个更好的人。

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## **ABSTRACT**

Whether it is in private or professional lives, people are called to make decisions and they tend to seek expert advice. The old adage indicates that more heads are better than one. Receiving more information is often helpful to decisions. However, getting multiple conflicting expert advice might put decision makers in difficult situations. Little is known about their feelings, thinking, and behaviors under such conditions. This research aims to fill the gap and understand the abovementioned consequences of taking multiple conflicting expert advice when making professional (i.e., business or personnel-related) decisions. Using an interview-based qualitative approach, this research sheds light on contextual characteristics where conflicting expert advice may be more beneficial (or harmful), which contributes practical recommendations to improve professional decisions. In sum, this research seeks to verify whether the common wisdom of “more is better” holds up to empirical scrutiny, and suggests that it is “no pain, no gain”.

## **Résumé**

Que ce soit dans la vie privée ou professionnelle, les gens sont appelés à prendre des décisions et ils ont tendance à rechercher des conseils d'experts. Le vieil adage indique que plusieurs têtes valent mieux qu'une. Recevoir plus d'informations est souvent utile dans la prise de décisions. Cependant, obtenir plusieurs conseils contradictoires de la part d'experts pourrait rendre la prise de décisions dans un contexte professionnel plus difficile. Peu d'informations existent sur les sentiments, les pensées et les comportements dans de telles conditions. Le but de cette recherche est de combler cette lacune et de comprendre les conséquences précitées lorsque les preneurs de décisions dans des contextes professionnels (c'est-à-dire d'affaires ou de personnel) sont confrontés par des avis contradictoires d'experts. En utilisant une méthode qualitative à base d'entrevues, cette recherche met en lumière les caractéristiques contextuelles où des conseils d'experts contradictoires peuvent être plus bénéfiques (ou nuisibles). Elle propose des stratégies à privilégier et des recommandations concrètes pour améliorer les décisions professionnelles. En somme, cette recherche vise à vérifier s'il y a un réel avantage à recevoir plusieurs conseils et suggère qu'il n'y a pas de résultats sans efforts.

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# **Is It Best to Have It All: Emotional, Cognitive and Behavioral Consequences of Conflicting Expert Advice on Decision Makers**

## **1. INTRODUCTION**

Whether it is in their private or professional lives, people are called to make decisions on a daily basis. Many decisions are not made in a social vacuum (Bonaccio & Dalal, 2006). Indeed, it is acknowledged that soliciting others' advice before making decisions could be helpful (e.g., Bonaccio & Dalal, 2006; Goldsmith & Fitch, 1997; Jungermann & Fischer, 2005) particularly in terms of accuracy (Yaniv & Milyavsky, 2007). Whether one is making personal or professional decisions, the old adage indicates that more heads are better than one. Besides, people also tend to seek advice from expert sources (Jungermann & Fischer, 2005). Thus, it is commonly believed that the more high-quality advice from experts they obtain, the wiser their decisions will ultimately be. For example, patients with severe health problems often seek more than one doctor's opinion. Graduate programs usually require two or more recommendation letters from professors before admitting an applicant. CEOs may ask for the board members' advice or consider a number of briefings from subordinates before taking an action. Governments and politicians collect reports and evaluations from specialists in various fields to develop effective policies.

In spite of the benefits of getting advice, no research has explicitly examined decision makers' feelings, thinking, and behaviors following the receipt of conflicting expert advice. More specifically, no research has looked at the influence of advice taking on emotions. The purpose of this research is to fill the gap and discover the outcomes of taking conflicting expert advice in making business or personnel related professional decisions.

In addition, this research is unique since extant studies on advice have rarely used a

qualitative approach. Limiting variables involved in each quantitative research paper increases the difficulty of obtaining an in-depth understanding of decision makers' experience in real decision making context. The current qualitative study can overcome the aforementioned shortcomings of conducting quantitative studies by constructing a comprehensive understanding of the outcomes of taking conflicting expert advice in complicated decision making situations. In sum, this research seeks to verify whether the common wisdom of "more is better" holds up to empirical scrutiny.

My thesis will begin with a literature review. First, I will briefly introduce the terminology, the paradigm, and the measurement that have been widely employed in advice taking studies. Then I will discuss several outcomes of taking advice (the dependent variables) that have been commonly measured. Next, I will review the central findings of advice taking literature in terms of the characteristics of advice, advisor(s) and the decision maker, and their impacts on advice taking outcomes. In addition, I will present relevant discoveries about information overload, a research area relevant to this study. It is also necessary to discuss the current advice research under professional decision making contexts. Subsequently, I will address several research questions based on the conceptual framework and what has been missing in current literature. The research method and data analysis strategy will be explained after the literature review. Furthermore, an interview-based qualitative study serving my research purpose will be reported in the last part of the thesis. I will provide and discuss the results from this study. The knowledge learned from this study will assist my future research concerning the outcomes of conflicting expert advice in daily life decision making context.

## **2. LITERATURE REVIEW**

Traditional decision making study has a long and rich research history. However, attention to how individuals make decisions based on others' advice was relatively lacking. Sniezek and Buckley emphasized that studies that "represent the social aspect of many important decision making situations" was needed (Sniezek & Buckley, 1995, p.159). Indeed, more often than not people solicit a second opinion about things that matters to them, or hire external consultants for professional advice. Given that the utilization of advice in decision making process is omnipresent, researchers' attempt to understand the factors influencing advice taking is improved, but the results is still insufficient (Bonaccio & Dalal, 2006).

### **2.1. Terminology and the Paradigm in Advice Research**

First, it is important to explain the terminology used in this area. The term "judge" refers to the decision maker—the person who is responsible for making a decision and who receives advice from others (e.g., Yaniv, 2004b). The "advisor" is the source of advice. Researchers have conceptualized "advice" as five kinds: recommendation for a particular option or action (e.g., the advisor may recommend: "job offer A is the best and you should take it."), recommendation against one or more options or actions (e.g., the advisor may suggest: "Don't choose job offer B."), neutral advice providing more information about the options without suggesting a particular one (e.g., the advisor may say: "job A offers better employee benefits, and job B has more chances for promotion."), decision support which is formed with responses or strategies to guide the judge's decision making process (e.g., the advisor may tell the decision maker how to make the decision, rather than what to choose), and social support providing "socio-emotional support acknowledging the importance and difficulty of the decision to be made" (e.g., the advisor may say to the decision maker, "This is a huge choice to make and I will stand by your side the entire time.") (Dalal & Bonaccio,

2010, p.11-12). Dalal and Bonaccio (2010) conclude that, although all five types of advice are positively regarded by decision makers, neutral information is responded to most positively.

In the field of advice giving and taking, studies have primarily been experimental designs within the prototypical Judge–Advisor System (hereafter, “JAS”). A JAS research usually takes place in a laboratory setting, in which participants are assigned to play the role of “judge” and they are told that their task is to make a decision (or several decisions). Two types of decision tasks have been used in JAS research: the judgment task and the choice task (Bonaccio & Dalal, 2006). In JAS judgment tasks, judges predict or quantitatively estimate a subject matter and/or others’ advice based on their experience, knowledge, and perception, such as estimating the sales value of a product (Fischer & Harvey, 1999; Harvey et al., 2000), or the probability that an event will occur (Budescu & Rantilla, 2000; Budescu et al., 2003). In JAS choice tasks, the form usually used is a multiple-choice question. Several options are presented and the judges are asked to select which of the answers they consider to be correct (e.g., Gibbons et al., 2003; Snizek & Van Swol, 2001). During the experiments, the judges are also informed that they will receive other people’s advice and that they are responsible for making the final decision (including determining whether to take the advice, and how much weight the advice should carry). Manipulations of independent variables (e.g., judges’ and/or advisors’ characteristics) are then performed by the researcher. Most of times, the judge will be asked to make an initial decision before receiving any advice from others (e.g., Gino & Moore, 2007), but sometimes judges do not have the chance to make the initial decision (e.g., Clement & Krueger, 2000). The judge then receives the advice. Usually, the advice is designed and manipulated by the researcher through a computer (e.g., Yaniv, 2004b). While in other cases, the advice can come from peers (e.g., Snizek & Van Swol, 2001). The judge weighs the initial decision with the advice, and makes a final decision before moving on to the next decision task. The dependent variables

commonly measured are advice utilization or discounting and accuracy (e.g., Yaniv, 2004b; Yaniv & Kleinberger, 2000). Sometimes, the judges' confidence and trust are also measured (Budescu & Rantilla, 2000; Budescu et al., 2003; Sniezek & Van Swol, 2001).

## **2.2. Outcomes of Advice Taking**

As mentioned in the previous section, the dependent variables frequently measured in JAS studies are several advice taking outcomes, including the utilization of advice, decision accuracy, decision makers' post-advice confidence and trust.

### **2.2.1. Advice utilization and discounting, and its measurement**

Advice utilization and (its opposite) advice discounting are the main dependent variables in all JAS studies. According to Bonaccio and Dalal (2006), advice utilization refers to the extent to which the decision maker follows advice; conversely, discounting refers to the extent to which the decision maker does not follow advice. Decision makers solicit advice to share responsibility for the consequence of the decision and to improve the chance of making accurate or optimal decisions (Harvey & Fischer, 1997; Yaniv, 2004a, 2004b). Yet participants playing the role of decision makers in experiments tend to overweigh their own opinion relative to others' advice, and discount the influence of advice, even though advice from others has been demonstrated to be helpful in improving decision accuracy (e.g., Gardner & Berry, 1995; Yaniv & Kleinberger, 2000). Such egocentric advice discounting is the most robust finding in advice research (e.g., Yaniv & Kleinberger, 2000).

In terms of the explanations for advice discounting, Yaniv (2004a, 2004b) proposes that decision makers have access to their internal justifications for making a decision and the strength of supporting evidence for that decision. But they have no access to the advisors'

reasoning, and have relatively less access to evidence assisting other advisors' opinion. Other researchers focus on anchoring and adjustment strategies and claim that decision makers' own decision serves as the anchor that is subsequently (insufficiently) adjusted in response to the advisor's suggestion (Lim & O'Connor, 1995). Krueger (2003) believes that discounting is the result of egocentric bias. Decision makers prefer their own opinions because of the feeling that ideas from themselves are superior to those from others—including the advisors. Harries and colleagues (2004) argue that egocentrism refers to the long-term impact of one's own ideas, and it will not be "disrupted by the appearance of intervening values that would displace anchors from working memory" (p. 399). Rather, anchoring is a short-term process evaluating new stimuli. Their research strongly supports the egocentrism account of discounting because the results show that decision makers are more likely to incorrectly label forecasts from others as their own than to correctly label others' forecasts. Since such incorrectly labeled forecast is new to decision makers, it will serve as the basis of an egocentric forecast rather than an anchor (Bonaccio & Dalal, 2006).

Regarding the measurement of advice utilization, different approaches are used depending on the type of decision task. Advice utilization in choice tasks is usually examined through the match between the option recommended by the advisor and the option the decision maker decides to choose (e.g., Sniezek & Buckley, 1995; Sniezek & Van Swol, 2001). Bonaccio and Dalal (2006) suggest that, on choice tasks, advice utilization might be best measured if the assessment of the differences in choice can be integrated with the assessment of changes in the "associated confidence or uncertainty" (p.140). Advice utilization in judgment tasks is usually measured by a formula that weighs the extent to which participants relied upon advisor's recommendation, which is defined as the decision maker's weight of advice (WOA) (Gino, 2008). The standard measure of WOA is using the ratio of the difference between the decision maker's final and initial estimate and the difference between the advisor's estimate and the decision maker's initial estimate. A

number of other similar formulas exist (Yaniv, 2004b; Yaniv & Kleinberger, 2000). Since this current research does not focus on the quantitative measurement of advice utilization, a comprehensive discussion of those formulas will not be presented here. Please see Bonaccio and Dalal's review (2006) for a thorough explanation of the formulas as well as their associated advantages and disadvantages.

### **2.2.2. Post-advice decision accuracy, decision maker confidence, and trust**

Generally, people seek out advice to improve decision performance. A great deal of research has been devoted to identifying decision makers' post-advice decision performance, including decision accuracy and post-advice confidence (e.g., Budescu & Rantilla, 2000). Accuracy is commonly defined as the absence of estimation error (Sniezek, Schrah & Dalal, 2004), and can be calculated in different ways depending on the specific decision task the decision maker is faced with. Decision makers' post-advice confidence reflects the strength of belief in the goodness, accuracy, and appropriateness of the judgment or decision they have made (Savadori et al., 2001) and it is also an indicator of one's commitment and willingness to act upon them (Budescu et al., 2003).

In addition to decision accuracy and decision makers' confidence, the extent to which decision makers trust other advisors has been widely measured as an independent variable. Research evidence strongly suggests that whether decision makers believe that they can trust their advisor is an important determinant of advice utilization, post-advice confidence and the evaluation of the advisors (Bonaccio & Dalal, 2010; Sniezek, Heath, Van Swol, & Nochimowski, 1998). Trust is considered to be the confidence in the ability of others as well as the "faith in the trustworthy intentions of others" (Cook & Wall, 1980, p.40). Therefore, as an outcome of taking advice from others, trust is greatly influenced by the characteristics of advisors. Prior research has indicated that advisors' expertise and good intentions are the

most important contributors to casting advisors positively (Bonaccio & Dalal, 2010). Attitude change studies have demonstrated that persuasion attempts are less effective when decision makers notice that the other party intend to persuade them (Petty & Cacioppo, 1979), and they became more suspicious towards the advice they obtained. The importance of trust is also emphasized by agency theory (Eisenhardt, 1989). When decision makers notice that the advisors are sharing incompatible (or competing) goals and/or agendas, an agency problem occurs and decision makers' trust is seriously injured. Further discussion about the diverse and complicated impacts caused by different advisor and decision maker characteristics on decision accuracy, decision makers' post-advice confidence levels, and their trust will be presented in Section 2.3.

Many studies have discussed the variation of the decision accuracy and decision makers' confidence and trust. However, to some extent, these quantitative studies narrow our knowledge about advice taking outcomes down to limited variables. Researchers should address more efforts to expand the investigation of JAS consequences. In my thesis, I emphasize the following three facets regarding advice taking consequences: the emotional, cognitive, and behavioral outcomes. The final decision results should also be taken into consideration.

Prior research has inferred that advice not only serves as informational support for problems and decisions of everyday life, but also benefits individuals by providing social support and emotional help (Goldsmith & Fitch, 1997). Emotional intelligence research indicates that emotions "subtly but systematically" influence strategies involved in problem solving. Positive emotions alter memory organization to improve the integration of materials, but moods such as anxiety or depression distract attention from the decision to the self (Salovey & Mayer, 1989, p.198). According to Shaver et al. (1987), a prototype approach is useful to determine how emotion-related information is processed in life situations. Five

prototypes are found: (1) Happiness or joy begins with gaining or being successful in the achievement domain (task success) or in the social domain (receiving esteem or affection); (2) Love is related to being provided with something an individual wants, needs, or likes, and the realization that the individual loves, needs, or appreciates; (3) Fear originates from an interpretation of events as potentially dangerous or threatening to the self (such as loss, rejection, or failure), and it may be influenced by situational factors (such as unfamiliar situations); (4) Sadness is generated in the situation when the threat has already been realized and an individual is experiencing undesirable outcomes; and (5) Anger is caused when someone or something interferes with an individual's execution of plans or attainment of goals by "reducing the individual's power, violating expectations, frustrating or interrupting goal-directed activities" (p.1077). The first two positive emotions are very similar, and they both promote a general sense of well-being. However, love is marked by "additional antecedents" (p.1079). It can occur when one finds another attractive, or has shared time or experiences or enjoyed the interaction with others, or when one feels open and trusting in others' presence. Among the last three negative emotions, similar to fear, sadness contains finding that one is powerless, helpless, or impotent to change the unhappy circumstances (Seligman, 1975). Unlike fearful individuals, who are aroused, sad individuals are inactive. In addition, some overlap between different categories still exists in the last three negative emotions. For instance, frustration is found conceptually closer to anger than to fear or sadness.

Surprisingly, empirical research on the relationship between emotions and advice taking is quite inadequate. Only one experimental study investigated the influence of irrelevant, incidental emotions in advice taking (Gino & Schweitzer, 2008). They found that compared to decision makers who were in a neutral state and who felt incidental anger, those who felt incidental gratitude were more trusting and more receptive to advice, and had higher decision accuracy. However, they did not discuss the influence of advice-related contexts on decision

makers' emotion(s). Since extant JAS research neglects the influence of advice taking on decision makers' emotion(s), the emotional consequences of taking conflicting expert advice, and whether these outcomes are favorable or not remain unknown. This research proposes to fill the gap.

In terms of the cognitive outcomes, decision makers' post-advice self-confidence and trust in others refer to how they think about themselves and advisors after getting advice. These two variables have been investigated using quantitative approaches. However, there is a lack of explanation regarding how decision makers cognitively process multiple pieces of advice from different sources. In addition, if a universal advice taking strategy or principle exists is the other cognitive outcome that needs to be confirmed.

As behavioral outcomes and decision results, the helpfulness of multiple conflicting expert advice and whether or not professional decision makers experience more decision difficulties should be investigated. It would also be interesting to explore whether the decision making speed is improved by receiving advice. In some decisions, a quick response to an emergency situation and the efficiency to make the decision might be as important as the decision accuracy. On the other hand, the examination of decision results should include decision makers' satisfaction in terms of the decision making experience. How satisfied the decision maker is in terms of taking other's advice and what influences their satisfaction is not clear as well. This thesis intends to address the abovementioned behavioral and decision outcomes.

### **2.3. Critical Factors Influencing Advice Taking Outcomes**

Previous quantitative studies have identified several factors that affect decision makers' advice taking and decision making outcomes. As the research purpose is to discover the

influence of conflicting expert advice on decision makers' thinking, feelings and behaviors, I will focus on factors including the advisor and decision maker expertise, the presence of multiple advisors and conflicting advice in this section.

### **2.3.1. Advisor and decision maker expertise**

In advice research, expertise is operationalized in terms of “task-related knowledge, task-related experience and task-related training” (Bonaccio & Dalal, 2010, p.228-p229). Advice offered by an expert source is perceived as more helpful and less intrusive (Goldsmith & Fitch, 1997), and has been found to be more influential than novice advice (e.g., Birnbaum & Stegner, 1979). Expert advisors should be seen as more trustworthy than novice advisors as expertise is a key component of trust (Bonaccio & Dalal, 2010; Cook & Wall, 1980). When advisors possess greater task-relevant expertise than the decision maker, they possess what has been called “expert power” (French & Raven, 1959). Consequently, decision makers engage in less egocentric discounting when receiving expert advice (Harvey & Fischer, 1997). Correspondingly, researchers have found that decision makers engage in less egocentric discounting if they are less experienced or knowledgeable compared to advisors (Snizek, Schrah, & Dalal, 2004) and/or relative to other decision makers (Harvey & Fischer, 1997). These findings are consistent with Yaniv's (2004b) reasoning that advice discounting happens as a consequence of greater evidence retrieval for one's own opinion relative to others'. Yaniv believed that decision makers without task-related expertise could presumably retrieve less supporting information for their own opinion and therefore are unlikely to discount advice relative to more knowledgeable decision makers. In addition, where expertise was conceptualized as task-relevant expertise, research shows that decision makers take more advice from advisors who are older, better educated, have more life experience, and are wiser than themselves (Feng & MacGeorge, 2006). Furthermore, decision makers also discount advice less egocentrically when the advice is provided by

someone who has a good reputation (Yaniv & Kleinberger, 2000).

However, the information asymmetry between the decision maker and advisors fosters social uncertainty because of novice decision makers' inability to understand experts' explanation or to select the optimal solution (Snizek & Van Swol, 2001). On the other hand, expert decision makers' sense of control over expert advice should be stronger than novice decision makers'. Compared to decision makers with certain expertise, novice decision makers' confidence might be negatively influenced due to the lack of sense of control and uncertainty. Thus, decision maker and advisor expertise might affect advice taking outcomes in a contradictory way. For example, expert advisors should be helpful in the respect of providing complicated information and explanations, and therefore their advice might improve expert decision makers' confidence as the advice could be understood and applied. However, it might be the opposite for novice decision makers, and they would be less confident when getting advice from experts because novice decision makers have limited ability to control the complex information and use it in practice.

### **2.3.2. Multiple advisors and conflicting advice (advisor disagreement)**

Research on the number of advisors and how advice taking is affected by variations in the number of advisors is currently lacking (Bonaccio & Dalal, 2006). Yaniv and Milyavsky (2007) have noted that exposure to multiple pieces of advice greatly helped decision makers to improve their intuitive estimates. The most common number of advisors in advice research is one (e.g., Harvey & Fischer, 1997) or two (e.g., Yaniv, 1997), and some research increases the number to ten advisors (Rantilla, 2000). However, the investigation of how advice taking is impacted by the variation of the number of advisors requires further exploration. The result of Budescu and Rantilla's study (2000) suggests that, cognitively, increasing the number of advisors improves decision makers' post-advice confidence.

However, other researchers argue that integrating advice from multiple sources also puts decision makers under greater cognitive pressure (Bonaccio & Dalal, 2006). A further exploration regarding the effects of having multiple advisors and more pieces of advice is needed.

In the case where multiple advisors are available, an existence of discrepancies between decision makers' confidence and advisors' disagreement is found. When advisors disagree with each other, decision makers' post-advice confidence is low (Budescu et al., 2003), especially when decision makers believe that the disagreeing advisors have access to the same information (Budescu & Rantilla, 2000). Studies suggest that the decision makers' post-advice confidence peaks when their expectation of high levels of agreement among advisors is fulfilled; but when decision makers notice that all advisers disagreed, their confidence drops dramatically (Sniezek & Buckley, 1995).

Various experts from different areas offer advice based on their own unique expertise, which may result in increased conflict (disagreement). Since expert advice is more accurate and influential than novice advice, ambiguity, uncertainty and loss of control caused by the conflict is elevated. Thus, decision makers' confidence and trust toward advisors are assumed to be especially damaged in this situation. High uncertainty and low sense of control produce the potential for adverse consequences (e.g. making a bad decision), which triggers decision makers' negative emotions, such as frustration, confusion, or anxiety (Brooks & Schweitzer, 2011). From the perspective of decision making behaviors, advisor disagreements and the followed emotional and cognitive outcomes could increase the difficulty of making the decision and consequently slow down the speed of decision making process.

## **2.4. Information Overload**

Taking advice is a procedure of processing information. According to the theory of information overload (Bawden & Roinson, 2009; Eppler & Mengis, 2004), the performance of an individual correlates positively with the amount of information he/she receives up to a certain point. If further information is provided beyond this point, the performance of the individual will rapidly decline (Chewning & Harrell, 1990). When the amount, the complexity, and the diversity of information exceeds the limited human information processing capacity, information overload arises (Meyer, 1998), and it causes negative influences both on individuals' emotional and psychological states (stressful and nervous, sense of loss of control, less satisfaction, and powerlessness) and the performance of information processing (confusion, ignore information, potential delay of decisions, loss of differentiation, inability to select relevant information, and too little time to learn from information) (Eppler & Mengis, 2004). When multiple conflicting expert advice is offered, the volume of information is greater. The information complexity is improved as experts' explanation usually contains professional details. And the information diversity is increased because of experts' differing viewpoints. Therefore, I suspect that getting multiple expert advice may negatively influence decision makers' emotional and cognitive states, and their behaviors and the decision results.

## **2.5. Advice Taking and Professional Decision Making**

In a previous section, I introduced two types of decision tasks that have been widely studied, the judgment task and the choice task. However, there is no advice research or decision literature thoroughly discussing different decision contexts. It is common sense that people have different attitudes toward their professional life and personal life, and issues they need to deal with in a professional context and a daily-life context are unlikely to be the

same. Although no research has directly compared these two decision making contexts to date in advice taking and decision making literature, we can classify the decision tasks designed by researchers. This thesis will mainly focus on the investigation of the outcomes of taking conflicting expert advice under the professional decision making context. A follow up research investigating daily-life decision making context will be performed and compared to what has been discovered in this presented thesis.

A few advising studies have approached professional decision scenarios. In the prescriptive model developed by Vroom and Yetton (1973), effective managers have the option to make managerial decisions alone without others' information or suggestion, obtain information, but not suggestions from subordinates and then decide alone, share the problem and get suggestions and information from subordinates individually and make decisions alone, or meet collectively as a group with subordinates to obtain ideas, information, and suggestions but still makes decisions individually. This descriptive research finds that managers generally use more than one of the processes for making decisions. Another professional decision task used by Savadori, Van Swol and Sniezek (2001) asks decision makers to decide which of the two cholesterol-lowering drugs to market. Before the experiment, pieces of information regarding the advantage and disadvantages of drug 1 and drug 2 are rated according to desirability and importance. These pieces of information are distributed to both the decision maker and advisors (66% of the information was common to both the decision maker and advisors, and 33% was unique). Then a discussion of all members is conducted, and the decision maker will decide which drug to market. Dalal, and Bonaccio (2010) also design professional decision situations. To make the first professional decision, the participant is a manager being asked to find a location from several alternatives for a new store within a state in the US. To make the second professional decision, the participant plays the role of the President and CEO of a company and deals with the labor surplus by selecting one of the five possible solutions. In this study, there is another personal

decision task. The participant needs to decide how to invest a large inheritance he/she accepted. However, this research does not focus on the comparison between professional and personal decision contexts.

Although professional decision making context are used every now and then in advice research, specific systematic attention paid to this topic is lacking. In addition, in prior studies, decision tasks are designed and assigned to the participants by researchers. In fact, the participants are not reacting to their real experience. Therefore, it is difficult to analyze certain decision outcomes in real-life, professional decision making contexts. This thesis will address the emotional, cognitive, and behavioral outcomes of receiving multiple conflicting expert advice in professional decision making contexts. To be more specific, professional decisions includes business or personnel related decisions in workplaces.

Based on the literature review, this qualitative research mainly addresses the following five questions under professional decision making scenarios:

- (1) How does conflicting expert advice influence decision makers' emotions? I will identify what these emotions are. I am particularly interested in uncovering the spectrum of positive and negative emotions felt in addition to understanding the intensity of these emotions.
- (2) How does conflicting expert advice influence decision maker's cognitions? Since it is unclear if decision makers' confidence and trust is improved or damaged under such condition, I will focus on how confident the decision maker is after receiving conflicting expert advice, and how much the decision makers' trusts the expert advisors. I will also investigate whether there are other decision makers' cognitive states that are generated or influenced, what they are, and how they are affected.
- (3) How does conflicting expert advice influence decision makers' behaviors and the

final decision outcomes? I will discuss how decision accuracy, the difficulty and speed of making a decision, and the decision makers' further advice seeking behaviors are influenced.

- (4) Are there any conditions in which conflicting expert advice is helpful or harmful? For example, are there situations in which conflicting expert advice can assist a certain type of decision maker? Are certain decision makers more prone to experiencing negative consequences upon being confronted with multiple pieces of expert advice? In what way can conflicting expert advice provide benefits?

### **3. METHODOLOGY**

#### **3.1. Methodological Approach**

This research is based on a qualitative study using an interview-based method. A qualitative interview approach is ideal as the research purpose is to acquire in-depth information pertaining to participants' feelings and experiences, and to discover the interrelationship between their feeling, and thinking in professional decision making contexts. An experimental design would not be able to uncover the same breadth of variables, such as decision makers' emotional experiences, nor would it be able to uncover the nuances in decision makers' individual experiences as they perceive them to have unfolded. In addition, lab settings may inhibit natural behaviors, and findings from experiments might not generalize to the real world. A structured questionnaire could not easily collect detailed information regarding the particular decision making context or underlying reasons of multiple outcomes. Answering a great number of questions is onerous for participants, and it is difficult for a questionnaire to anticipate all questions. Therefore, this approach does not have the flexibility of the semi-structured interview method.

I designed the methodology to have both a deductive and an inductive facet. A priori specifications of constructs and early identification of possible elements may prove significant as the research progresses (Eisenhardt, 1989). Here, existing literature assisted in the identification of central factors that advice research had discovered (such as advisor's expertise) and the formulation of the interview protocol, the start code list—described below—with categories (background, feeling, thinking, and behavior) and a few descriptive codes. This is where the deductive facet emerges.

On the other hand, it is important to avoid bias towards existing literature. Thus, the

inductive facet of this research tries to answer the aforementioned questions mostly through the interviewees' reported thoughts and feelings. Given that the emotional experience is a highly individualized one, allowing the participant to frame their decision making accounts in their own words, as opposed to asking participants to fit their experiences in a preconceived framework imposed by the researcher is more appropriate (Bonaccio, Gauvin, & Reeve, 2013)<sup>1</sup>.

### **3.2. Sampling and Participants**

A purposeful sampling approach was used. It involved selecting interviewees according to the particular needs of the study (Glaser & Strauss, 1967; Morse, 1991). To this end, I have recruited eleven participants that had managerial experience, and needed to be able to articulate their experience of being a business or personnel related decision maker who was faced with multiple conflicting expert advice. With the assistance from the Telfer MBA program director, I recruited the participants on campus through fliers (please find the flier from Appendix A). Each interview was expected to take 40 to 60 minutes (in fact, the longest interview took 76 minutes, and the shortest one took 38 minutes), and the interviewees were compensated \$20 for their time.

According to the qualitative sampling strategy of theoretical saturation, researchers continue to study new research sample (here, individual interviewees) until they confirm that the focused topic have already developed and all the research questions have been addressed. Thus, theoretical saturation is a determinant of recruitment end point. After theoretical saturation is reached, the benefits of recruiting additional participants are no longer present (Auerbach & Silverstein, 2003). For my thesis, I reached theoretical saturation by the time

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<sup>1</sup> Since certain cognitive features and personality traits may influence individuals' advice taking and decision making, additional measures of interviewees' dependent decision making style, feedback seeking behavior, openness to experience, and their positive and negative affect was performed at the end of nine interviews (the first two interviews were pilot studies). Please find results of these measures in Appendix F. To be noted, the results are not applicable for many statistical analyses and not generalizable due to the very small sample size.

eleven participants had been interviewed<sup>2</sup>. At that point, no new themes or codes were revealed from the interviews and I observed that repetitions occurred frequently. In order to visualize the process, Figure 1 indicates the total number of first-level/descriptive codes (please see detailed explanation about first-level/descriptive codes in Section 4.2. Interview Coding Approach) generated by the interviewee whose index shown on the x axis. The trend suggests a really slow increment of codes occurred after the third interview was conducted. Furthermore, Figure 2 shows the increment of first-level/descriptive codes developed from each interview, for instance, 31.15% of the codes that are created based on the second interview have not been observed from the first interview, and 14.08% of the codes from the third interview have not been discovered from the first two interviews. According to Figure 2, the data can be considered to having converged because the continuous four interviews' increments are limited within 2% of the total number of the codes. In other words, it is justified that this research has reached theoretical saturation with eleven interviews.

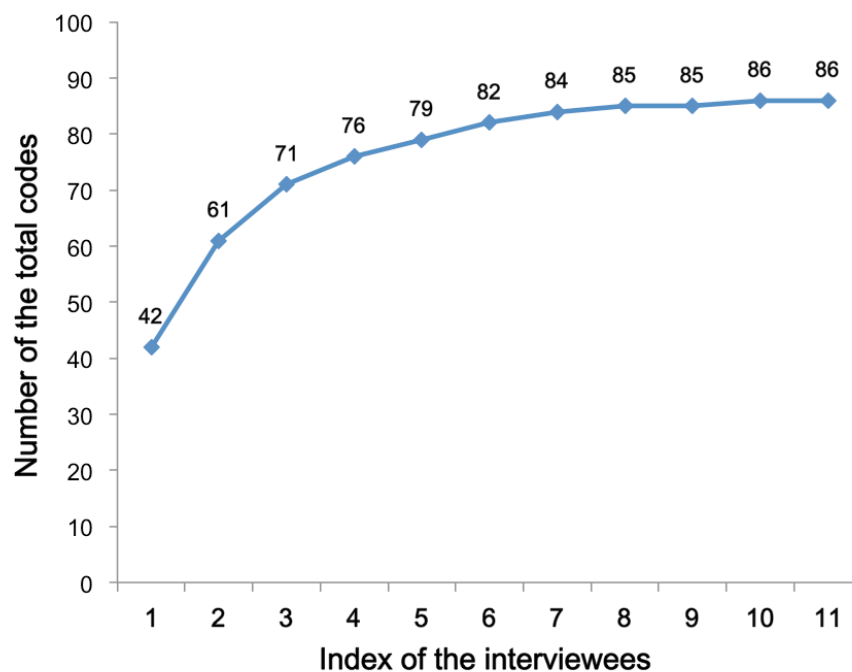


Figure 1. Graphical Representation of Saturation vis-à-vis Interviewee Numbers

<sup>2</sup> One of the interviewees was currently a professional administrator working in an academic institution rather than a registered MBA student, but she was recruited through the MBA class when she noticed our research poster and expressed her interest in participating. This interviewee had experiences of being a personnel-related decision maker and received multiple conflicting expert advice, which fits our research purpose and makes her qualified as our interviewee.

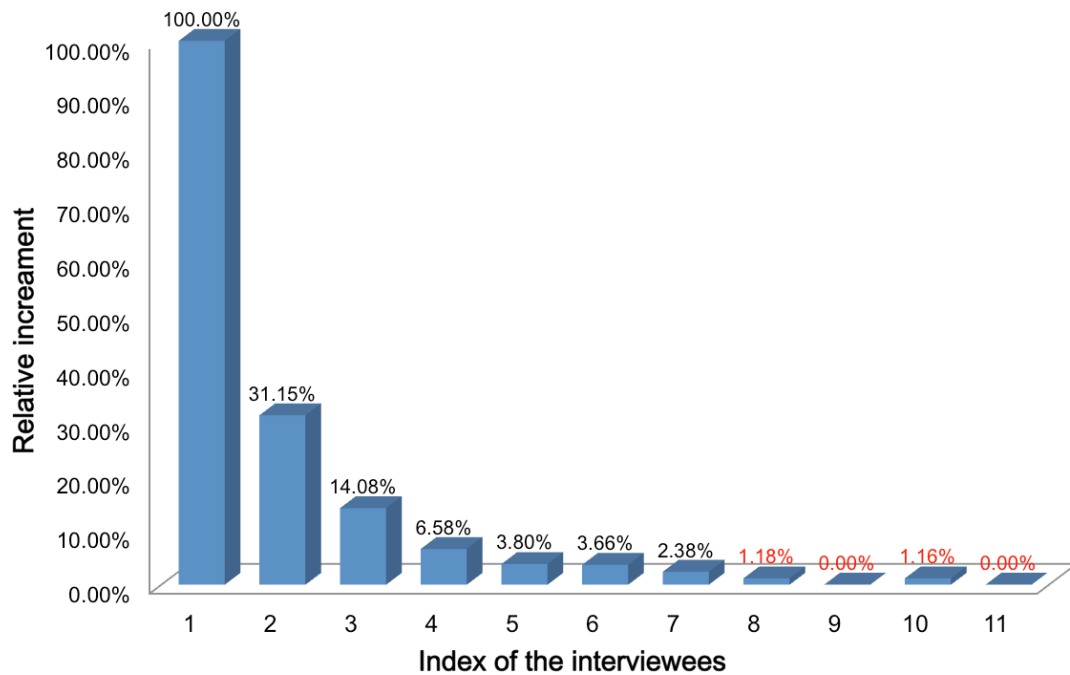


Figure 2. Increment of First-Level/Descriptive Codes Developed from Each Interview

Moreover, in order to rule out the possibility that the decrease of the number of new codes generated from each interview is caused by the saturation of researchers' coding state, ability, or knowledge over time (experiencing burnout or running out of words to name codes, etc.) rather than caused by the saturation of the knowledge regarding interviewees' actual decision making experiences, I reversed the order of interviews and found similar trend as it is suggested by Figure 1 (please see Figure 3). The increment of first-level/descriptive codes developed from each interview when the interview order is reversed leads to the same conclusion. As it is presented in Figure 4, the data can be considered to having converged because the continuous four interviews' increments are limited within 2% of the total number of the codes. It is reasonable to argue that I keep a consistent coding strategy as time goes on, and the theoretical saturation is reached with information collected from eleven interviews.

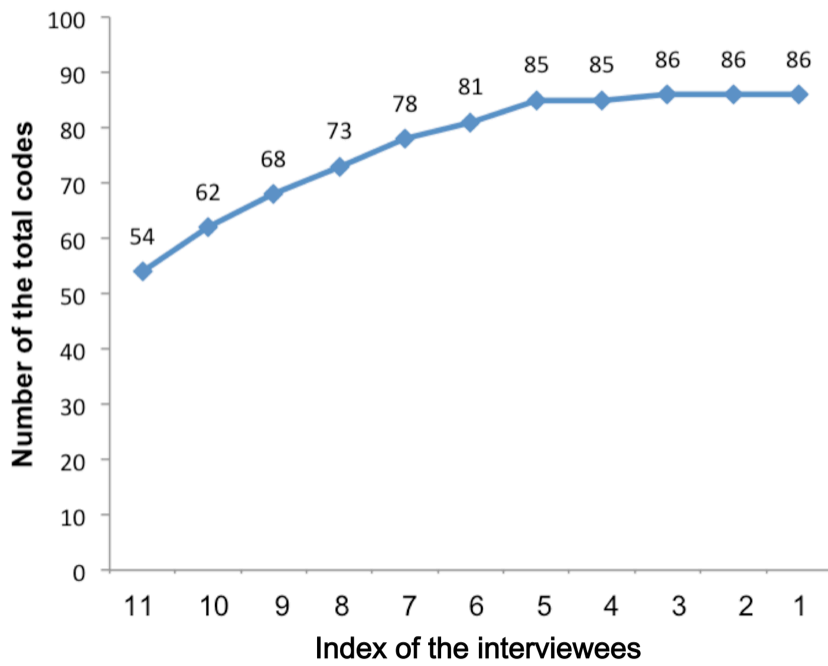


Figure 3. Graphical Representation of Saturation vis-à-vis Reversed Interviewee Numbers

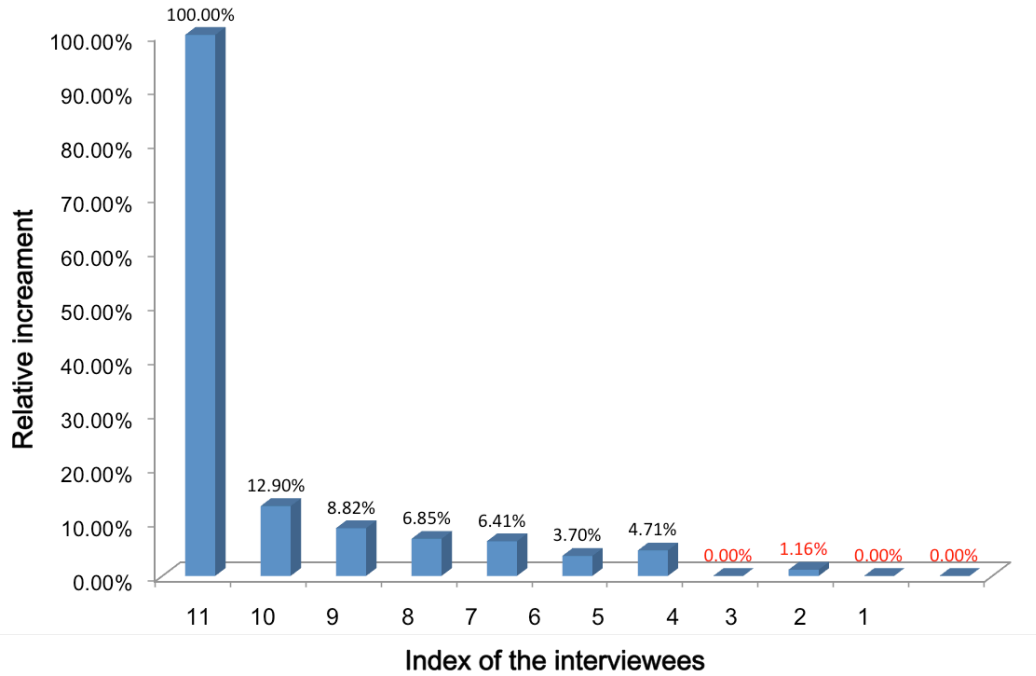


Figure 4. Increment of First-Level/Descriptive Codes Developed from Each Interview (with the Order Reversed)

The average age of the eleven interviewees is 28.91 year-old ( $SD = 6.77$ ), the average years of work experience is 5.95 years ( $SD = 4.96$ ), and the average years of managerial work experience is 3.27 years ( $SD = 3.74$ ). There are only two female participants recruited amongst the eleven interviewees.

It is necessary to note that one of the eleven participants offered details of two different decision making stages in his interview (hereafter, Decision Maker 6<sup>3</sup>). In the first stage of this interviewee's decision making process (hereafter, Decision Maker 6(1)), as the team leader, the interviewee had to choose one of the following solutions for his team to complete a real-time engineering project regarding the design of an automobile alert system: only submit a design proposal of the device based on the team supervisor's idea, only submit a design proposal of the device based on the team member's idea, or not only submit a design proposal of the device based on the team member's idea but also realize the design and make the product. In the second stage of this interviewee's decision making process (hereafter, Decision Maker 6(2)), after the interviewee made his mind to not only submit a paper but also to produce the device, he had to seek advice from other team members to decide what materials were suitable for making the alert system. These two stages were relatively separated and independent. Taking the specificity of this interview into consideration, I was able to analyze twelve decision making cases from eleven interviewees. These decision making cases provided me adequate information to answer all the aforementioned research questions.

### **3.3. Interview Protocol**

I developed the interview protocol based on Patton's guideline (2002), which is a common combination strategy using a standardized interview format with open-ended

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<sup>3</sup> The interviewees' ID numbers are created and ordered according to the dates they were interviewed.

questions and a guide approach. A standardized interview requires careful and full wording of every question before the interview, and it allows getting systematic information of each participant's decision background (the task and characteristics of the decision maker, advisors and advice), and emotional, cognitive, and behavioral experiences when multiple experts' advice is conflicting. Meanwhile, the guide approach (which I use for this research) offers flexibility in probing and in determining when it is appropriate to explore certain subjects in greater depth. According to Patton (2002), interviewers also should probe with additional questions if it is necessary.

I first asked the interviewees to think about and describe a business or personnel related decision they made when there were several options in front of them, and they received conflicting advice from different experts. Then the interviewees needed to respond to a series of questions regarding the background of that decision (the decision task, decision makers themselves, advisors, and advice), their feelings, thinking, behaviors and final decision results.

Specifically, my interview protocol was composed of five categories (please see Appendix B for the detailed interview instruction). The first category focuses on gathering background information about the decision making scenario the interviewee wants to elaborate on. The interviewee was asked to describe what the decision task was about, if he/she was an expert (had the knowledge, experience or information about the task), if he/she asked the advice from others (i.e., whether or not the advice was solicited), how many advisors he/she had, who the advisors were, what the relationships between he/she and the advisors and between the advisors themselves were like, if the advisors were experts, what the advisors suggested he/she to do, how the different pieces of advice were inconsistent and why such conflicting advice was provided. Under the second category, questions are designed to gain information on decision makers' emotional experience when receiving

conflicting expert advice. I asked the interviewee to identify the emotion(s) he/she had, to describe them, and to give opinions on why such emotion(s) was (were) emerging under that condition. The third category draws attention to the interviewee's cognitive activity. Questions about what the interviewee was thinking when expert advice was conflicting, how much he/she trusted the expert advisors, how self-confident he/she was, and if such trust and confidence changed were designed. The fourth category contains questions about the decision maker's behaviors and the decision results. The interviewee was asked about which advice he/she selected and why such advice was chosen, whether he/she was satisfied with the decision making and advice taking process and the result of making that decision, how much time the decision making process cost, if conflicting expert advice increased the decision making speed, how the decision making difficulty was impacted, and how effective or accurate the final decision was.

### **3.4. Transcription**

For the purpose of effective data analysis, all the interviews were recorded with the aid of a digital audio recorder and interviewees' permission were obtained by their signed consent forms (please see Appendix C). After every interview was completed, the recorded material was accurately transcribed from the digital audio recorder into a Microsoft Word document on a computer. Such procedure was performed by a professional transcriber, Antoinette Forcione. These Microsoft Word documents became the data I thoroughly analyze later on (please find more details from Section 4. Data Analysis Plan).

### **3.5. Trustworthiness and Credibility**

In order to establish trustworthiness and credibility, the following approaches have been performed for my thesis. First, to address the reliability in this qualitative research, a

two-coder approach was used. I conducted the eleven interviews and the entire coding analysis independently. A preliminary code list was created in this phase. Then my supervisor Dr. Silvia Bonaccio and I discussed and refined the code list together. We reviewed all the codes' names, definitions, and the exemplar quotations from the interview transcripts in this manner. In addition, we readjusted some of the original pattern codes and inferential codes (please see explanation of these codes in Section 4.2) I created in the first place by brainstorming new codes' names and mapping the relations between existing codes.

The second approach is member checking. Based on Miles and Huberman (1994) and Lincoln and Guba (1985), soliciting interviews' view of the credibility of the research finding and interpretations is beneficial, and it even is considered as "the most critical technique for establishing credibility" (Lincoln & Guba, 1985, p.314). Thus, I presented a 17 page (single-spaced) descriptive report regarding the data to some of the interviewees so they could judge the accuracy and credibility of the account (Creswell, 2013). I selected three interviewees to perform this approach as they expressed strong interest in the research topic and result during their interviews. According to the interviewees' feedback, all selected interviewees confirmed the accuracy of the researchers' interpretation regarding the interview data. For instance, one interviewee commented, "I accede [i.e., consent] to your accurate interpretation of my decision making experience." Another interviewee indicated that, "[the] information given by me has been used correctly and I could not find any inconsistency." The third interviewee described, "I feel that you conveyed my experience reliably and accurately." In addition, the research findings received their positive comments. The report I provided to the interviewees was described as "extraordinary". For example, the following feedback was received: "You have done an excellent job in articulating feelings of your interviewees". Another interviewee pointed out in his email, "The research results are exceptional. I must comment that it is brilliantly written. It gave me loads of insight on the subject. Nothing keeps me going continuously for reading, but I must admit that it kept my

attention completely (really enjoyed reading [it]).” Since member checking is a very important approach to examine the accuracy of our interpretation and to avoid biases caused by researchers’ previous knowledge on the research topic, the above reported feedback and comments from interviewees add to the trustworthiness and credibility of these results.

Last but not least, rich and thick description of interview data allows readers to judge the transferability of a qualitative research (Creswell, 2013). Therefore, I will present detailed information, quotations, and descriptions regarding the data analysis and research results in the following sections as a validation strategy.

## **4. DATA ANALYSIS PLAN**

### **4.1. Use of Atlas**

The qualitative data analysis software, Atlas, was used to assist the coding process. Atlas enabled me to organize and analyze non-numerical data and examine relationship in the data. Atlas also has the function to make graphs and help identifying relevant outcomes and calculating the frequency of codes (Miles & Huberman, 1994, p.70). In the Atlas project I created for this qualitative study, eleven transcripts of eleven interviews were filed together. I first coded the text of every document in the column on the right side (mostly descriptive codes were created at this point, and please find the detailed explanation of the coding approach in Section 4.2. Interview Coding Approach), and Atlas was able to clearly indicate the segment and codes accordingly. Moreover, I used Atlas to create code families, in which individual descriptive codes were grouped together based on how relevant they were to a certain topic (please also see the coding strategy in Section 4.2. Interview Coding Approach). In addition, I made comments wherever there were signs suggesting possible relationships between codes, which became useful reminders in the later data analysis phases.

### **4.2. Interview Coding Approach**

The data collected is qualitative, in-depth information pertaining to interviewees' feelings and experiences in professional decision making and advice taking context. To analyze the qualitative data, I performed two major phases of coding and a comprehensive data analysis. In the first phase, I started by creating a provisional "start list of codes" (Miles & Huberman, 1994, p.58) before conducting any interviews. As presented in Table 1, this code list originated from the previous research findings, the conceptual framework, research questions, and the key variables that were brought into this study (Miles & Huberman, 1994).

In short, the literature review built up a solid foundation that facilitated the development of the start code list. In the start code list, the first column has a list of codes regarding the general categories, including the decision conditions/background (the decision task, the decision maker's, advisors' and advice characteristics), emotional outcomes (feelings), cognitive outcomes (thinking), and behavioral outcomes and decision results. It also lists possible descriptive codes for each category in the second column. For instance, under the category "behavioral outcomes & decision results", codes such as "advice selection" "decision making speed" "decision making difficulty" "decision satisfaction" and "decision accuracy/effectiveness" are created. As explained before, the research regarding advice taking outcomes has generated some knowledge about decision makers' advice selection and decision accuracy, but it has neglected the understanding about the variation of the decision making speed, difficulty and decision makers' satisfaction. Therefore, these descriptive codes originated from variables that were identified from the literature review and the research questions I raised. I also list the research questions based on which the code derives.

Table 1. Start List of Codes

Categories	Descriptive Codes	Research Questions and Sub-questions
1. Decision task	1. Decision task	1. The conditions and background: the task
2. Decision maker's characteristics	2. Expertise regarding the task	1. The conditions and background: decision maker
	3. Advice seeking behavior	
3. Advisor's characteristics	4. Number of advisors	1. The conditions and background: advisor
	5. Role in the organization	
	6. Relationship with the decision maker	
	7. Expertise regarding the task	
4. Advice's characteristics	8. Conflicting advice	1. The conditions and background: advice
5. Emotional outcomes/ Feelings	9. Emotions	2. The emotional consequence of conflicting expert advice
6. Cognitive outcomes/ Thinking	10. Trust	3. The cognitive consequence of conflicting expert advice
	11. Confidence	

7. Behavioral outcomes & Decision results	12. Advice selection	4. The behavioral consequence and the decision results of conflicting expert advice
	13. Decision making speed	
	14. Decision making difficulty	
	15. Decision satisfaction	
	16. Decision accuracy/effectiveness	

The second coding phase included a more inductive approach (Miles & Huberman, 1994), which contained a more open-minded and context-sensitive analysis refining the start code list. Generally, I reviewed the transcription of every interview and create descriptive codes to the document. These descriptive codes were able to closely describe and reflect the segments of text. Codes that had not emerged from the first code list were discovered. For example, I added a descriptive code named “appreciative” based on the interviewee saying:

I do think that is a very good opportunity for me to figure it out as part of my experience [by taking different information and opinions from multiple advisors]. I appreciate the process very much. [...] Listen to them and they have their insights, and I appreciate those things because I never think about that, I never thought of those ideas. So I really appreciate the education that can give me the comprehension about how to look at the situations, how to look at the problems, and how to make a right decision at the moment based on the information I have (Decision Maker 1, p.7-11).

The corresponding descriptions and segments regarding all the descriptive codes were classified and stored by Atlas, and a list of such texts could be generated easily in the Atlas project.

Furthermore, by noticing themes amongst descriptive codes and associated segments of text, pattern codes and inferential codes were created (Miles & Huberman, 1994). Both of these two kinds of codes are more abstract than descriptive codes, but the difference between

pattern codes and inferential codes should not be ignored. Pattern codes are words or phrases that can group and summarize several individual descriptive codes that are related to each other. For instance, I grouped the descriptive codes “neutral information” “recommendation for/against (one or more options)” “decision support” “social support” and “insinuation” to create the pattern code “type of advice”. Inferential codes play a similar role, except that the researchers can add their own understanding and interpretation when they name the codes. For instance, the following descriptive codes “urgent” “risky or uncertain” “limited resources and budget” and “greatly influences decision maker’s career” emerged when I read through the interviewees’ description of the decision task they were faced with. These descriptive codes were named carefully and compared deliberately, from which the concept of “decision task feature” was abstracted out as an inferential code. In my understanding, a task with the above features increases the complexity and difficulty of the decision making process, which raises the decision maker’s need to seek help from others and brings in more contradictory information and opinions. In certain conditions, in order to better categorize and clarify the data, I have to make a pattern code by grouping a few inferential codes together, which is based on what the inferential codes represented. For instance, in terms of the five descriptive codes “technical disagreement” “different information sources/perspectives” “problematic conflicting advice by nature” “incompatible frame of reference” and “interest conflict”, based on my understanding and interpretation of the corresponding segments, multiple pieces of conflicting expert advice caused by “technical disagreement” or “different information sources/perspectives” were considered as “healthy conflicting expert advice”. Those that were “problematic by nature” or offered because of the existence of “incompatible frame of reference” or “interest conflict” were classified as “unhealthy conflicting expert advice” (please find the rational and quotations that were used to develop these codes in Section 5. Results). According to the abovementioned definitions of different codes, “healthy conflicting expert advice” and “unhealthy conflicting expert advice” are two inferential codes. Since both of these two inferential codes indicated the very nature of conflicting

expert advice, they were grouped together and defined as the pattern code “nature of conflicting expert advice”.

In the second coding phase, if codes created in the start code list or discovered from previous interviews were again found in later interviews, the same code names were used consistently (e.g., emotional outcomes, cognitive outcomes, and behavioral outcomes, etc.). In addition, I eliminated codes from the start code list that were not sufficiently representative or not named properly (e.g., conflicting advice), and combined some others (e.g., information from the code “advisor’s role in the organization” was combined with what was coded with “advisor’s relationship with the decision maker”). So the codes were revised as more data was analyzed.

To present data in a concise style, I adjusted the structure and renamed pattern codes and inferential codes as “second-level codes” since they were more abstract and interpretive than descriptive codes (the “first-level codes”). I also provided corresponding descriptions (definition) of each code and linked the code to relevant quotations from interview transcriptions. Consequently, 4 main aspects, 36 second-level codes and around 86 first-level codes are included in the final code list (please see Appendix D for the Final Code List Based on Data Collected from Eleven Interviews for the details of the first level codes/descriptive codes, second level codes, code descriptions and exemplar quotations from interview transcripts.).

The two coding phases form the process of data analysis. While I was organizing codes and analyzing quotations from the eleven interviews, an in-depth understanding regarding the relationships between codes was developed. Integrated with relevant literature, I organized, explained, and visualized the findings about advice taking consequences and their relationships with the decision making background/conditions. I summarized the decision

conditions and multiple outcomes according to the interpretations on codes like “decision task’s characteristics” “decision maker’s characteristics” “advisors’ characteristics” and “advice characteristics”. I also investigated the underlining mechanism and interactions between the contextual conditions and different outcomes, such as the influences of “advice nature” on decision makers’ “emotional outcomes” and “thinking regarding multiple conflicting expert advice”, and how these relations interacted with decision makers’ “behavioral outcomes” and the final decision results. In addition, I mapped the relations between codes in figures based on my understanding, which will be presented in the Section 5. Results.

## 5. RESULTS

As mentioned in the Section 3 Methodology, during the data collection, I reached theoretical saturation when eleven professional decision makers were interviewed. Given the fact that an interviewee contributed information on two relatively independent decision making cases, I was able to analyze twelve decision making cases from the eleven interviews.

To assist the understanding the interviewees' background and to obtain more information of every interview's content (e.g., the decision task, the options the decision maker had, the decision maker's initial decision before seeking advice, and the different pieces of advice offered by several expert advisors), please refer to the Summary of Decision Makers' Conflicting Expert Advice Taking and Professional Decision Making in Appendix E.

In order to clearly explain the research results, first, I will summarize and clarify the decision making background and conditions of the twelve decision making processes, based on which I will also analyze the features of multiple conflicting expert advice. Such information builds up the foundation for the interpretation of the advice taking outcomes that my thesis is emphasizing. Next, the conflicting expert advice taking consequences, including the decision makers' emotional, cognitive, and behavioral reactions in such situation, will be explained. Last but not least, I will elaborate on the relationships and interactions between multiple conflicting expert advice and the decision makers' emotional, cognitive, and behavioral outcomes. To assist the understanding of the analyses in the current section, please refer to the Final Code List Based on Data Collected from Eleven Interviews in Appendix D for details of the first level codes/descriptive codes, second level codes, code descriptions and exemplar quotations from interview transcripts.

## 5.1. Decision Making Background and Conditions

By interviewing eleven individuals who were business or personnel related decision makers and who were faced with multiple conflicting expert advice, this qualitative study constructs the background and conditions that the decision makers were immersed in. Furthermore, such background and conditions contain elements with abundant features that influence the advice the decision makers receive and the decision makers' emotional, cognitive and behavioral reactions toward the situation, the advisors, and themselves. Key elements and features involved in such situation are presented in Figure 5. Four major elements involved in such decision making situation are *the decision task, the decision maker, the advisors* and *the advice* the decision maker got from those advisors.

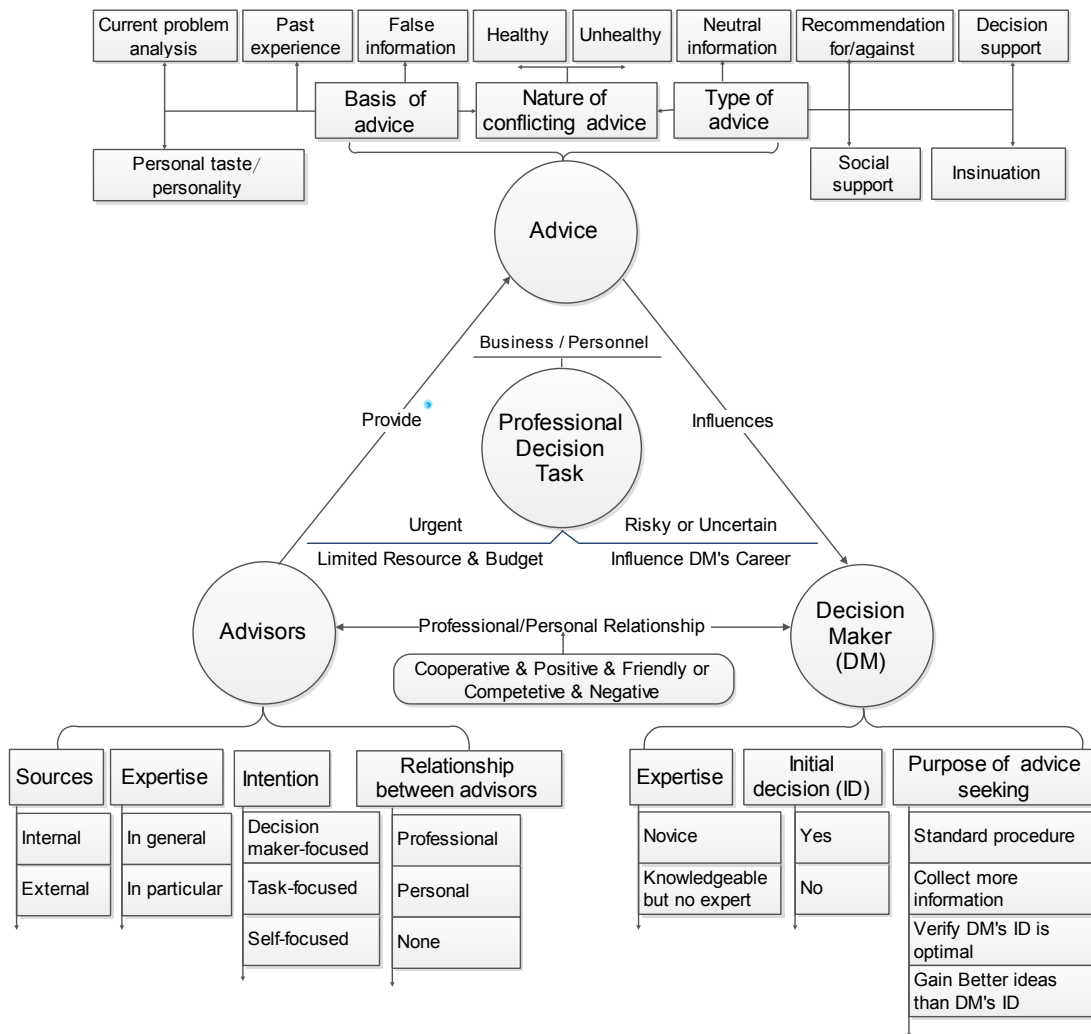


Figure 5. Decision Making Background/Conditions of Getting Multiple Conflicting Expert Advice.

### 5.1.1. Decision task's characteristics

My current research focuses on the **professional decision task** in workplaces (please see Figure 5). Eight interviewees shared their conflicting advice taking experience when making *business-related decisions*. For instance, one interviewee (hereafter, “Decision Maker 2”) stated that, “I worked in acquisitions and divestitures. What we did was we purchased assets from other companies for oil and gas companies. And the purpose of my group is to go out and purchase these assets (Decision Maker 2, p.2).” Another interviewee (hereafter,

“Decision Maker 7”) shared his business decision making experience in the pickle industry: “We have a product [a kind of pickle], and it is manufactured in India itself. And what we have to do is...to choose the market in India or the market abroad (Decision Maker 7, p.1).”

On the other hand, three interviewees described their conflicting advice taking experience when making *personnel-related decisions*. One of the examples was about a team construction task, the interviewee’s company undertook a new project to merge several small-scale shops, and the interviewee (hereafter, “Decision Maker 9”) was chosen to build a small team “for six or seven people. In that team, it would comprise a person from the inventory department, a person from sales, marketing, and supply chain (Decision Maker 9, p.1)”. The interviewee’s manager gave him a list of names and recommended them for his team, but the interviewee “did not get a good review about most of them (Decision Maker 9, p.1)” and had to make the difficult personnel decision. Another example came from the interviewee (hereafter, “Decision Maker 11”) who was working as an academic administrator, and her task was to improve the office work efficiency, and to decide if letting the employees work “longitudinally” was a more productive way to run the office than the old “horizontal” way (Decision Maker 11, p.1). Please find details of all interviewees’ decision task, the options the interviewees had, the interviewees’ initial decision before seeking advice, and different pieces of advice offered by several expert advisors from Appendix E according to the corresponding decision maker ID number.

In addition to the content of the decision tasks, the interviewees also provided rich information for me to understand the **common features of their professional decision tasks**.

(1) Ten interviewees suggested that their decision tasks were *risky* or the situation was *uncertain*. For instance, Decision Maker 2 indicated that, “I think it’s always uncertain.

Everything we're doing is a forecast so there's always uncertainty. You try to build a bit of a buffer in that, but you can only do so much (Decision Maker 2, p16)." The interviewee (hereafter, "Decision Maker 10") who was working on an engineering domain-based project (gas pipeline installation) also admitted:

It's the challenge what we have in any project...it's a new technology, which was not implemented before. Neither the client knew how long it would take to complete, nor the project manager knew. It was like we failed to mitigate the risk, which was the challenge I would say [...] It falls in complex category (Decision Maker 10, p.13).

(2) Nine interviewees emphasized the *urgency* of making their decisions. When discussing the decision making experience with Decision Maker 2, he also described his frustration and mentioned, "If it's critical and especially if there's a timeline, of course you feel frustrated because you know you have to reconcile the differences before you can move on. (Decision Maker 2, p.15)." Another interviewee (hereafter, "Decision Maker 5") who was leading a new bailer device development project also underlined how urgent his decision task was:

The technology is proceeding very fast, so we were really afraid of competitors. We didn't know for real if he [the designer of the device] would go into other companies or if this documentation had been leaked. And in Middle East you don't have a very strong law support so you can't just say: "Okay sign this and if you have previously leaked this information, we'll sue you (Decision Maker 5, p.3)."

(3) Eight interviewees admitted that their decision task was not adequately supported, and they were put into difficult situations because there were *limited resources and budget* from the upper level administration that were provided for the decision making process. For

instance, Decision Maker 5 described the difficulty of getting enough budgets:

The initial capital investment for this product was very high. We had similar experiences with smaller devices but prototyping bailed is expensive. And then we have to get license for human factors, for health, everything was quite expensive [...] On this project, we were asking for about eight percent of yearly budgets for new inventions, which is a very big proportion of the budget. So we had a very strong external pressure [from the company rather than from the decision maker's own team] (Decision Maker 5, p.3-4).

In addition, Decision Maker 10 explained the negative impact of lacking time and budget:

I was dealing with the project and it depended upon how much time we needed to complete this project and how many resources with respect to what we deal with the project. If we focused on time alone, the customer would be satisfied, but we would be losing money because we needed to add more resources to make the project complete before that deadline. If we focused on more resources, the project manager would suffer because he would lose the budget. So it's a constraint of both time and budget of the project (Decision Maker 10, p.1).

(4) Eight interviewees indicated the fact that the decision task would *greatly influence their career*. One interviewee (hereafter, "Decision Maker 3") was responsible for the development of a computer program for his IT company policies control, and he had to decide whether it could be conducted by Java or through mainframe technology. He discussed his concern and said:

If I'm going to take a decision in favor of mainframe, whether it is going to work or not? If it doesn't work, then what is going to happen? Whether it will have any impact on my career or not? And in case if I follow the Java approach, what is the impact I will have? I am not sure because if something goes wrong, then certainly I will be held responsible for that, and it is going to affect in my career and my appraisals. So I was concerned about that. I was certainly worried about my work, because ultimately I was responsible for getting it done (Decision Maker 3, p.14).

Furthermore, Decision Maker 5 emphasized how a bad decision would jeopardize his career: "I would say [...] now it was a battlefield [...] if you [the company] would say, no, it's not working, we should leave the company. There was no way and other employees would always be laughing at us (Decision Maker 5, p.26)." And Decision Maker 9 acknowledged that he was scared and nervous "because this [decision] might affect my job (Decision Maker 9, p.33)".

As analyzed above, the qualitative data reveals that the decision tasks that are *risky or uncertain, urgent, have limited resource and budget to support with, and can create significant influence on the decision makers' career* greatly increase the decision making difficulty and complexity. In such circumstance, not only the decision makers' need to seek extra assistance is inflated, they also take actions to talk to more than one advisor, because several factors from different aspects and parties are required to be considered carefully.

### **5.1.2. Decision maker's characteristics**

After presenting the main characteristics of the professional decision tasks, I will elaborate on the characteristics of the decision makers (interviewees) themselves from the aspects of their **expertise, the purpose of their advice seeking behavior, whether they had**

**an initial decision and judgment before getting other’s advice, and their relationships with the advisors** (please see Figure 5).

**Decision makers’ expertise.** Regarding the decision makers’ expertise, eight interviewees are classified as *knowledgeable decision makers but not experts of the particular task*. They had some knowledge, experience or information (about their decision task or the situation) in general, but they did not consider themselves as experts with sufficient knowledge, experience or information for this particular task. For instance, Decision Maker 2 described himself as followed:

My expertise is in engineering [...] I might not know everything about surface rights or mineral rights or geology, but I knew enough of the language that I could ask some questions and I could usually pick up their technical literature and learn if I needed to (Decision Maker 2, p.4-5).

Decision Maker 10 also indicated that, “I have five years of experience before, which we did many, many small-scale projects. But this [project] was very big. The challenge with this project was the technology, what they used was very innovative and never implemented any way (Decision Maker 10, p.4-5).”

Only three interviewees consider themselves as *novice decision makers* with absolute no relevant knowledge, experience or information about their decision task or the situation. One of the interviewees (hereafter, Decision Maker 4) described himself as “a new entrepreneur, and new in the garment business (Decision Maker 4, p.35).” And he believed that, “it was expected to me that some problems would happen because I didn’t know this trade. So in all the processes, I have to learn a lot of things (Decision Maker 4, p.35)”. In addition, two of the three personnel-related decision makers were novice decision makers. An interviewee

had to decide whether he should offer an unqualified team member the authorship and the bonus (hereafter, Decision Maker 8). He admitted that he “didn’t have professional knowledge [of leading a team] (Decision Maker 8, p.3)”, but he was also very confident and said, “it was simple and we were supposed to complete the project. If you [the team members] are not bringing any contribution, you cannot share any kind of authorship or any kind of financial matter (Decision Maker 8, p.3).” Decision Maker 9 told me that, “I had no experience in choosing people. I had no experience in making [personnel] decisions. I had no experience in doing such kind of task (Decision Maker 9, p.9).”

**Purpose of decision makers’ advice seeking behavior.** My data analysis based on the eleven interviews in terms of the purpose of decision makers’ advice seeking behavior suggests that there are five reasons: (1) *seeking expert advice is a standard procedure*, (2) *to collect more information/expert opinions*, (3) *to verify the decision maker’s initial decision is optimal*, and (4) *to gain better ideas than the decision maker’s initial decision*<sup>4</sup>.

(1) Seeking advice from specialists is *a standard procedure of performing the decision task* for two interviewees. Decision Maker 2 first explained the policy of making assets acquisition decisions in his company:

Part of it [the reason for the decision maker to seek others’ advice] is I have to do it. Like part of the procedure is I have to talk to exploration. I have to talk to operations. I have to talk to people about the safety of the assets. There’s a checklist of experts that I have to go through (Decision Maker 2, p.3).

Decision Maker 7 is the other interviewee working in a company that required such decision making procedure:

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<sup>4</sup> One interviewee may have more than one advice seeking purpose.

Before [making the decision] we [all the team members] go for a meeting and we'll have the case. We know what the situation is...[During the meeting] the team gives a little scenario to discuss our work. Then we have to sit in our own cubicles...and have to come up with whatever solutions we can get...And they'll also give me their points and I will put in my points [in the second meeting]. Then we'll choose on what is the best thing. Everyone needs to participate. It's not like I'll decide everything (Decision Maker 7, p.6).

In this scenario, Decision Maker 7 seemed to provide an example of group decision making process with a leading decision maker.

(2) Eight interviewees seek expert advice *to collect more information or expert opinions*. The interviewee who was assigned to choose a location between two cities for performing a trial project (hereafter, Decision Maker 1) specified that, "I did seek the advice from the people having those operational experiences, especially from the people at first line operations, because they are the people getting daily experience with the clients (Decision Maker 1, p.2)." Decision Maker 10 also offered examples that indicate the similar reason:

[I seek other experts' advice] because I needed to know what their priorities are. For example, the project manager's priority is to keep the budget close. He can't lose the budget. The customer [his/her priority], is the timeline. He doesn't want to make the project delayed or get late delivery. And the engineering manager was like in my situation, [he wanted] to be more precise. He wants to save his resources, keeping them happy. Also he wants to support the project manager to drive the project (Decision Maker 10, p.6).

(3) Three interviewees seek expert advice *to verify that their initial decision is optimal* and to prove that the decision maker's initial decision is better than others' suggestions. Although the aforementioned reason (*to collect more information or expert opinions*) leads to Decision Maker 1's advice seeking behavior, she also mentioned that,

I consulted colleagues in City N and in City S because I figured in City S, maybe we didn't have the advantage to provide to customers comparing with the competitors. So I just gave them the other option to be in City N. And to support my [initial] decision, I consulted different people in different parties, and figure out how the feasibility was (Decision Maker 1, p.9).

Decision Maker 11's experience also supported the abovementioned advice seeking purpose:

I had basically made up my mind. But then I'm thinking how do I convince everyone else that this is a good idea too? I could just say I'm the boss and I said and let's go. But that's not the best. I don't think so. It's better to have buy-in. So I actually got an outsider but someone who doesn't work here [as an external advisor] (Decision Maker 11, p.4).

(4) Three interviewees seek expert advice *to gain better ideas than their initial decision* and to prevent the possible mistakes they could make with their initial judgment. For instance, in the second decision making stage described by Decision Maker 6, he said that, "I asked [...] 'what is your [the advisors] idea [about the materials of making the product]' to see if their opinions and their ideas are much better than mine. And if that is more efficient and effective, I'll try that (Decision Maker 6(2), p.7)". Decision Maker 9 also pointed out:

I did not know exactly that if any decisions I would take, how would that impact my manager and how would that in turn impact my job. So I just wanted to make sure that I asked a couple of people what if I do this, or what if I do that...So they can actually better guide me because they stayed longer in the organization, and they were quite tenured (Decision Maker 9, p.9).

**Decision maker's initial decision.** Seven interviewees (including Decision Maker 6 in his first decision making stage) indicated that they had initial decisions or judgments before seeking others' advice. As presented in the paragraphs explaining the advice seeking purposes, based on Decision Maker 1's own analysis, she proposed performing the trial project in City N, even though her supervisor and some of her advisors had not thought about this option. Decision Maker 11 also had a solid sense that the existing office structure was not efficient enough before soliciting others' advice. The other four interviewees did not have a clear solution before taking others' advice.

**Decision makers' relationships with the advisors.** Concerning the decision makers' relationships with the advisors in the eleven interviews, there are two broader categories: professional relationships and personal relationships. Under the professional relationship category, there are two different kinds of relationships: cooperative or positive professional relationships, and competitive or negative professional relationships.

(1) In terms of professional relationships between the decision makers and their advisors, all of the interviewees had *cooperative or positive professional relationships* with their advisors, who were also their coworkers, supervisors, subordinates, or outsiders (e.g., individuals from consulting companies or other teams/departments in the same company, or clients or suppliers, etc.). For instance, Decision Maker 4 indicated that,

I had some previous relationships with my buyers. They gave me [clothes] orders. I definitely have connections with them, and I was in their good book. That is the reason they have placed order with us. And with my suppliers, some machinery dealers, I had good relationships with them for sure because I buy machinery from them. It's in their interest to keep a good relationship with me (Decision Maker 4, p.13).

Decision Maker 5 also considered that he “had a very good relationship with the financial advisor. She was a very nice woman. She had a very good understating of the market and the financial points of view of everything, and she was really honest (Decision Maker 5, p.7).”

(2) On the contrary, three interviewees had *competitive or negative professional relationships* with their advisors, who were also their coworkers, supervisors, subordinates, or outsiders (e.g., individuals from other teams/departments in the same company, or competitors in the industry, etc.)<sup>5</sup>. For instance, one of the Decision Maker 2's advisors was a manager from another department in the same company, who was receiving assets and recommended against the decision maker's purchase plan even though she knew the plan would be profitable. According to Decision Maker 2:

She [the manager advisor] was just trying...to get more money, more budgets. She was making sure that something that would benefit the company wouldn't affect the metric that she was getting measured on. [...] So she applied pressure on us [...] to make our estimates go lower, to do everything to make it look like this property wasn't good so that the minute it comes into her hands, she's doing great with it (Decision Maker 2, p.2).

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<sup>5</sup> In this research, I only looked at the destructive and unhealthy competitions between decision makers and advisors when defining the “Competitive/Negative professional relationship”.

Decision Maker 4 had similar professional relationship with outsiders:

[My buying office] referred me to the earlier buying company. They lost that order to me. They did it the last time [giving terrible advice]. [...] Yes [they were not getting along with my factory]. So they were not that cooperative, but it was okay [...] I just wanted to get information from them (Decision Maker 4, p.14).

In the Decision Maker 11's interview, she spent a lot of time describing an advisor, who was also the decision maker's subordinate in the office:

[...] To the people who report to her [the subordinate whose authority is negatively impacted by the office restructure strategy], she has a lot of influence. [...] It's just my opinion, [and] I have no way to really validate but I think they were weary of maybe expressing an opinion counter to hers (Decision Maker 11, p.15-16).

(3) In terms of personal relationships, eight interviewees had *friendly personal relationships*<sup>6</sup> with their advisors, who were also their coworkers, supervisors, subordinates, or outsiders (e.g., personal friend from consulting companies, or other teams/departments in the same company, etc.). For example, Decision Maker 6's team members and advisors "were my friends. I'm there with them for four years, and we formed a group. So it's all very good relationship I had (Decision Maker 6, p.13)". Decision Maker 9 had similar personal relationships with some of his advisors: "All of them were my friends. The IT guy, the R&D guy and I did our graduate from the same college. So I knew them for about five years (Decision Maker 9, p.12)." Interestingly (but not surprisingly), none of the interviewees asked for advice from individuals whom they had unfriendly personal relationship with.

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<sup>6</sup> The code "friendly personal relationships" is named on the base of interviewees' original narratives. It is distinguished from "positive/cooperative personal relationships" because being "friends" with the decision maker is closer and more intimate than being "acquaintances", which could also be a kind of positive personal relationship.

The interpretation of decision makers' **expertise, their advice seeking behavior and purposes, their initial decisions, and their relationships** with the advisors provides the background knowledge regarding the following multiple conflicting expert advice taking and decision making process, and assists our understanding of decision makers emotional, cognitive, and behavioral reactions in such situation.

### **5.1.3. Advisors' characteristics**

In addition to the elements I analyzed above, the characteristics of the decision task and the decision maker, the other key element in this multiple conflicting expert advice taking and decision making model is the source who provided the advice. In this section, I will summarize the relevant characteristics of the advisors the eleven professional decision makers described in their interviews, including the **advisors' sources, their expertise, their intention for giving such advice, and their relationships with other advisors** (please see Figure 5).

Before presenting details regarding the above advisors' characteristics, it is necessary to explain the analysis I conducted regarding the number of advisors and the number of the pieces of advice the decision makers collected. Since this research is constructed on the basis of decision makers receiving inconsistent or different advice from multiple advisors, all interviewees received different opinions from more than two advisor parties. As it is presented in the Summary of Decision Makers' Conflicting Expert Advice Taking and Professional Decision Making (Appendix E), the information regarding every interviewee's advisors and advice is much more complicated than simply indicating the number of advisors. In many interviews, the decision makers gained similar advice from more than one advisors, and they could be working in the same team or had similar backgrounds (e.g., Decision

Maker 1, 2, 3, 6, 7, 8, and 10's advisors, etc.). In many of such cases, the interviewees could not recall the exact number of their advisors. For instance, Decision Maker 2 provided some details regarding his external advisors:

[For] each project we took on we would recruit from over seven departments, managers or senior technical people to be kind of the point of contact for those groups. For each project we were usually working with groups of 20 to 100 people, so I would consider the external group there was probably at least five to ten people whose opinions really mattered. [...] This is [the advice from] the technical aspect and operational aspect (Decision Maker 2, p.6).

In order to overcome such ambiguity of advisors' number, I grouped the advisors who suggested the same advice because of similar reasons (or having similar backgrounds), and presented both the advisors parties and their advice in the Summary of Decision Makers' Conflicting Expert Advice Taking and Professional Decision Making in Appendix E. In sum, the average number of the advisor parties the eleven interviewees<sup>7</sup> had was 3.75 ( $SD = 0.81$ ).

**Advisor sources.** In terms of the advisor sources, all of the interviewees received advice provided by *internal advisors*, the individuals from the decision maker's unit when performing this specific decision task (the unit could be a team, an office, a department, or a company/an organization). For instance, Decision Maker 2 said,

Within my group, I had very experienced engineers. There were some close to 60

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<sup>7</sup> As indicated before, Decision Maker 6 provided two relatively separated decision making stages. Therefore, I took both of the decision tasks into consideration when calculating the number of advisor parties. In addition, in the original interview, the interviewee did not introduce the exact number of different opinions his team members (three advisors) offered to him regarding the selection of device materials in his second decision making stage. I asked Decision Maker 6 for a clarification and he confirmed that his three advisors all recommended different materials (metals). Thus, the number of advisor parties in Decision Maker 6(2) is three.

years old. We had very experienced geologists. And then [we had] mid-level engineers kind of similar to mine [level], and then other engineers. So I think within our group, we had 10 people. And I would talk to all of them in making decisions. They were a knowledge source for us (Decision Maker 2, p.5).

Furthermore, nine interviewees indicated that they received advice from *external advisors*, the individuals not from the decision maker's unit when performing this specific decision task (e.g., experts from consulting companies or other teams/office/departments in the same company/organization<sup>8</sup>, or clients or suppliers, etc.). Decision Maker 2's introduction of his external advisors (in the above paragraph explaining advisor parties) offered a sound example for such advisor source. Decision Maker 11 also obtained help from external advisors:

I actually got an outsider but someone who works also at the organization but who doesn't work here [in the decision maker's office]. This person has an expertise in project management and had recently reorganized her office. She had done a task-based accounting of each process and procedure and she had mapped it out, she had identified inefficiencies and redundancies and working with the team, they made a better process map. So she basically did that here (Decision Maker 11, p.4).

**Advisor expertise.** Regarding the advisor expertise, all the interviewees seek advice from different experts, which is also one of the participant recruitment requirements. More specifically, all interviewees had advisors who were *experts of the particular task*. The Decision Maker 11's external advisor, which is described in the last paragraph when discussing the source of advisors, is a proper example for expert advisor of the particular task.

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<sup>8</sup> The classification of "internal advisors" and "external advisors" is based on interviewees' perspective and perception regarding their advisors. For instance, in some cases, the interviewees had advice from experts from inside and outside of his/her company. They consider the former "internal advisors" and the latter "external advisors". In some other cases, the interviewees had advice from experts within his/her team/department and from experts working in the same company but not in his/her team/department. They consider the former "internal advisors" and the latter "external advisors".

In addition, Decision Maker 2 “had a group [of financial advisors] that built the economic models from our inputs and evaluated those models against others. So they built the models and then after that they would evaluate those models against other business opportunities (Decision Maker 2, p.6).”

However, all the eleven interviewees also outlined some of their advisors as *experts in general* according to the advisors’ hierarchical status, previous working experience, age, or reputation, etc. But these advisors were not experts on this specific task or technology, or in this particular field, market, or industry. For instance, I was surprised when Decision Maker 6 did not value his project supervisor’s (who was also a university professor) expertise very much, because common sense suggested that a supervisor and a professor should be qualified as an expert with task-related knowledge, experience and training. So I asked him what the professor’s background was. Decision Maker 6 answered,

[...] He was not into that field [...] He’s also engineer, so he basically knows about what a microprocessor is and how things work in the area. But he might not be too deep into electronics. He’s good in electrical and basic things of electronics (Decision Maker 6, p.10).

Therefore, how relevant and profound an advisor’s knowledge, experience, and training are to the particular decision task essentially defines how influential an expert is, regardless of the advisor’s hierarchical status, previous working experience, age, or reputation, etc.

**Advisor intention.** With respect to the advisor intention, from the eleven interviews, I have discovered that expert advisors are driven by three different motives: *the decision maker-focused motive*, *the task-focused motive*, and *the advisor (self)-focused motive*<sup>9</sup>.

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<sup>9</sup> One advisor may have more than one intention and advice giving motive.

(1) When driven by *the decision maker-focused motive*, the advisor offers advice in order to assist the decision maker with the decision making process. Eight interviewees described advisors with such intention. For instance, when talking about Decision Maker 9's friend advisors, he said,

I know that whenever I'm going to ask them for any favor or anything, they're going to do their best to get the thing done for me. [...] So even whatever advice they gave me had some bad points, the other person would rectify it and try to give a solution to it (Decision Maker 9, p.29).

One of Decision Maker 10's external advisor had similar advice giving intention:

He was very focused on me. He was like no, even if you lose the client, it's the organization who's going to be responsible [the decision maker's supervisor asked him to approach the task in a way the client disliked]. It's not me [personally] who's going to lose. [...] I was happy because he has some more attention on me. He's more focused on my career too (Decision Maker 10, p.20).

(2) When driven by *the task-focused motive*, the advisor offers advice in order to ensure the completion of the decision task. Seven interviewees described advisors with such intention. For example, when Decision Maker 4 seek his buyers' advice on how to overcome the production troubles and the possible delay of delivery, the buyers' priority was to complete the production and ship the garments on time, so "they [the decision maker's buyers] said [...] we had to ship it within this period [15 days extension]. Otherwise it should be air shipped (Decision Maker 4, p.18)." Decision Maker 8's supervisor held the task-focused motive as well when Decision Maker 8's team project was hindered by a

member who shirked his duties. When Decision Maker 8 considered removing this disqualified members' authorship from the team project, instead of providing guidance or solutions regarding how to manage the situation with member, the supervisor said, "whatever he [the team member who was not contributing at all] was doing was wrong, but I [Decision Maker 8] should try to work it out and get it [the project] done (Decision Maker 8, p.8)."

(3) When driven by the *advisor (self)-focused motive*, the advisor offers advice in order to reach self-serving purposes. Ten interviewees described advisors with such intention. In some cases, the advisor's self-interest is not entirely incompatible to the decision maker's or the decision task's goal, and the success of making such decision can also be also beneficial to the advisor's interest. For example, in Decision Maker 3's interview, he reported two IT technology teams who were strongly recommending their own programing approach in the interest of completely undertaking the IT project:

I can sense that rather than getting it done through the right way, they were more interested in getting the work. So they were not concerned about which way is better. They were more concerned about who will do it. [...] Advisors were more interested in pushing for their own agendas. Like they were more interested in getting the piece of work for their own teams. So I won't say they were very helpful (Decision Maker 3, p.12-20).

As stated in the quotation, although, to some extent, one team "getting the work" might make a progress in terms of completing the project, both of the advisors were neglecting the more critical factor, which was performing an objective and practical investigation and evaluation of an optimal programing solution for the decision maker.

In other cases, the advisor's self-interest is incompatible to the decision maker's or the

decision task's goal, and the success of making such decision might cause negative influence to the advisor's interest. An example has been presented in the previous text explaining the "competitive/negative professional relationship" between the decision maker and the advisor. Decision Maker 2 once claimed that "the biggest thing is people have agendas (Decision Maker 2, p.13)". One of his advisors, the project manager from another department, she "was making sure her back was covered and to make sure that she actually could bring it [the assets] in" and "she was making sure that something that would benefit the company wouldn't affect the metric that she was getting measured on", and "she applied pressure on us [the Decision Maker 2's team] [...] to make our estimates go lower, to do everything to make it look like this property wasn't good so that the minute it comes into her hands, she's doing great with it (Decision Maker 2, p.2)". Decision Maker 11 also had an advisor with personal agenda of such kind:

In the case of my one subordinate, that one was more rocky because she did initially resist the change, but I think that it's just because...it's not always easy to change after many years of a similar thing. [...] I just think the [subordinate's] motivation was, "let's stay with the comfortable and what we know [in the old way, this advisor supervises all the staff in the office]"(Decision Maker 11, p.6-22).

**Advisor's relationship with other advisors.** In the matter of advisor's relationship with other advisors in the eleven interviews, advisors were found staying *cooperative/positive professional relationships*, *competitive/ negative professional relationships*, *friendly personal relationships*, or *having no relationship* at all.

(1) Ten interviewees described *cooperative/positive professional relationships* between advisors and demonstrated that the advisors were coworkers, supervisors or subordinates who had good or cooperative professional relationships. For example, Decision Maker 2

pointed out the functional relationships between some of his internal advisors and said,

[The relationship] between the advisors [...was] quite well because they all worked together on other projects. In the company I worked in, you never got the case of like people avoiding each other. I know my manager didn't get along well with some others. They may even have had negative views on each other. But they still worked well enough. Like had other people not told me that they butt heads, I would never actually know that. There was still enough of a willingness to work. It never got to a point where it was dysfunctional (Decision Maker 2, p.9).

In addition, Decision Maker 4 offered details suggesting that cooperative/positive professional relationships could exist between different external advisors:

About the relationships between my advisors, when I talked to the machinery companies [one group of the advisors the decision maker had], they've had [information of] some factories [other producers, which were also the decision maker's advisors] who bought their machines and who had good relationships with them as well...They [the machinery companies] definitely talk to the people who had good terms with them (Decision Maker 4, p.14).

(2) Three interviewees described *competitive/negative professional relationships* and demonstrated that the advisors were coworkers or competitors from other teams/departments/company/organizations who had negative or competitive professional relationships. As shown in the description of Decision Maker 2's external advisor, the project manager from another department, she intentionally damaged Decision Maker 2's team's assets acquisitions project. Hence, this advisor had a very negative and unhealthy professional relationship with the interviewee's internal advisors from his own team. The

other example was provided by Decision Maker 3, who received conflicting advice from two IT teams that only supported their own programming technologies. Based on Decision Maker 3, all of the advisors had good relationships in daily lives, “but when it comes to business, they want their thing [IT approach] to win, no matter whether it is 100 percent right or not. It’s my way or the highway. So that kind of atmosphere was there in the situation (Decision Maker 3, p.5).” It is obvious that the competition between two groups of advice was very intense, and negatively impacted a high quality decision making process.

(3) Three interviewees described *friendly personal relationships* and demonstrated that the advisors were coworkers or college classmates who had friendly personal relationships. As explained in a previous paragraph, the Decision Maker 6 had friendly personal relationships with his advisors for quite a long time. The advisors had known each other for four years as well and they were “all very good friends (Decision Maker 6, p.8)”. In addition, Decision Maker 8’s team was also formed by four friends, and most team members were very serious about the voluntary project that was assigned to the team. However, “since it was not paid, he [one team member] was not willing to contribute [...] and he wanted his name in that [a publication authorship produced through the project] as an author (Decision Maker 8, p.2).” Decision Maker 8 proposed that,

He should be out of the team, and we would not put his name in the authorship, as well as we would not give him a fraction of the money. But among four of us, since we were friend, some of the team members were suggesting let’s keep him (Decision Maker 8, p.2).

In this scenario, the friendship between the team members placed an obstacle in the decision making process.

(4) Four interviewees had advisors who *had no relationship of any kind with other advisors*. For example, Decision Maker 5 received advice from a technical specialist in his department. Based on the description, “[the technical advisor] he was very technical. He actually didn’t know anyone in the company [including the leader of daily production department, who was another advisor the decision maker had], and he was always in his room (Decision Maker 5, p.7-8).” In another example, Decision Maker 11 invited an external expert on project management to assist the analysis of office structure and performance efficiency. According to Decision Maker 11, “to someone they [the staff in the decision maker’s office, who are also advisors] normally wouldn’t interact with very often, they got to know her [the external expert] a little better (Decision Maker 11, p.7-8).” It is safe to assume that no internal advisors, the Decision Maker 11’s staff, had known the external advisor before working on this particular decision task.

As indicated ahead, since the advisors are the source of advice, the characteristics of advisors play a crucial role in the generation of different pieces of advice that will be given to decision makers. The above analysis on advisors’ characteristics, especially the discoveries regarding advisors’ intentions, will contribute valuable insights to the following study of the advice itself.

#### **5.1.4. Advice characteristics**

In this section, by analyzing the details of every piece of advice the eleven interviewees received when making professional decisions, I will focus on the following advice characteristics: the **type of advice** and the **basis of advice** (please see Figure 5).

**Type of advice.** With regards to the type of advice, as summarized in the literature review, advisors may provide decision makers a *recommendation for or against an option (or*

*options*), *neutral information*, *decision support*, and *social support*, which are all revealed from the interview transcripts. Moreover, a new type of advice, *insinuation*, arose from several decision makers' quotations<sup>10</sup>.

(1) All interviewees mentioned receiving advisors' *recommendations in favor of a particular option or against one or more options*. This seems to be the most common type of advice decision makers obtain. For instance, Decision Maker 2 gained both a recommendation for and a recommendation against an assets purchase plan (two pieces of conflicting expert advice):

When we asked an opinion of some of the engineers who were evaluating it [the purchase plan and the assets], their view is yes, we should be acquiring this for the right price. But when I talked to ... the manager who was receiving the assets, her view was against it... (Decision Maker 2, p.2).

Decision Maker 9 also got a recommendation from his friend: "He [the friend] said you should go with your manager [select team members from the list the manager provided]. Whatever he's saying just do it and get the job done somehow (Decision Maker 9, p.6)." Amongst the five types of advice, a recommendation for or against an option (or options) is the most straightforward type of advice that indubitably points out a certain direction for the decision maker.

(2) Six interviewees were offered *neutral information* about the decision task, which did not include an endorsement for a particular option by their advisors. For example, Decision Maker 1 "just asked information from different people", and the information she got was "about custom supervision rules" to help her understand government regulations (Decision

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<sup>10</sup> One advisor may provide more than one type of advice.

Maker 1, p.9). Decision Maker 7 also received neutral information when he needed to choose between the local and abroad market for selling their new pickle product:

They [the advisors] gave me information about the amount of money we had to spend for creating the [target customer] databases, and the amount of money we had to spend on maintaining the database...if we were going to have the backup [for database maintenance]. We could have our backup in California, or we could have our backup in India. [The information is about] the technical specification, not about the business specification (Decision Maker 7, p.13-14).

Amongst the five types of advice, accurate neutral information is the most objective and unbiased type of advice that fosters decision makers' understanding about the current situation and existing facts.

(3) Six interviewees outlined the *decision support* from expert advisors, which included their responses or strategies to guide the decision making process. For example, when Decision Maker 3 was confused by two technology teams' conflicting advice, he turned to his manager for help:

I had a word with my manager that this is what is happening in the team, and I'm getting conflicting suggestions, and to be honest, things are not on track. What should I do? He suggested me that I should sit down with them [two technology teams], have a cup of coffee, and then try to bring everything on the table so that whatever decision I take, it is an informed decision rather than a hasty one (Decision Maker 3, p.12).

In another case, when Decision Maker 9 was recommended a list of undesirable

employees for his team by his supervisor, he also gained decision support from the advisor working in the R&D department:

[The advisor said] if the manager still suggests me to take the people from that list [after the decision maker explains how ineligible/incapable those employees could be], it's okay. Just don't say that I won't be able to work with them. Say [...] fine, but just let them know that what I have figured out of the whole thing, and probably he would be having some good impressions about it [regarding the reference check the decision maker conducted himself] (Decision Maker 9, p.18).

Amongst the five types of advice, reasonable and feasible decision support can provide decision makers with powerful vehicles to process advice from different individuals and overcome possible confusion.

(4) Five interviewees acquired *social support* from their advisors, which provided them with socio-emotional acknowledgment regarding the importance and difficulty of the decision to be made. For instance, Decision Maker 8 gained some social support to take action with the unqualified team member from the upper level of the company:

They [the company] told me it's my decision, [they will agree with] whatever I decide to do since I was in charge of the project and I was the one who's leading the team [...] My boss said, "It's up to you. You knew him [the unqualified member the decision maker proposed to remove from the authorship list], and we got some information [about this team member]. I'll try to help you more (Decision Maker 8, p.2-3)."

In another interview, Decision Maker 9 had a friend advisor from the procurement

department, and he “mentioned what complications I might get into” with the task of selecting team members. According to the interviewee,

He [the friend from the procurement department] didn’t have much idea about selecting people. He just told me, “it’s better that you should be selecting the team with which you’re comfortable with.” It was just like a back-end support...a moral support you can say (Decision Maker 9, p.24).

Amongst the five types of advice, being socially and emotionally supported may satisfy decision makers’ needs for recognition and confirmation of their efforts, which might be helpful to maintain or even improve decision makers’ self-confidence and trust in the advisors to some extent.

(5) In addition to the types of advice presented above, three interviewees received the newly identified type of advice – *insinuations* – that consisted of vague, subtle, and unpleasant hints or messages to pressure the decision maker and to let things act in a certain way. For example, in the interview with Decision Maker 2, he could certainly tell the manager from another department had her personal agenda. Decision Maker 2 sensed that “[she wanted to] make the property look poor to apply pressure on us [the decision maker’s team] so that she could get promises of budget from the senior management so that in the end, it would make her look better (Decision Maker 2, p.2).” Decision Maker 5 also presented detailed descriptions of the insinuation he and his team received from an external advisor:

The main pressure we had was that there were people who were not happy about the allocation of that amount of budget to our department. The man who was the vice president of our daily production, he has a very, very strong political influence in the company. So he was personally a friend of our president and CEO and he was senior

and he was very compelling, he was very captivating. [...] He was not really [giving] an option [...] I would say he was one of the sources giving us high recommendations. [...] We never sat one on one and talk about the project. We were just receiving his messages or his ideas about the project. [...] He was too big to come to our humble meetings. He is from other departments and he wouldn't ever risk it coming to our meetings. He couldn't cross the boundaries. [Otherwise] We would complain that he's interfering. But he was always sending his messages through different channels. For example, one of our members in the meeting said, "Oh, you know what? I just see Mr. B [who was not the daily production leader, and just the team member's friend], and he said that Mr. A [the daily production leader] is not really happy about the project and things like that." So we were under pressure. [...] it was not technical, it was around the bushes, and it just pushed us, hindered us to do our job (Decision Maker 5, p.6-30).

As illustrated by the above quotations, insinuations could be a kind of contrived endorsement. We may also consider an insinuation as a less direct form for *recommendations for or against an option (options)*. Advisors who convey insinuations to decision makers usually possess certain power in the organization and keep personal agendas to interrupt or resist the accomplishment of a decision task. In these circumstances, decision makers are seriously pressured and experiencing vast decision making difficulties. I will elaborate on insinuation with comparison to other types of advice when analyzing the nature of advice in Section 5.1.5.

**Basis of advice.** Although previous literature has generally looked at advisors' expertise and concluded that being an expert develops a reliable foundation for high-quality advice, no researcher has specified the basis of advice offered by different advisors. By conducting this qualitative study, I find that a piece of advice can be provided based the following factors:

*advisors' current problem analysis, past experience, personal taste or personality, or false information*<sup>11</sup>.

(1) All interviewees received advice that was based on the *advisors' current problem analysis*, which includes advisor's current calculation, analysis, and understanding regarding the specific decision task. For example, when Decision Maker 3 was confused with technical details regarding different programming methods, his advisors from two IT teams performed an analysis of the current problem regarding the application of their own IT approach:

The mainframe guy was suggesting that we needed to build a new table to capture that information so that whenever we need to retrieve it later on, we could do that. And he was suggesting that we would have to build altogether a new module for that. And later on we could use the same module in case we needed to retrieve that information on any of the new screen or other screen. The Java guy was saying that rather than using the mainframe tables, we could use individual tables, and we could capture this information in that itself in the local database. And then we could get it, retrieve whenever we need, so there was no need to go with the mainframe approach (Decision Maker 3, p.6).

During Decision Maker 5's decision making process, his financial advisor also calculated the cost of alternative business plans:

The financial lady was saying that our economy is not in a good situation. If we can secure a very, very good contract with one of those major producers, it was her advice actually to take the design to document and to commercialize it, but don't produce it because she was saying that the overhead cost and the capital costs we're

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<sup>11</sup> One piece of advice may have more than one advice basis.

producing, it is off through the roof. We should just go for the commercialization. It's safe and secure and you're putting this amount of money and our chances of getting it back soon is very, very high (Decision Maker 5, p.10).

Since performing a current problem analysis requires specific considerations of the decision maker's conditions and the features of the task, it is more purposeful and relatively more deliberate compared to the other three bases of advice.

(2) Five interviewees received advice that was based on the *advisors' past experience* in similar or relevant situations. For instance, in the interview with Decision Maker 2, he commented,

People come from a lot of different experiences. [...] Especially in business, people, instead of doing an analysis they just pull from experience. They say oh, I worked in something similar and here's my experience...but the experience isn't that applicable or people aren't putting that much thought into what they've said (Decision Maker 2, p.15).

In another example, Decision Maker 11 received information and recommendations from colleagues from other departments. She was fully aware that their advice was based on their past experience working for other faculties:

School A is huge. It's the largest one with some huge number of students. We have about 3,000 or 4,000 students and they must be double that. So the advice from the staff there become less valuable because you don't want to just take what School A says about this or that is the way. [...] I would say it [the colleagues' advice] was mainly based on their experience and [...] given that I have the same title as my

colleagues and [...] we have enough similarities. [...] So I would say that it was based on their experience but which may have a lot [rationalities] behind it (Decision Maker 11, p.23-24).

According to the above quotations, decision makers were not completely satisfied with the advice based on their advisors' past experience on a different task or in a different situation. I assume that such advice certainly contributes some insights to a certain degree, but it is not as dependable and feasible as the advice based on advisor's current problem analysis.

(3) Four interviewees were given advice that was based on the *advisors' personal taste or personality*, such as the advisors' liking, interest, or personality traits. For example, Decision Maker 5's technical advisor supported the commercialization and production of the new bailer device because "he liked him [the designer] personally". Based on the Decision Maker 5's description, "they [the technical advisor and the device designer] were both technical and they understood their languages. He [technical advisor] liked him [the designer] and he said that let's keep this guy in the company (Decision Maker 5, p.9-12)." On the contrary, the leader of the daily production department, another advisor of the Decision Maker 5's, strongly objected to the purchase of the new device design because of his personal aversion of innovative activities and projects. According to the Decision Maker 5,

He was not really questioning the mechanism or the financial issues in the project, he just kept saying it's [the development of a new device] risky [with no evidence to back it up]...I was thinking if there is something really defective or dangerous about the project, I'd like him to point it out. But he didn't (Decision Maker 5, p.22).

In addition, Decision Maker 8 used the expression "like nature [the tendency to like

other people or to look at the good character of other people]” to describe his advisor that suggested him to keep the team member who didn’t contribute to the project. The interviewee believed that, “he’s like a kinder person, and he always try to support people and everything (Decision Maker 8, p.9).” In the Decision Maker 11’s decision making experience, she communicated with advisors who prefer “staying with the comfortable and what we know” and resisted the new office running approach out of their fear of change (Decision Maker 11, p.22). In conclusion, advice based on advisors’ personal taste or personality is normally subjective and often lack reasoning. It could be helpful when the advisors combine their personal interests and personality traits with facts and hard evidence (like Decision Maker 5’s technical advisor’s suggestion presented above). However, decision makers should be cautious about the opinions that are mainly based on advisors’ personal taste or personality (like Decision Maker 11’s subordinate’s advice presented above).

(4) Two decision makers were offered advice that was based on *false information*, and the untruthful and misleading information impeded the progress of achieving a satisfactory decision. When Decision Maker 4 seek others’ opinion on his garment production problem, he expressed his doubt regarding the advice from his employee in the production department:

The problem happened there when he [the decision maker’s employees in the production department] said he could produce 1,300 pieces per day, and he started producing 300 pieces out of that. He didn’t have any realistic idea. I think the reason he said so is that we could do it with normal yarn, but it [the decision maker’s current product] required a special type of thread, and that thread broke a lot. And it just didn’t allow us to provide good production (Decision Maker 4, p.20).

In this certain case, the advisor’s information was based on his former producing experience on a different kind of fabric, and it was flawed and unrealistic. This suggests that

the advice based on false information may also originate from the advisor's past experience that is not applicable to the current situation, which links the two bases of advice. In another example, Decision Maker 9's manager recommended a list of candidates to him, which was based on the manager's misjudgment and the false information the manager obtained.

According to Decision Maker 9,

The manager gave me a list to recommend the people based on his judgment or the information he had. [...] When I made a background check, I actually came to know that a couple of people working there who were on the list were not working quite well. They were trying to figure out how to skip work (Decision Maker 9, p.4).

Advice based on false information is rather harmful to a decision making process. It is often challenging for decision makers to distinguish the advice that is backed up by erroneous information from multiple pieces of advice.

After performing the investigation of the type and the basis of advice, an advanced data analysis of the **nature of advice** is conducted. Since a thorough understanding of the advice nature requires the consideration of the aforementioned decision makers', advisors' and advice characteristics, I will present the interpretation in a separate section.

#### **5.1.5. Advice nature: healthy and unhealthy conflicting expert advice**

In this section, an advanced analysis is conducted based on decision makers' descriptions and comments, and the acquired knowledge of decision makers', advisors' and advice characteristics. I aim to interpret, under the circumstance where a certain piece of advice is incompatible with other advice, 1) when and how this piece of advice is beneficial to the decision maker, and 2) when and how this piece of advice is harmful to the decision

maker. In other words, this is the exploration of the nature of advice.

**Healthy conflicting expert advice.** Simply put, a piece of “healthy conflicting expert advice” is beneficial and favorable for the decision maker to complete a specific task. Interviewees’ descriptions and comments from the interview transcripts suggest that, when an expert is having a *technical disagreement* with others, or is holding *different information sources or perspectives* compared to others, his/her advice is considered as a piece of healthy advice even though it is inconsistent with other advice.

(1) *Technical disagreement* refers to the conflicting expert advice that originates from different technical analyses or methods conducted by different advisors. This happens commonly when decision makers seek advice from individuals possessing diverse techniques or skills. It was found in seven interviews<sup>12</sup>.

For instance, amongst the Decision Maker 2’s multiple pieces of advice:

One suggestion was basically run the economic model differently. And a lot of those things are costs way out in the future. [...] I think there were a lot of discussions. We ran a lot of other modeling. We would have one engineer that told us these wells can produce for however long at a certain rate, and the abandonment isn’t that big of an issue. And then we have her [the manager from another assets acquisitions department] group saying oh it’s going to be a huge issue. So we ran a lot of modeling, and we actually looked at historical data. The good thing is these are technical disagreements (Decision Maker 2, p.10).

Decision Maker 7 also received different information and recommendations regarding

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<sup>12</sup> In Decision Maker 6’s interview, such advice was only provided in the second decision making stage/scenario.

the optimal market for the new pickle product because of experts' technical disagreement:

The information analyst [processing all the data] said that I should keep in mind that for every project, I have to pay a certain amount of money for ISO certification to get into a new market. So the amount I spend on certification was going to be a loss and wouldn't give me anything. [...] He said that we should go with the local market because it's easier for marketing, and the product delivery might not get delayed because it could be easily transferred. But what T.L. said is that it was pickle... and it was not a perishable good. Even if you sent it to the lowest means of transport, even if it took months, it would still be worth it [the profit from an individual product in the foreign country is almost a hundred times higher than it is in the local market]. If it were another kind of product like tomatoes that I wanted to ship it, I'd need to ship it by flight. So he said we could go for the foreign market itself and the profit would be much higher (Decision Maker 7, p.10-12).

When it is pure technical disagreement, as emphasized by Decision Maker 2, it is a "good thing (Decision Maker 2, p.10)". A variety of methods, models, calculations, and analyses operated by different experts with solid knowledge and skills provide sufficient information and knowledge about every option to the decision maker, reduce the chance of ignoring important factors or making mistakes, and enhance the accuracy and effectiveness of the decision makers' final decision.

(2) *Different information sources or perspectives* refer to the conflicting expert advice that originates from advisors' unique perspectives or different channels or sources from where the advisors get their information. Such advice is expected to be received when decision makers seek advice from experts with different backgrounds or from different fields. The difference between *technical disagreement* and *different information sources or*

*perspectives advice* is that, unlike the latter, the former usually exists among advisors who have similar backgrounds or from the same field or industry. Their disagreements usually root in the different nature of their problem solving techniques (such as using different formulas or variables, machines, or construction materials, etc.). It was found in seven interviews.

For example, Decision Maker 5 was offered conflicting advice from his technical advisor and his financial advisor because of their completely different perspectives:

The technical guy was 100 percent on it [sign the contract with the designer and produce the device themselves]. He was saying, “It is interesting. The design is very, very nice. The mechanism is very smart and we should go for it.” [...] The financial lady was saying that our economy is not in a good situation. If we can secure a very, very good contract with one of those major producers, it was her advice actually to take the design to document and to commercialize it, but don’t produce it because she was saying that the overhead cost and the capital costs we’re producing, it is off through the roof. We should just go for the commercialization. It’s safe and secure and you’re putting this amount of money and our chances of getting it back soon is very, very high (Decision Maker 5, p.10).

In addition, Decision Maker 1 also commented on advisors’ diverse perspectives and different information sources. She believed that,

From their [different advisors’] perspective, they must have different concerns about their roles specifically... because people are different... They could have their perspectives. [...] In Country A, the law and the regulations are vague. It is too flexible sometimes. You don’t have a black and white thing. [...] If people have

different entrances into different situations, they could get different information (Decision Maker 1, p.4-8).

In this category, advisors contribute insights of all kinds. As long as the advisors' information sources are reliable and justified, and their understanding of the decision makers' current situation is reasonable and accurate, their advice (that may be different from others') facilitates decision makers' familiarity and knowledge of the particular task, potential options, and possible consequences.

**Unhealthy conflicting expert advice.** On the contrary, a piece of “unhealthy conflicting expert advice” is harmful and damaging for the decision maker to complete a specific task. Interviewees' descriptions and comments from the interview transcripts suggest that, when the piece of advice (that is inconsistent with other advisors') is *problematic by nature*, is mainly *influenced by the advisor's incompatible frame of reference* (compared to the decision maker's frame of reference) or the *interest conflict* (between the advisor and the decision maker/task), it is considered as a piece of unhealthy conflicting advice.

(1) *Problematic-by-nature advice* refers to the conflicting expert advice that is problematic by nature, such as false information, or unjustified, unethical, or unrealistic advice. It was found in four interviews<sup>13</sup>.

First, Decision Maker 4 and Decision Maker 9's experiences of receiving advice that was based on false information (please see the quotations in the paragraph discussing “advice basis-false information” on page 69-70). Such advice itself is inaccurate and misleading, and simply fits the feature of “problematic by nature”.

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<sup>13</sup> In Decision Maker 6's interview, such advice was only provided in the first decision making stage/scenario.

Moreover, some interviewees also were provided with advice that was fundamentally unjustified or unethical. For instance, Decision Maker 8 spent a lot of time describing such a frustrating situation:

I don't know why some people are supporting him [the unqualified team member]! I was irritated, and I was like what's wrong with you? He's not working...because of the simple fact that something is wrong, and people are trying to keep being wrong and trying to give that wrong a chance. I myself, by nature, am very hard working. And I just don't like that some people just come and take a share of your hard work. That was the main part of irritation (Decision Maker 8, p.14).

Like Decision Maker 8's criticized, such advice is simply just "wrong". The existence of the problematic-by-nature advice (which is also inconsistent with other advice) is rather a toxic factor that negatively impacts the decision maker's judgment, and most likely will generate undesirable consequences if the decision maker fails to screen it out. The only and slightly optimistic facet of these cases is that such advice is generally a little easier to identify than the other two kinds of unhealthy conflicting expert advice, described below.

(2) *Incompatible frame of reference* refers to the conflicting expert advice that is mainly influenced by the advisor's incompatible criteria to make judgments, incompatible focus, goals, or priorities (compared to the decision maker's frame of reference). It was found in seven interviews<sup>14</sup>.

To be more specific, Decision Maker 2 outlined such advice that was given by some of his external advisors:

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<sup>14</sup> In Decision Maker 6's interview, such advice was only provided in the first decision making stage/scenario.

Within our group, we don't really have room for conservatism. [...] We need to be more risk tolerant because if we are not, we will never make deals. When I go to these experts for advice, they have a lower risk tolerance. A lot of times they're more conservative. [...] I usually have to have a discussion with the purpose of why we're doing things. [...] I think the biggest thing is people have agendas, and it's really easy to be conservative. I can give you an answer that's conservative and be safe, and it doesn't take me any time. [...] Yes, it is...safe. But we can't be safe. Like if everyone's being safe then our group fails (Decision Maker 2, p.12-13).

In the Decision Maker 10's advice taking experience, one of his advisors, the engineering manager, had his own frame of reference when Decision Maker 10 asked for his help. Instead of offering applicable solutions to the decision maker, the advisor's priority was to avoid the possibility of offending Decision Maker 10 or the project manager (who inappropriately preferred to close the budget to the interviewee for performing a client's project). Based on Decision Maker 10,

He [the engineering manager] was balancing between both, not directly. He can't come and tell me that I have to extend the time [work longer] to complete the job because he is my direct supervisor and wants to support me. And he can't say anything to the project manager. That would look like a professional argument happening between those two. [...] It was like he was not taking sides (Decision Maker 10, p.12).

In this category, advisors' background and fields of expertise do not matter that much like it did with *different information sources or perspectives advice*. The reason is that, no matter what the advisors' background or fields of expertise are and whether they are different from other advisors or not, they may insist on different frames of reference and focus on

different aspects of a particular task. For instance, Decision Maker 2 and his internal asset value analysts concentrated on maximizing benefits by taking necessary risks, while the external analysts persisted on being conservative and getting the work done safely. In this case, Decision Maker 2 and both groups of advisors' expertise was evaluating the value of assets. On the other hand, in the Decision Maker 10's example, his engineering manager and the project manager had distinct backgrounds, and they had different frames of reference compared to the other and Decision Maker 10. By interpreting the related quotations, it seems that the conflicting expert advice that is mainly influenced by the advisor's incompatible frame of reference (which may also be inconsistent with other advisors') is provided when helping the decision maker is not the advisor's goal. More often than not, such advice is inapplicable to the decision maker's situation, and even complicates the existing problem. Thus, receiving such advice is more harmful than helpful.

(3) *Interest conflict* refers to the conflicting expert advice that originates from the advisor's personal agenda to achieve the goal of furthering his or her self-interest. The advisor is essentially worried about being negatively influenced by the outcome of the decision task. In most cases, the advice is offered by the advisor through the use of power and social networking within an organization, which may become an obstacle for the decision making process or undermine the accomplishment of the decision task. It was found in eight interviews<sup>15</sup>.

As an example to explain the advisors' self-focused motive I presented in the previous text, Decision Maker 3 had two groups of advisors who intended to promote their own IT technology and "rather than getting it done through the right way, they were more interested in getting the work (Decision Maker 3, p.12-20)". Since the "advisors were more interested in pushing for their own agendas" and "getting the piece of work for their own teams",

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<sup>15</sup> In Decision Maker 6's interview, such advice was only provided in the first decision making stage/scenario.

Decision Maker 3 did not consider the conflicting advice they delivered was helpful (Decision Maker 3, p.12-20).

More interestingly, quite a few (seven) interviewees emphasized a kind of unhealthy advice that was caused by advisors' self-interest conflict and was related to organizational politics to a great extent. Like previously discussed, one of Decision Maker 2's external advisor, the manager from another department, played "the game of politics" (Decision Maker 2, p.2). In order to purchase the assets the manager's team themselves and win the competition with the decision maker's team, she deliberately made the estimation of Decision Maker 2's property look less desirable. In Decision Maker 2's mind,

If she was a perfectly objective technical advisor I think it's different. But when she had her own goals, and other advisors that were involved in evaluating the project were for the project, and she was one person against several [experts' opinions]...so it's many experts against one expert who had an agenda. [...] It's like the agency problem. She's doing it for her wellbeing versus what a lot of us view it as the wellbeing of the company (Decision Maker 2, p.2-17).

Another typical unhealthy conflicting expert advice with the involvement of organizational politics is the insinuation Decision Maker 5 received from the very powerful and influential senior member of the company, who was also a leader of the daily production department. From the senior advisor's position, any innovative project the company might support would lead to the reduction of the budget for his daily production department. As described in the interviewee's previous quotation (please see the quotation in the paragraph discussing "insinuations" on page 64-65), this advisor applied pressure to Decision Maker 5 by spreading words to both the higher level administration and the regular social network in the company to hinder the possible cooperation with the new device designer. Decision

Maker 5 believed that “it [such advisor] was not technical, it was around the bushes, and it just pushed us, hindered us to do our job (Decision Maker 5, p.6-30).”

Compared to the other two kinds of unhealthy conflicting expert advice, the one caused by advisors’ interest conflict (which may also be inconsistent with other advisors’) is much more aggressive. In other words, it is meant to hurt the decision maker or even other advisors. It is unfortunate for decision makers to receive such advice because of the unpleasant disturbance and serious damages it brings. Although such advice is usually fairly noticeable or even predictable, it is unavoidable in many professional contexts.

**Comparison of advice of different natures.** In this section, I have introduced the concepts of two natures of conflicting expert advice: the healthy one and the unhealthy one. I have also differentiated two kinds of healthy conflicting expert advice and three kinds of unhealthy conflicting expert advice according to the interviewees’ advice taking experience. Based on eleven interviewees’ description and the coding analysis in terms of advice nature, I counted the total pieces of advice that was provided when experts were having “technical disagreements” with others (13 pieces), and were holding “different information sources or perspectives” compared to others (20 pieces), when the pieces of advice were “problematic by nature” (6 pieces), were mainly influenced by the advisors’ “incompatible frame of reference” (11 pieces), and were mainly influenced by the “interest conflict” (between the advisors and the decision makers/tasks) (11 pieces).

It is necessary to specify that a certain advisor might offer a piece of advice that could fall into more than one category regarding the sub-concepts of advice nature. For instance, in the scenario where Decision Maker 9’s manager recommended a list of unqualified candidates to the Decision Maker 9, 1) the advisor’s recommendation was based on his inaccurate judgment and false information, which determined that the nature of his advice

was unhealthy-problematic advice by nature; 2) such recommendation was also provided because most of the employees that were on the list were the manager's friends in other departments. The involvement of organizational politics and the manager's personal agenda to maintain nepotism suggested that the nature of his advice was also unhealthy-interest conflict. In addition, there were overlapping areas between "technical disagreement" and "different information sources/perspectives". Therefore, the descriptive data analysis presented here cannot prove that the interviewees acquired more healthy conflicting expert advice than unhealthy ones.

To achieve a more profound understanding regarding the above concepts, I conducted descriptive statistical analyses to demonstrate and to compare the decision makers', advisors', and advice characteristics of the aforementioned conflicting expert advice (from the perspective of advice nature). Due to the limited number of advisors and pieces of advice that were described by eleven interviewees, this analysis is not based on a large sample of conflicting expert advice. It is simply conducted as a quantitative help to detect trends in the qualitative accounts. A discussion of this limitation will be presented in Section 6.

(1) For the purpose of comparing **advice of different natures** with the aspect of the *decision maker's relationship with the advisor*, Figure 6 attempts to display the connection between advice natures and decision makers' relationship with their advisors based on the information from the eleven interviews (please refer to the number of pieces of a particular kind of advice in the previous paragraph on page 79. For instance, expert advisors having cooperative or positive professional relationships with the decision makers offered 69% of the 13 pieces of "technical disagreement" advice, which was 9 pieces of such advice).

## Decision maker's relationship with the advisor

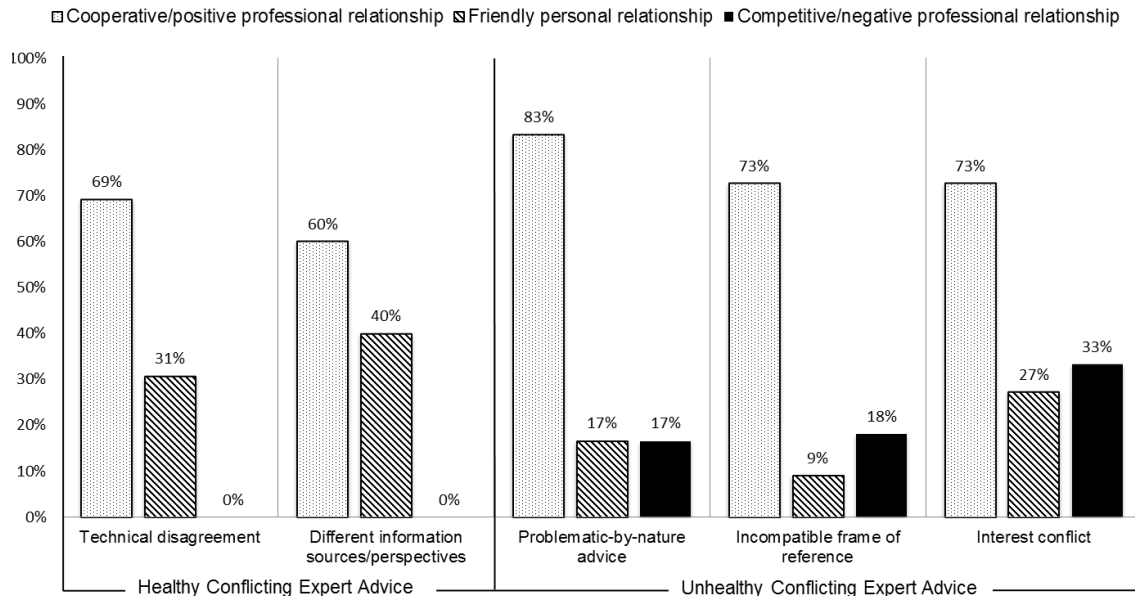


Figure 6. Comparison of Advice of Different Natures with the Aspect of the Decision Maker's Relationship with the Advisor.

First, compared to expert advisors having friendly personal relationships or competitive or negative professional relationships with the decision makers, expert advisors who were keeping cooperative or positive professional relationships with the decision makers provide more advice than experts in all conditions (more than 60%). This suggests that expert advice from individuals maintaining good professional relations with decision makers is not necessarily always beneficial to the decision making process.

Second, none of the healthy conflicting expert advice (including “technical disagreement” advice and “different information sources or perspectives” advice) was given by advisors who were having competitive or negative professional relationships with the decision makers. On the contrary, the proportion of unhealthy advice provided by advisors who had competitive or negative professional relationships with the decision makers was higher. It seems that those who do not have good professional relations with decision makers are more likely to give destructive advice.

Third, decision makers' personal friends offered more healthy advice than unhealthy advice. It was worth noticing that individuals could be impacted by interest conflicts in workplaces and offer harmful advice to their personal friends, which should be kept in mind by all professional decision makers.

(2) For the purpose of comparing **advice of different nature** with the aspect of the *advisor's intention*, Figure 7 attempts to display the connection between advice natures and advisor's intention based on the information from the eleven interviews (please refer to the number of pieces of a particular kind of advice in the previous paragraph on page 79).

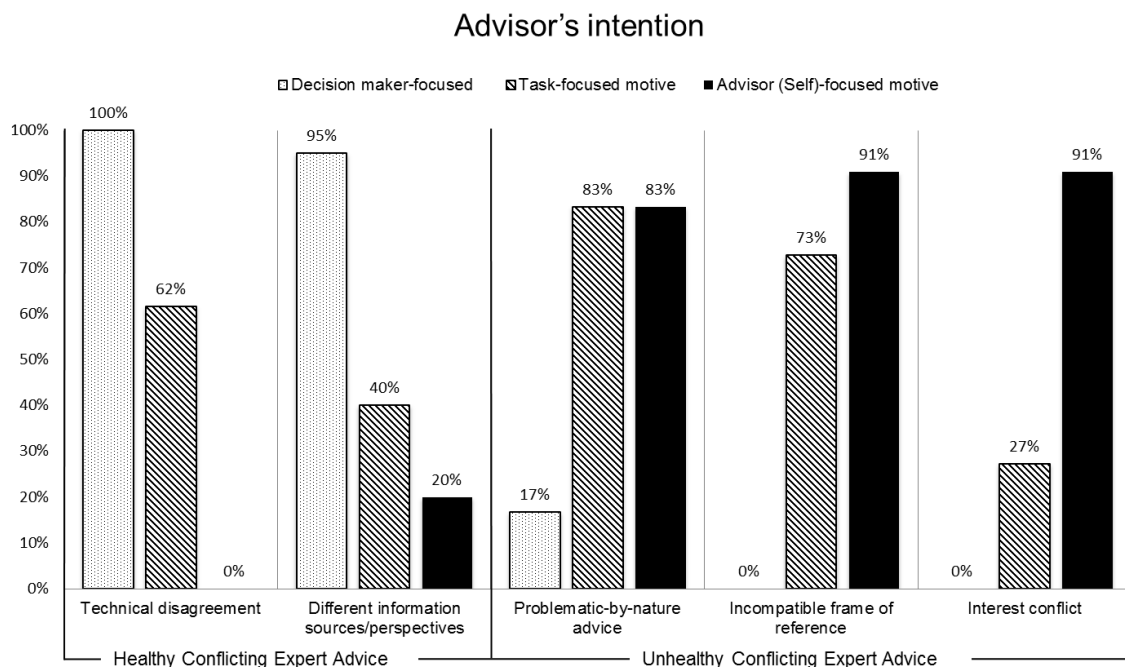


Figure 7. Comparison of Advice of Different Natures with the Aspect of Advisor's Intention.

First, it is noticeable that advisors with decision maker-focused motive provided almost all pieces of healthy expert advice. When it is pure technical, no advisor (self)-focused motive existed. Meanwhile, quite a few advisors were also concerned about the completion

of the decision tasks. Moreover, there were 20% of the “different information sources or perspectives” healthy advice (4 out of 20 pieces of such advice) given by advisors who also had self-focused motive. But we should not ignore that all these advisors also had decision maker-focused motive and task-focused motive at the same time. For example, Decision Maker 5 asked his technical advisor for suggestions regarding the design of the new agriculture device. The advisor offered a quality examination of the design to help with the decision making process, which confirmed the reliability of the device. He also recommended the device because he personally liked the designer, and he was hoping the company to recruit the designer into the company if the advisor himself supported this product. In this case, this technical advisor had both decision maker-focused motive and self-focused motive. Furthermore, although 17% of the problematic-by nature advice was given by advisors with decision maker-focused motive, it is safe to assume that these advisors with such intention rarely provide unhealthy advice, unless they did not realize the information they offered or their advice was based on was incorrect (please refer to the unrealistic and false information Decision Maker 4’s employees provided on page 69-70).

Second, most unhealthy expert advice (over 80% for “problematic by nature” “incompatible frame of reference” and “interest conflict” advice) was provided by advisors holding stronger self-focused motive. Even though many advisors also concerns about the completion of the decision task, without caring for the decision maker’s needs or the effort to assist the decision making process, their advice was still not beneficial to the decision maker. This was more common to see in the category of incompatible frame of reference when the advisors’ goal was no longer offering help to the decision maker, and their priority or focus was to finish the work no matter what the optimal solution was (please refer to the “incompatible frame of reference” advice given by Decision Maker 2 and Decision Maker 10’s advisors on page 75-77). With regards to the “interest conflict” advice givers, a decreased number of those who had task-focused motive is observed. As explained in the

“interest conflict” section, Decision Maker 2 and Decision Maker 5’s external advisors deliberately caused trouble by delivering unhealthy advice because their malicious intention towards the accomplishment of the decision task.

(3) For the purpose of comparing **advice of different natures** with the aspect of *advice basis*, Figure 8 attempts to display the connection between advice natures and different advice bases according to the information from the eleven interviews (please refer to the number of pieces of a particular kind of advice in the previous paragraph on page 79).

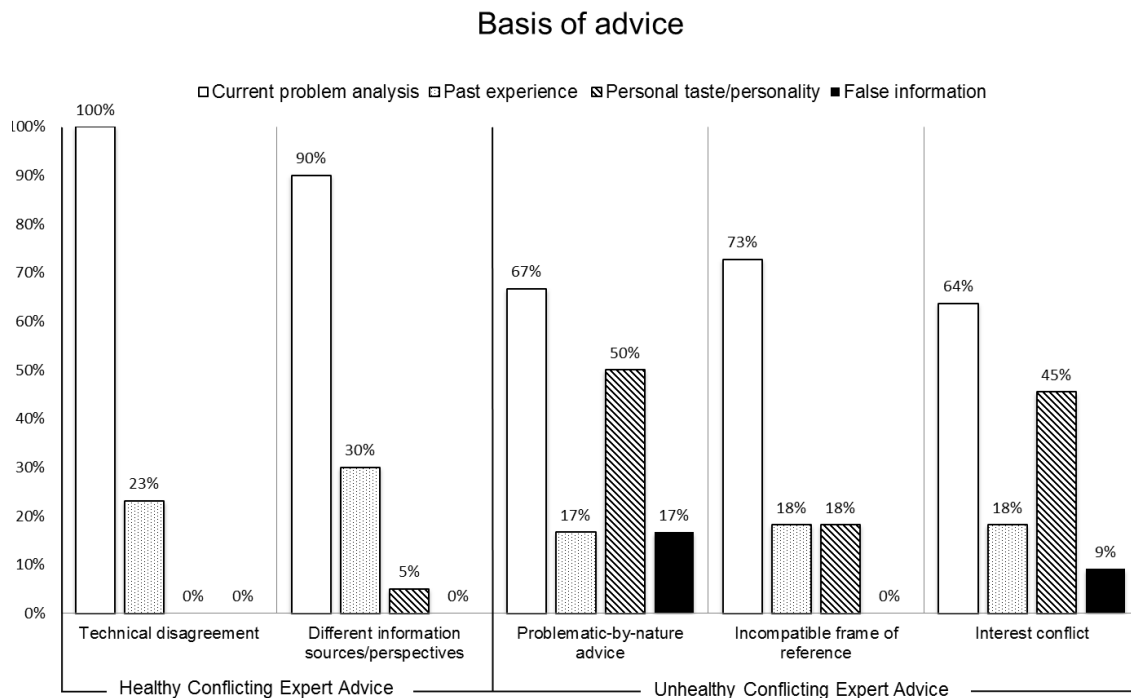


Figure 8. Comparison of Advice of Different Natures with the Aspect of the Advice Basis.

First, whether healthy or unhealthy advice was provided by experts, most of the advice was based on advisors’ current problem analysis, especially when they offered “technical disagreements” advice and “different information sources or perspectives” advice – the healthy expert advice – to decision makers. Between the two kinds of healthy conflicting

expert advice, none of the “technical disagreement” advice was based on advisors’ personal taste/personality or false information as it was considered as completely objective. While under the category of “different information sources or perspectives”, a piece of such advice was also based on the advisor’s personal taste, which was presented as an example for the combination of advisor’s decision maker-focused motive and self-focused motive (please refer to the advice Decision Maker 5’s gained from his technology advisor on page 68 and page 73).

Second, advisors’ past experience as a basis of advice appeared constantly in all conditions, but it does not have a high proportion among all the advice bases (less than 30%). Both Figure 8 and the interviewees’ quotations suggest that acquiring advice that is based on experts’ past experience on a different task does not guarantee the quality of the advice (please refer to the Decision Maker 2 and Decision Maker 11’s quotations presented to explain “advisors’ past experience” as an advice basis on page 67-68).

Third, it is apparent that compared to healthy conflicting expert advice, the three kinds of unhealthy advice relied more on advisors’ personal taste and false information, the two less stable, reasonable and reliable advice bases.

(4) For the purpose of comparing **advice of different natures** with the aspect of *advice type*, Figure 8 attempts to display the connection between advice natures and different advice types based on the information from the eleven interviews (please refer to the number of pieces of a particular kind of advice in the previous paragraph on page 79).

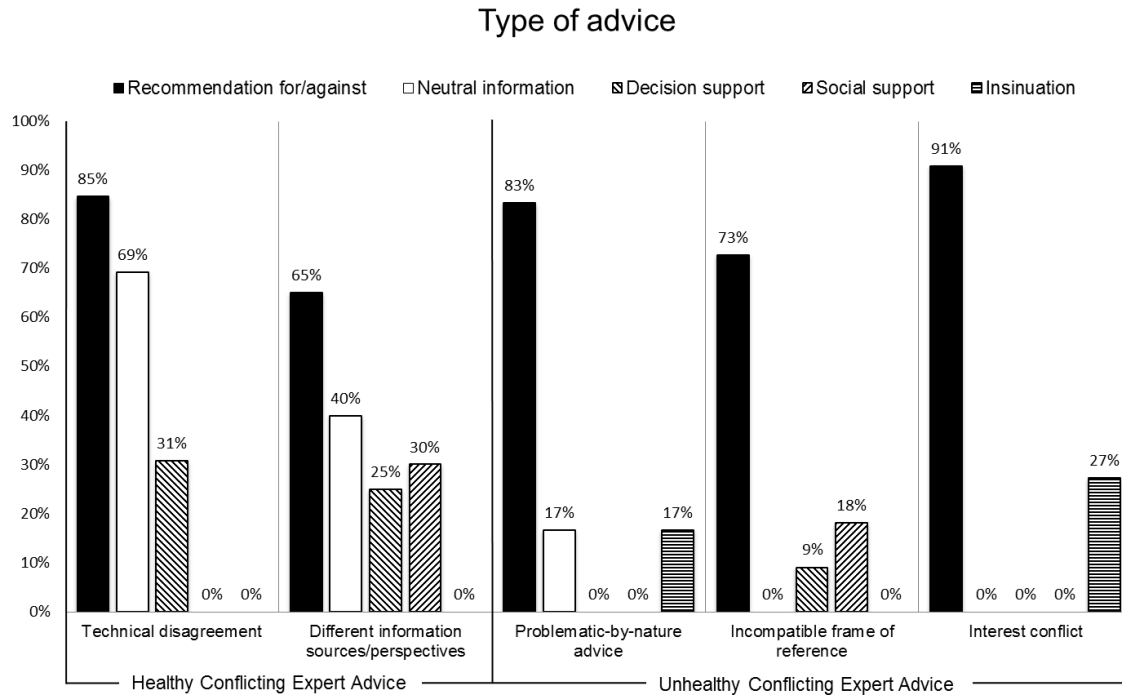


Figure 9. Comparison of Advice of Different Natures with the Aspect of the Advice Type.

First, as it is showed in Figure 9, the traditional type of advice, recommendation for or against an option (options) appeared to be given frequently and generally (over 60%) regardless of the healthy and unhealthy nature of advice. On the other hand, neutral information type of advice was considered beneficial and favorable when the information was accurate and justified. Within healthy conflicting expert advice, there was more neutral information type of advice in the category of “technical disagreement” advice (almost 70%) than it in the category of “different information sources or perspectives” advice (40%), which makes sense as the former is a much more objective advice giving process. However, neutral information type of advice was considered destructive and harmful when it was incorrect or flawed, like the misleading information about the productivity of the new fabric Decision Maker 4 obtained from his employees in the production department (please refer to Decision Maker 4’ example about “false information” on page 69-70). In addition, the other two kinds of unhealthy conflicting expert advice had no neutral information involved

because the “incompatible frame of reference” advice and “interest conflict” advice themselves contained advisors’ subjective opinions or even personal agenda.

Second, decision support as a type of advice mostly occurred in healthy conflicting expert advice, which provides decision makers with practical instructions or reasonable suggestions regarding how to process information in the form of introducing a new approach or a different perspective. In some circumstances, advisors might also come to certain recommendations (for or against an option/options) after making efforts to offer decision support. For example, Decision Maker 9’s advisor from the R&D department told the decision maker how to communicate with the supervisor in terms of the unqualified candidates the supervisor recommended (please find quotation explaining “decision support” from page 62-63). In the end, this advisor actually recommended against the action to rule out all the candidates from the supervisor’s list. On the other hand, decision support could become less healthy when the advisors’ priority or goal deviated from the decision maker’s (“incompatible frame of reference”). For instance, Decision Maker 8 was troubled with the ineligible team member and solicited advice from his supervisor, who was also a professor. The professor’s main concern was getting the work done and he did not care about the detailed conditions of reaching that goal. So the professor’s point of view was “just try to work it out. [...] Don’t put yourself in any kind of trouble (Decision Maker 8, p.10)”. Thus, this decision support was not helpful enough (not the “different information sources or perspectives” advice), but rather “incompatible frame of reference” advice.

Third, we can find social support from both healthy and unhealthy conflicting expert advice. To be more specific, social support as a type of advice differentiated the two kinds of healthy advice, and it only existed in the category of “different information sources or perspectives”. Compared to “different information sources or perspectives” advice, “technical disagreements” advice was always from advisors who took no stands before

running any analysis, so they were in no position to socially or emotionally support the decision maker at first. However, similar to decision support, sometimes social support could be less healthy. As presented to explain “incompatible frame of reference”, Decision Maker 10’s supervisor, the engineering manager, wanted to support Decision Maker 10 when there was a lack of budget problem caused by the project manager. But all the engineering manager offered was only social support and nothing more because he concerned his relationship with the project manager and tried to avoid troubles. Eventually, “he was not taking sides (Decision Maker 10, p.12).”

Last but not least, based on Figure 9, insinuation is a type of advice that cannot be healthy. When the advisors’ personal agenda was to further their own self-interest and mostly when it was related to organizational politics, it seemed inappropriate to give unhealthy advice in a straightforward way (please refer to Decision Maker 5’s advisor, the powerful senior member in the company and also the leader of the daily production department, on page 64-65 and page 69). In some other cases, when the conflict of interest was solely related to financial matters, advisors tended to speak out and recommended for or against an option (options) directly, like what Decision Maker 4’s external advisors, the machinery suppliers, recommended (they suggested him to buy more than enough machines from the suppliers to complete the production so they would make more profit from Decision Maker 4). Moreover, under the category of “problematic by nature”, similar pattern regarding the proportion of “recommendation for/against” type of advice and “insinuation” type of advice was observed. When the advice was not justified and unethical by nature, and the advisors were aware of that, they often chose to deliver the advice to the decision maker in a more ambiguous way. For instance, Decision Maker 2 was certain that his external advisor, the manager of another department, intended “to make the (decision maker’s) property look poor (Decision Maker 2, p.2)”. Based on the manager’s calculations, the property would be profitable, but on the contrary, she provided a report suggesting the

opposite (problematic-by-nature advice). Therefore, she “applied pressure on” Decision Maker 2 so “that she could get promises of budget from the senior management (Decision Maker 2, p.2)”<sup>16</sup>. However, when the advisors did not realize that their advice was based on false information, they might explicitly provide recommendations to decisions makers with no hesitations (please refer to the unrealistic and false information Decision Maker 4’s employees provided on page 69-70).

## **5.2. Emotional, Cognitive, and Behavioral and Decision Outcomes of Getting Multiple Conflicting Expert Advice**

In Section 5.1, I have presented the key elements regarding decision making background and conditions of the twelve professional decision making processes (collected from eleven interviewees) when multiple conflicting expert advice was given to the decision makers. In this section, I will analyze, demonstrate, and summarize a variety of outcomes of getting conflicting expert advice. Please see Figure 10 for an overview. Results from these analyses will answer the research question 1, 2 and 3 regarding how professional decision makers’ feelings, thinking, and behaviors are influenced by multiple conflicting expert advice.

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<sup>16</sup> This is also an example for “interest conflict”, but it is discussed from the perspective of “problematic by nature”.

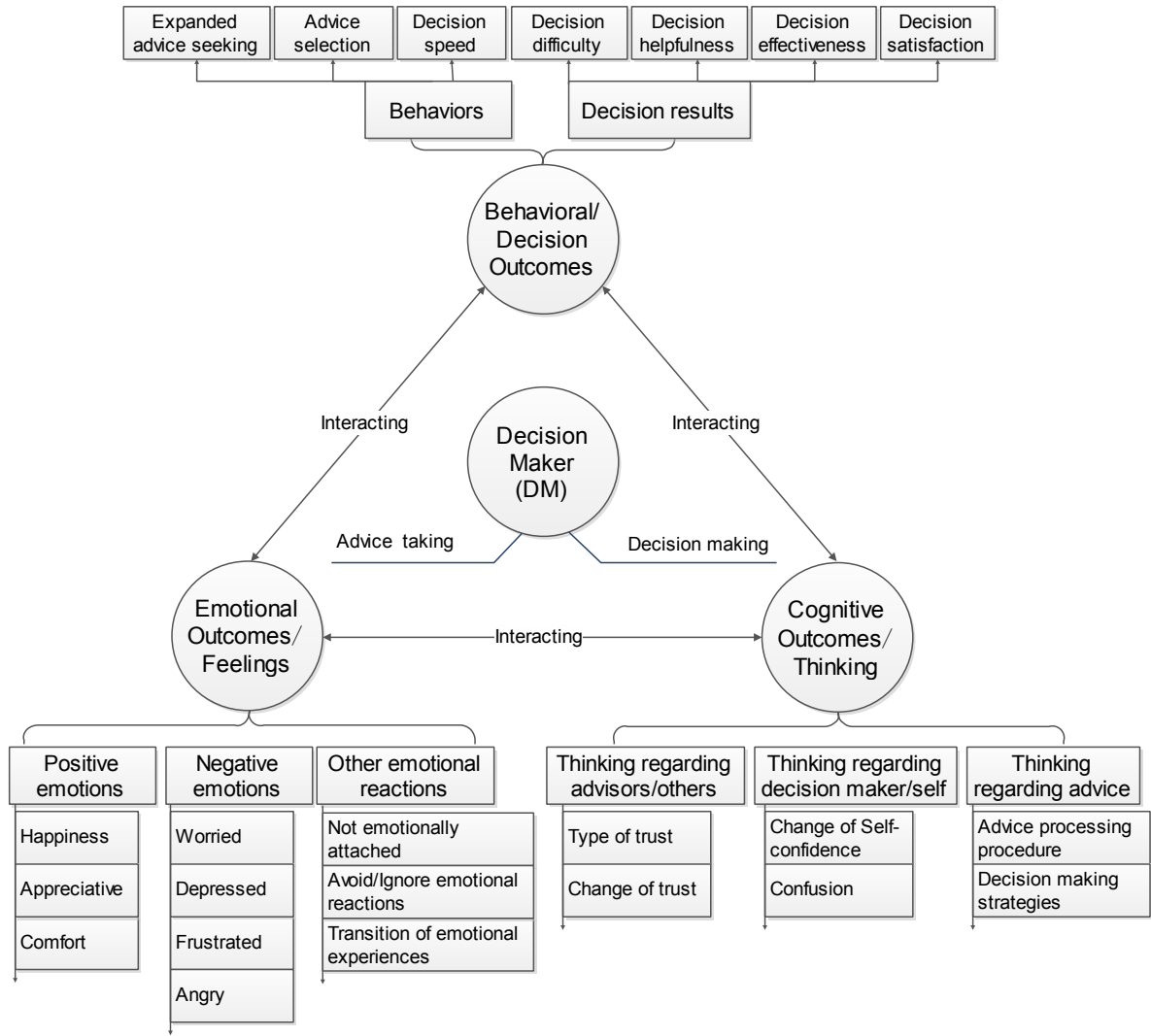


Figure 10. Summary regarding the Emotional, Cognitive, and Behavioral/Decision Outcomes of Getting Multiple Conflicting Expert Advice.

### 5.2.1. Emotional outcomes of getting multiple conflicting expert advice

One of my research goals is to discover the professional decision makers' emotional reactions toward conflicting advice from multiple experts. As revealed from eleven interviews (with information of twelve decision making cases), I identified decision makers' descriptions of having both **positive emotions** and **negative emotions** when they received multiple conflicting expert advice. The interpretation and organization of individual emotion-related codes that emerged from the interviewees' narratives are guided by the logic

in prior emotion research using a prototype approach (please refer to the literature review on emotions in Section 2.2.). In addition, **other emotion related consequences** were discussed in the interviews. Many interviewees expressed their opinions (especially negative opinions) on becoming emotionally influenced in professional decision making contexts. The analysis also shed light on the transition of professional decision makers' emotional experience during the advice taking and decision making process (see Figure 10).

**Positive emotional outcomes.** Receiving others' advice is generally considered as getting help. It was not surprising to observe professional decision makers' positive emotions toward advice from experts, even though advisor disagreements existed. By coding interviewees' quotations describing their positive feelings and identifying the positive emotion related expressions, I discovered the following positive emotional outcomes caused by getting multiple conflicting expert advice: *happiness*, *appreciative*, and *comfort*.

(1) Four interviewees indicated that they were *happy* about getting multiple conflicting expert advice when making professional decisions. For instance, when describing the second decision making stages, Decision Maker 6 said,

After getting more information on the single product [different advisors offered insights on the advantages and disadvantages of several materials for production], I was really happy because I would think that something was progressing (Decision Maker 6(2), p.27).

Decision Maker 9 also expressed same feelings: "I was happy because I was getting more and more information. My picture was getting clearer and clearer every day (Decision Maker 9, p.38)." In both quotations, it is noticeable that two interviewees were happy about the different but useful information offered by their expert advisors. In Decision Maker 10's

interview, he emphasized that he was happy because there was an advisor who was very focused on decision maker himself: “I was happy because he has more attention on me (Decision Maker 10, p.20).” Based on all the coded segments in the transcripts, it was evident that all these decision makers’ feeling of happiness was linked to the healthy conflicting expert advice they acquired. Decision Maker 9 was happy because he collected more information and became clearer about how to solve the problem, and Decision Maker 10 liked the advice because he was focused on by others. The interviewees’ such feeling can be classified into the happiness prototype.

(2) Three interviewees indicated that they enjoyed and were *appreciative of* having multiple conflicting expert advice when making professional decisions. During the interview, Decision Maker 1 highlighted her appreciation:

It is a very good opportunity for me to figure it out as part of my experience [by taking different information and opinions from multiple advisors]. I appreciate the process very much. [...] Listen to them and they have their insights, and I appreciate those things because I never think about that, I never thought of those ideas. So I really appreciate the education that can give me the comprehension about how to look at the situations, how to look at the problems, and how to make a right decision at the moment based on the information I have (Decision Maker 1, p.7-11).

Furthermore, Decision Maker 2 made a very good point with regards to the relation between advisors’ technical disagreement and his positive emotion: “If it’s because of actual technical differences, I think to a degree I can actually even enjoy it because it’s a deeper learning...So if it’s actually a technical interpretation that’s different, I think I tend to enjoy that conversation (Decision Maker 2, p15).” Again, in the second decision making stage, Decision Maker 6 “really welcome” team members’ different suggestions regarding product

materials, and he stated that, “That was really good to have. I knew three or four materials we could use, and one person [one of the team members] introduced all kinds of materials, among which I was comfortable with a particular one. And he [another team member] says, “No, this material is lightweight if it’s used. We cannot use it to have a complete product.” So that came as a good idea, right? I accepted it and I appreciated it (Decision Maker 6(2), p.26).” Similar to the feeling of happiness, all three interviewees expressed their appreciation and gratitude to healthy conflicting expert advice, mostly because they considered receiving different information and opinions as an enjoyable learning process. In general, the interviewees’ feelings that are described above can be classified into the love prototype<sup>17</sup>.

(3) Two interviewees indicated that they felt *comfortable* with getting multiple conflicting expert advice when making professional decisions. For example, when Decision Maker 2 gained technical support from experts with different specialties, he concluded that,

I was quite comfortable with every level where they were. The advisors all had very good specific technical knowledge. When the senior VPs talked, it was always about strategic visions. They played the role that they were supposed to. I never felt there was an advisor who I couldn’t trust on something that’s their specialty (Decision Maker 2, p.9).

In addition, Decision Maker 11 held a very positive attitude and feeling towards conflicting expert advice she received:

I’m comfortable with having different pieces of advice and I think it’s important and it doesn’t bother me. I think all I have to do when getting different pieces of advice is

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<sup>17</sup> When naming the emotion related codes and explaining professional decision makers’ emotional outcomes, I used the words described by interviewees themselves rather than the prototype-based emotion terms suggested by Shaver et al. (1987). The purpose is to reflect interviewees’ feelings in real-life decision making context to a greater degree. In order to reveal the logic of grouping individual emotion related codes that represent similar emotions, the corresponding prototype-based emotion terms are indicated at the end of the interpretation regarding every emotional outcome.

to tease it apart, understand the perception of the person giving you that advice and then weighing it in the grand scheme of things (Decision Maker 11, p.29).

In fact, Decision Maker 11 was not only talking about healthy conflicting advice but also referring to the unhealthy one from her subordinate. Her comfort was built upon the precondition that she had developed a fairly solid frame of reference, and she believed that “internally [I] have the information I need (Decision Maker 11, p.29)”. Professional decision makers’ feeling of comfort is hard to be classified into the category of “happiness” or “love”. Therefore, a separate category is presented here.

**Negative emotional outcomes.** Although some interviewees were certain that the situation of getting inconsistent advice from several experts lead to their positive emotions, as expected, several professional decision makers’ in the eleven interviews suffered from their negative emotions toward such situation as well. By coding interviewees’ quotations describing their negative feelings and identifying the negative emotion related expressions, I discovered the following negative emotional outcomes caused by getting multiple conflicting expert advice: *worried*, *depressed*, *frustrated*, and *angry*.

(1) Five interviewees indicated that they were *worried* (scared and nervous) when getting multiple conflicting expert advice to make professional decisions. For example, when facing with the vicious competition between the two IT teams in terms of recommending their own technology to Decision Maker 3, a series of concerns and problems worried him:

If I’m going to take a decision in favor of mainframe [one of the teams], whether it is going to work or not? If it doesn’t work, then what is going to happen? Whether it will have any impact on my career or not? And in case if I follow the Java approach [the other team], what is the impact I will be having? I am not sure because if

something goes wrong, then certainly I will be held responsible for that, and it is going to affect in my career and my appraisals. So I was concerned about that. I was certainly worried about my work, because ultimately I was responsible for getting it done (Decision Maker 3, p.14).

It was worse in terms of Decision Maker 4's advice taking experience:

I was looking for alternatives, but they [the multiple pieces of conflicting advice from the external advisors, such as the machinery suppliers, the decision maker's garment buyers, and the sub-contractors, etc.] were not applicable to me. [...] I was not getting good ideas from these people who were giving me advice... They were acting for their interest, but I was looking for a solution, and I wasn't getting it. So I got definitely nervous about what I should do (Decision Maker 4, p33-34).

According to the above quotations, it was obvious that getting unhealthy conflicting advice was the reason of interviewees' worry and nervousness. Moreover, Decision Maker 9, who received mostly healthy advice and a few unhealthy advice, also experienced worry, nervousness, and felt scared:

On the very first day when he [an advisor] gave me an opinion, I felt like it was very simple, but at the same point in time when I talked to another guy, he gave me a bad thing about it [the first advice]. [...] After getting onto a couple of solutions, I felt like no, this is not that easy. It needs to be taken care of immediately and it is my first priority, and I'm feeling actually nervous about it. Like what will happen to my job? I was feeling scared about it. I don't want to take on any wrong decisions. I was worried a lot. [...] I was scared that this might affect my job and I was nervous about what could happen next. I don't know because these guys are going to advise me

something and [...] I don't know the outcome of it. So that's the reason I had those kinds of feelings. But if I were confident, then definitely I wouldn't have those feelings (Decision Maker 9, p.31-33).

In this case, the disagreement between advisors and the increased complexity lead to Decision Maker 9's negative feelings. It is also noticeable that part of the reason these interviewees felt worried and nervous was the possibility of failing to make a proper decision and therefore jeopardize their professional career. This suggests that the feature of decision tasks influences professional decision makers' emotions as well. In general, feeling worried, scared or nervous is classified into the fear prototype.

(2) Four interviewees indicated that they were *depressed* (demoralized, unhappy, and feeling down or bad) when getting multiple conflicting expert advice to make professional decisions. As indicated by Decision Maker 4:

I was getting little demoralized in the sense that whenever I was approaching someone for a solution, and I was expecting to get a solution right away and to get a workable solution. But those are not happening...I did get demoralized (Decision Maker 4, p.32).

Furthermore, Decision Maker 11 needed to seek professional assistance for her feeling of depression caused by the conflicting advice taking and decision making process:

For a while it was not fun to come to work and so just one step at a time [...] Definitely in the early days, it was almost to the point of like a depression about work. Because in the early days when I saw that I didn't have the buy-in or I didn't agree with my subordinate, it was tough [...] I think because we disagreed in the beginning,

she [the subordinate who resisted the office reorganize plan] and I both dug in our heels. Then we're not even agreeing on small things just to preserve a little. So it was a difficult time. It was not pleasant (Decision Maker 11, p.19-27).

In Decision Maker 11's case, in order to enhance the office efficiency, it was necessary for her to reduce the discrepancy among her internal advisors (the subordinates and staff in the office), and to reach a consensus between herself and these internal advisors. However, the subordinate who disagreed with some other staff and Decision Maker 11 herself made it much harder for Decision Maker 11 to play her role in the office, which lead to her depression. As presented above, these interviewees certainly painted the dark side of receiving multiple conflicting expert advice. Generally speaking, feeling depressed, demoralized, unhappy, and feeling down or bad are in the broader category of sadness.

(3) Five interviewees indicated that they were *frustrated* (irritated, annoyed, and disturbed, etc.) when getting multiple conflicting expert advice to make professional decisions. Based on Decision Maker 2, "in cases where you know you have to reconcile the differences to move on, it can be frustrating (Decision Maker 2, p.15)." Moreover, getting "interest conflict" or "incompatible frame of reference" unhealthy advice generates more frustration:

It's much more frustrating when you know it's because of politics. [...] If it's more politics it's frustrating because you know you just have to work through it. [...] [I got] much more [frustrated] when it's dealing with people that are disagreeing for their agendas. Sometimes it gets frustrating when people are extremely conservative, and they refuse to move off from that (Decision Maker 2, p.15-16).

Similarly, Decision Maker 8 experienced a very strong frustration, but for a slightly

different reason: he received problematic-by-nature unhealthy advice. As he repeated,

I was at some point very irritated. I was disturbed and frustrated...I don't know why some people are supporting him! I was irritated, and I was like what's wrong with you? He's not working...because of the simple fact that something is wrong, and people are trying to keep being wrong and trying to give that wrong a chance. [...]  
These pieces of conflicting advice were the ones that delayed the process and made me more irritated or frustrated. [...] It was more difficult in a sense that something is wrong. Some people are saying that let's keep him, and some other is saying I don't know. One is saying work it out. [...] Why should I do that? So it was that kind of emotionally stresses I got. I felt terrible, frustrated. What's going on? Why should I do anything that is not justified in my eyes (Decision Maker 8, p.14-19)?

Apparently, all three kinds of unhealthy conflicting expert advice – “problematic-by-nature” “incompatible frame of reference” and “interest conflict” – could become the cause of professional decision makers' frustration. Since professional decision makers' frustration cannot be clearly classified into any of the three negative emotion prototypes (although it is closer to anger, it is not exactly the same), a separate category is presented here.

(4) Although there was only one interviewee indicating that he was very *angry* when getting multiple conflicting expert advice to make professional decisions, the feeling of anger was presented here because the interviewee's feeling was extremely intense. When asking Decision Maker 5 about what emotions he was experiencing, he was very frank:

Actually I reacted very strongly to Mr. A's [the leader of daily production department, the senior in the company] opinion. I get to the point that I didn't care about the logic

behind what he's saying. When Mr. A was saying something, I just didn't talk about him. Whenever it gets to his points, all of us were really angry, because we thought that what he's doing is unfair. [...] We're a bunch of young engineers and our intention is helping the company but we are not in a good situation. So yes, I would say that's angry (Decision Maker 5, p.23).

In this advice giving and taking process, not only Decision Maker 5 was angry with the insinuation delivered by the powerful and influential external advisor, other advisors, who were from the interviewees' department and who have contributed their knowledge and efforts to evaluating this new project became angry to this advisor's unpleasant insinuation. In short, the abovementioned professional decision maker and advisors' feeling is classified into the angry prototype.

For a comprehensive understanding regarding all interviewees' emotional outcomes of receiving multiple conflicting expert advice, and to investigate the intensity of emotions that were reported, I counted the number of all emotion-related codes (which are indicated in the brackets) and the result is presented in Figure 11. As explained before, there were three positive emotional outcomes (happiness, appreciative, comfort) and four negative emotional outcomes (worried, depressed, frustrated, angry) identified from the eleven interviews. Amongst 46 emotion-related codes, 14 codes were linked to decision makers' positive emotions (accounts for 30%), and 32 codes are linked to their negative emotions (accounts for 70%). In particular, getting frustrated (accounts for 33%), worried (accounts for 20%) and depressed (accounts for 15%), and feeling happiness (accounts for 15%) were mentioned more frequently. Although the 46 emotion-related codes do not represent a large sample size, the amount of time the interviewees spent describing positive and negative emotions suggested that the negative emotions were particularly strongly felt when getting conflicting advice from multiple experts.

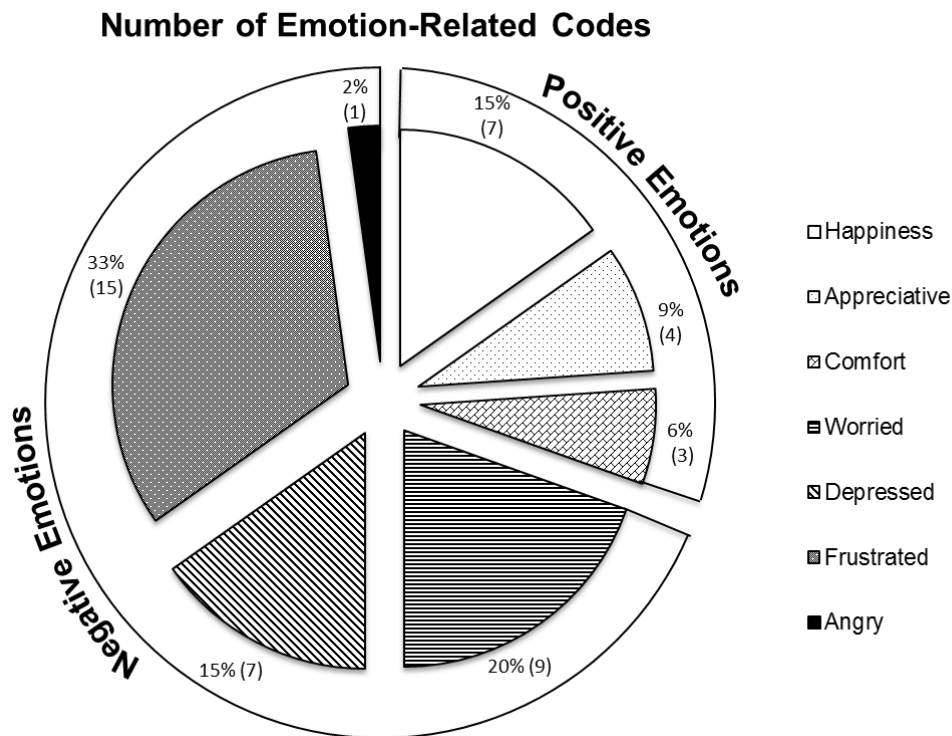


Figure 11. Number of Codes regarding Eleven Professional Decision Makers' Positive and Negative Emotions and the Corresponding Proportions.

**Other emotional outcomes.** In addition to the identification of the above positive and negative emotions, I also noticed professional decision makers' additional three emotional outcomes of taking multiple conflicting expert advice from the eleven interviews: *decision makers who are not emotionally attached, decision makers who intentionally avoid or ignore their emotional reactions, and transition of decision makers' emotional experiences.*

(1) Two interviewees claimed that they were *not emotionally attached to the advice taking and decision making situation.* Decision Maker 7 was the interviewee who experienced neither positive nor negative emotions when multiple experts offered him conflicting advice. According to him,

Emotionally, there was no feeling at all because I don't always work with them [the

advisors who were also the temporary team members]. And we don't hate each other or we don't like each other either. We contribute to the same project this time and we all want profit. That's all. [...] I gave him [the advisor whose opinion is less applicable] the points that, "these were the things with which you were making mistakes." I think this works well. So I guess if the advisor finds a fault in that, he can tell us, and I would probably go with something else (Decision Maker 7, p.25-26).

From Decision Maker 7's quotation, he was not emotionally attached because his advisors came from a temporarily formed work team, and they share a same goal when performing this particular decision task. The lack of interpersonal relationship history decreased the decision maker's and even the advisors' emotional investment to the decision task, and sharing a goal with the advisors promoted an effective and constructive communication between the decision maker and the advisors.

(2) An interesting phenomenon was that two interviewees revealed their *avoidance of being emotionally influenced* by getting multiple conflicting expert advice, and they also deliberately *ignored the generated emotions* when making professional decisions. For instance, Decision Maker 1 indicated that,

I didn't pay too much attention to the feelings and emotions I had to those information, because I personally understand those information, they cannot be really consistent because it is people. [...] I think maybe it is better not to make a decision too quickly, [...] especially when it is a kind of emotional decision. It is really not that good, because when you have time, you can back up the decision with evidence. I mean you can take a look at the situation more deeply and more considerably, instead of making a very quick decision based on the information you have when you

feel kind of emotional...(Decision Maker 1, p.8-11)

In this cases, Decision Maker 1 who received mostly neutral information from her expert advisors believed that, making a decision when feeling emotional in any way would rush the advice processing speed and lead to a less considered decision. Therefore, she chose to not pay attention to, or even avoid, any emotions. Furthermore, not only he expressed his resistance to being emotional, Decision Maker 3 also provided his approach to clear out his emotions possibly caused by multiple conflicting expert advice:

I was trying to restrict being emotional and do those things, because ultimately it was a task and we needed to get it done. So no need to get emotional. [...] So I was not at all emotional or sentimental about the approaches, but certainly these teams were. [...] In case if I was getting too emotional, usually I went for a break, having a cup of coffee or tea or thinking about something else, so that I could deviate my mind from that particular topic. And this helped me a lot (Decision Maker 3, p.11-14).

(3) Three interviewees' descriptions contained the information with regards to the *transition of their emotional experiences*. For instance, Decision Maker 9 explained the change of his emotions with details:

When I got the first solution, I felt very high. I got these things. I was very happy. When I asked the other guy who said that this could turn negatively to your job, so then I felt very scared. I was like in the bottom half. I was feeling very scary. But as when I got more information, I felt like now I'm going to get my whole solution off it, so it was gradually going up again. And when I got my decision, I was very confident again (Decision Maker 9, p.42).

It seems that Decision Maker 9 experienced a series of emotional “ups”, “downs”, and then “ups”. In another example that was offered by Decision Maker 11, the transition of her emotional experience (from getting very depressed to feeling better) was assisted by a personal coach. Her frustration caused by the disagreeing subordinates was presented before (in the paragraph discussing the negative emotion “frustration”). To improve the situation,

I started seeing a personal coach to discuss these issues, and I started meditating and doing different things to try to get like an inner peace to help with everything and to realize that, I don't have to climb a mountain in one day. No one does that. It's one step at a time. So I broke down this thing that seemed like a huge big deal into smaller manageable steps. And then I started to feel better and feel like I was having better interactions, interpersonally with this person...So I would say that it really started like down low, not good and then it just slowly with time went a lot [better] (Decision Maker 11, p.27-28).

In short, professional decision makers could experience more than a changeless emotional outcome when facing with multiple conflicting expert advice.

### **5.2.2. Cognitive outcomes of getting multiple conflicting expert advice**

For the purpose of answering the research question about the cognitive outcomes of receiving conflicting advice from multiple experts when making professional decisions, I interpreted eleven interviewees' descriptions from the following aspects: **decision makers' thinking regarding the advisors** (trust), **decision makers' thinking regarding themselves** (including self-confidence and confusion), and **decision makers' thinking regarding the multiple conflicting expert advice** (including advice processing procedure and decision making strategy). Please refer to Figure 10 for a brief summary. I will elaborate on these

cognitive consequences in the following paragraphs.

**Decision makers' thinking regarding the advisors.** As discussed in the literature review, decision makers' trust in their advisors is one of the central topics that traditional advice literature has studied intensively. Although the original goal for the current qualitative research to look into this factor was to confirm the previous findings regarding trust and advice taking (or advice discounting), the data analysis was able to contribute more details and insights on the *type of professional decision makers' trust* and how *their trust changed* after receiving multiple conflicting expert advice.

(1) According to Colquitt, Lepine and Wesson (2009), there are three *types of trust*: disposition-based trust (personality traits include a general propensity to trust others), cognition-based trust (rooted in a rational assessment of the authority's trustworthiness), and affect-based trust (depends on feelings toward the authority that go beyond any rational assessment of trustworthiness). The eleven interviewees' trust in their advisors was found to be either the cognition-based trust or the affect-based trust.

To be more specific, all interviewees had cognition-based trust in their advisors, which was developed by decision makers' attentive evaluation of the trustworthiness of the advisors themselves and their advice. For instance, Decision Maker 2 admitted that he did not have complete trust in his advisors, because he "had to understand what their agenda was" and "they (the advisors) were not used to looking at acquisitions the way we [Decision Maker 2's team] do (Decision Maker 2, p.10)". On the other hand, Decision Maker 5 fully trusted this financial advisor, "because of her reputation of being trustworthy or being someone dedicated to the company (Decision Maker 5, p.18)". Decision Maker 10 did a lot of thinking and his trust in multiple advisors (his former supervisors) was also justified:

I trusted them [Decision Maker 10's former supervisors] because they were not involved directly with this project and they had professional experiences as well. They had gone through such situations before. And they are the ones who have a personal relationship with me. They won't guide me in the wrong track (Decision Maker 10, p.14).

Furthermore, four interviewees had affect-based trust in their advisors, which was beyond any rational assessment of advisors' trustworthiness and solely based on decision makers' feelings toward them. For example, when Decision Maker 4 realized his own employees in the production department provided him with false information and delayed accomplishment of the contract, he still trusted them:

Because they are my people, they are the people whom I'm interacting with all the time and I know them, they know me. Even in a culture when you are dealing with many people and you cannot know everybody [inside out] because it's a professional relationship, you are still interacting with them all the time. So there is a certain level of trust embedded (Decision Maker 4, p.30).

Decision Maker 9 also expressed his affect-based trust in his friend advisors:

I trust them [Decision Maker 9's friends] to the core. I know that whenever I'm going to ask them for any favor or anything, they're going to do their best to get the thing done for me...So even whatever advice they gave me had some bad points, the other person would rectify it and try to give a solution to it (Decision Maker 9, p.29).

(2) In addition to defining the *type of trust* professional decision makers held in their advisors, the interview-based data also conveyed information on *whether or not and how*

*their trust changed* after getting conflicting advice from different advisors.

First, two interviewees trusted their advisors to a great extent before getting others' advice, and they trusted them more afterwards. For instance, Decision Maker 11 claimed that she "trusted all of them [the advisors]" before seeking multiple experts' advice. According to her,

Now I probably trust my subordinate [who disagreed with many other advisors on the office reorganization approach] a little bit more actually because I found a way to work with her and to get her on board. So that amplified the trust that I think is there between us because you can't help it but, if you feel like someone doesn't trust your opinion now we're not talking about flavors of ice cream, we're talking about something where there's a decision being made. When we have an opinion, we would like our opinion to be shared... So the fact that I found a way to work with my subordinate I think strengthened that trust. For me, it did anyway (Decision Maker 11, p.22-25).

It seems that the interviewee's post-advice trust enhanced because the advisor who disagreed with other advisors and the decision maker's initial idea was convinced. The conflicting advice itself was not the main reason of the strengthened trust.

Second, seven interviewees trusted their advisors to a great extent before getting others' advice, and their trust did not change and stayed high afterwards. For instance, Decision Maker 5 said,

I really trusted my technical guy because I had an understanding about taking on issues myself, so he couldn't really fool me in a way. Ms. S [the financial advisor], I

guess now I'm thinking about it, I trusted her because of her reputation of being trustworthy or being someone dedicated to the company. I never second-guessed her calculation...and the trust in them didn't change after all (Decision Maker 5, p.18).

In addition, Decision Maker 8 who asked others' advice on the unqualified team member trusted all of his advisors before seeking their advice. According to him, his trust "didn't change at all." The reason was:

I know everyone very closely. I know they are not going to harm me. If you look at each one of them, this guy, he's looking after his friend. My supervisor, he doesn't want to get into trouble. My supervisor, he is like okay, don't get into any trouble. So yeah, it didn't change my opinion towards them (Decision Maker 8, p.13).

In both cases, decision makers' cognition-based trust was hard to change when conflicting expert advice or even unhealthy advice (for Decision Maker 8) was offered.

Third, one interviewee did not trust his advisors before getting others' advice, and he trusted them more afterwards. Decision Maker 6 admitted that, "I did not have any trust in the professor because he was not going to help me or guide me. He was just going to say whether this was right or wrong." However, when his decision making process went into the second stage and the main focus of this decision task transformed into finding the proper materials to make the product, Decision Maker 6's trust in his professor improved: "After two or three conversations and when we were totally into the project, he was asking questions like how to do this or how it would work. He was asking all those questions that were helpful [I trusted him more] (Decision Maker 6, p.18-21)." In fact, the Decision Maker 6' second decision making stage was built on the fact that the professor who disagreed with both the decision maker's initial idea and the team members' advice (write the proposal of

the alert system design based on the team members' own idea rather than the professor's) and offered unhealthy advice was convinced at the end of the first decision making stage. When the professor accepted the decision made by the interviewee in the first stage, his advice became constructive in the second decision making stage, which led to Decision Maker 6's higher trust.

Finally, five interviewees did not trust their advisors before getting others' advice, and their trust did not change and stayed low afterwards. For instance, as mentioned before, Decision Maker 2's detected advisors' personal agenda and incompatible frame of reference before seeking their advice. Therefore, he did not trust them completely. Although he did not explicitly say that his trust stayed the same, his following quotation suggested that his trust was still low if not lower:

It's much more frustrating when you know it's because of politics...[...] If she was a perfectly objective technical advisor I think it's different. But when she had her own goals, and other advisors that were involved in evaluating the project were for the project, and she was one person against several...so it's 'many experts against one expert who had an agenda'... It's like the agency problem. She's doing it for her wellbeing versus what a lot of us view it as the wellbeing of the company (Decision Maker 2, p.10-17).

In Decision Maker 3's example, since the two teams of advisors were competing for getting the new project performed by using their own technology, Decision Maker 3 did not trust them very much, and based on him, "that's the reason why I asked other team members also to give me suggestions so that I can compile and compare (Decision Maker 3, p.9)." When I asked the interviewee if his trust changed after receiving their conflicting advice, he answered, "Not really because of my past experience, to be honest. My trust level didn't

change. I was not having 100 percent trust on like either of them. But I was able to take a decision based on the input given by them (Decision Maker 3, p.9-10).” In both cases, the decision makers’ low pre-advice trust was based on their rational assessment of the trustworthiness of their advisors, and the post-advice trust stayed low because, to some extent, the unhealthy conflicting advice the advisors offered proved their previous concerns.

**Decision makers’ thinking regarding themselves.** Decision makers’ thinking regarding themselves, especially their self-confidence, is another critical factor the traditional advice literature studied frequently. Therefore, I designed a question to explore the state of *professional decision makers’ self-confidence* in the context of receiving multiple conflicting expert advice. In addition, experiencing *confusion* was another professional decision makers’ state of mind that was revealed from interviewees’ transcripts. Please find relevant interpretations in the following text.

(1) In terms of the professional decision maker’s self-confidence, I focused on interviewees’ pre-advice *self-confidence*, and *whether and how their post-advice self-confidence changed*.

First, two interviewees’ pre-advice self-confidence was high, and their post-advice self-confidence was higher. For instance, Decision Maker 6 was quite confident about his idea and stated, “My confidence became more when I heard their ideas. I expected something much better than mine [initial decision]. If they have come up with much more innovative out-of-the-box ideas, I would drop mine and I would have listened to them (Decision Maker 6, p.22).” Since he was expecting better ideas from his advisors and his initial idea turned out to be the best among all the others’ suggestions, he had a higher post-advice confidence. During the Decision Maker 11’s interview, she believed that,

I was already confident because I had seen enough of what was going on to feel like even though I might not have known, specific to a level of detail, I knew that currently how we were organized, and it wasn't working. I had staff reporting to me that were saying they were working like 20 hours overtime a week. I know something's broken because for the number of students we have, there is more than enough staff to do our job [...] So without knowing a lot of detail, I was already confident that what we had wasn't working, so I thought the likelihood that I'm going to make it worse is small. I figured that anything new was going to be an improvement (Decision Maker 11, p.25).

As some of the staff in the office had more work experience in the academic unit than Decision Maker 11 did, she said,

Their advice] increased my confidence, and I became more confident about this decision [...] Yeah, it was the support, that was very...reassuring... I'm being supported and there's an agreement [between the decision maker and the subordinate and between some other advisors] and that always of course makes you feel good. It's a positive feeling (Decision Maker 11, p.27-28).

In short, I assume that gaining support from some of the experts among all the advisors is the main reason of professional decision makers' higher post-advice self-confidence.

Second, two interviewees' pre-advice self-confidence was high, and their post-advice self-confidence stayed the same. For example, Decision Maker 8 was very confident about his idea of removing the unqualified team member's authorship. However, several advisors suggested him not to do that and offered him different alternatives. When I asked if such situation influenced his high self-confidence, he answered, "No, because I always believe in

something that if you work hard, you'll get the reward; if you don't, you won't. So yeah, I was clear (Decision Maker 8, p.13-14)." In this case, the professional decision maker was confident the entire time, because in his mind, his initial decision was justified (the more you work the more you earn) and all the conflicting advice he received from others was completely unreasonable and unacceptable.

Third, seven interviewees' pre-advice self-confidence was low, and their post-advice self-confidence was higher. For example, Decision Maker 2 was not too confident about conducting the acquisitions before seeking other experts' advice, and he indicated that, "I would never make a recommendation to management based on what I currently knew (Decision Maker 2, p.12)." His post-advice confidence was enhanced,

Because most of the time I can work through them [different advisors offered conflicting advice]. It's not like I sit there with everyone telling me different things. Usually I have enough time that I get conflicting advice that I learn something from that experience, whether it's technical, and we have a technical discussion and figure out what's going on or I learn something about a person's motive (Decision Maker 2, p.12-13).

Decision Maker 5 also explained the reason that he was not confident:

Sometimes it [the promotion of a new product] works, sometimes it doesn't. So you never know before you're actually prototyping it. You can't trust the numbers on the paper. And the market is very unstable and very dangerous. So, no, till the day you really sealed that agreement to just sell the whole certification to the company, I was really worried. I was not certain at all (Decision Maker 5, p.21).

Luckily, according to the interviewee, “after I got advice, the more people supporting an idea, the more confident I was (Decision Maker 5, p.21).”

(2) Although the existence of multiple conflicting expert advice enhanced most interviewees’ self-confidence, it was noticeable that many decision makers were *confused* in such situations. Six interviewees described their confusion regarding the inconsistent advice from different experts. In the first decision making stage, where Decision Maker 6’s team members suggested that they should only submit a proposal of the alert design, rather than spend more efforts on the realization of the product, and the team supervisor tried to convince the team to drop their own design and write about the supervisor’s idea, Decision Maker 6 was really confused. According to the interviewee,

When they are different, I felt confused. I even thought that why I couldn’t take their opinion and do it? I didn’t feel happy about it. No. I was not happy, no. Maybe I felt a little confused. At the starting point when I had my initial ideas, and they gave me their initial ideas, at that time it was really confusing about which one to choose, which one would be the best. I was confused because everyone gave his or her own idea, and I don’t think how I would feel happy about that. There was more confusion (Decision Maker 6(1), p.21).

In another scenario, Decision Maker 8 experienced a strong confusion as well, and his confusion drove him to seek more advice from different advisors and then caused him more confusion:

I was so confused. This confusion kind of resulted in letting me ask more people. I called my friend, and I just asked him what I was supposed to do. He gave some advice. Then it created some more confusion for me. Then I called up another friend.

So this was the situation. So it was like I was confused, and this confusion led to the fact that I asked more people. [...] They gave me more pieces of different advice, but like that time, like the number of people who were saying that if he was not working properly, you were justified in not giving his authorship or firing him or letting him go. So I was getting that input more, and I selected the majority (Decision Maker 8, p.12).

It was comforting that one solution that was supported by more advisors finally emerged from multiple pieces of conflicting expert advice and assisted the interviewee to make the final decision.

**Decision makers' thinking regarding the advice.** During the advice taking and decision making process, decision makers' cognitive advice processing is essential. Based on eleven interviewees' description, my interpretation on their thinking regarding the multiple conflicting expert advice will focus on *professional decision makers' advice processing procedure*, and their *decision making strategy*.

(1) To understand *professional decision makers' advice processing procedure*, I identified two advice processing phases most interviewees experienced: the phase of communication and clarification, and the phase of advice quality check.

First, in the communication and clarification phase, decision makers listened to different advisors and reflected on their advice. One form of the communication and clarification phase was one-on-one advice discussion, in which the interviewees took advice with individual advisor one at a time. All interviewees mentioned conducting one-on-one advice discussion with their advisors. For instance, Decision Maker 3 pointed out, "Initially I had a one-on-one with both of them [two IT technology teams] (Decision Maker 3, p.17)."

Decision Maker 11 also indicated similar communication with multiple advisors: “I tried to get to them individually and talk to them because they’re not always in a group setting the most apt, which is again normal. There’s that nervousness, you won’t be the only one (Decision Maker 11, p.11).” The other form of the communication and clarification phase was group-based advice discussion, in which the interviewees presented all pieces of conflicting advice to all different advisors, and the group discussed how to make the decision together. Three interviewees mentioned conducting group-based advice discussion with their advisors. For instance, as presented before, Decision Maker 3 first had one-on-one discussion with different advisors, “but when we were not coming into conclusion, then I took both of them to a conference room, and then we had a discussion on this (Decision Maker 3, p.17).” Decision Maker 5 also had similar experience with his technical advisors:

All of us were all technical guys, we were all young and we were all fighting for the survival of this department. So we would openly talk to each other about what’s going on. A, B and C could present themselves in the meeting just to explain everything. But usually I process all the information around with the group (Decision Maker 5, p.15).

Second, after the communication and clarification phase, decision makers entered into the advice quality check phase, and their goal was to analyze, calculate and measure the reliability, accuracy, applicability, and efficiency of the information, options or solutions different advisors offered. One approach to perform an advice quality check was to compare the advice to decision makers’ initial judgment or independent information search. For example, Decision Maker 2 claimed,

I guess I have a frame of reference, because what I do is I do my own analysis. If they say something and I say that oh, that lines up with my previous experience, it’s easier

for me to accept...there is a good reference in that way (Decision Maker 2, p.14).

Another approach to perform an advice quality check was to compare the advice to other's advice. For example, Decision Maker 3 explained why and how he compared the advice from one team to the advice from another team to refine the solutions from both teams:

Right now they'll commit something and later on they'll come up with an excuse and tell me this is not possible [two groups of advisors were recommending that their own technology could complete the task alone]. We have this obstacle [using only one technology might have its shortcomings], so we need help from another team to get it done. So I asked them to give me their input in writing so I could compare them. If it [either of the approach] is making sense to me, I'll follow that approach (Decision Maker 3, p.9).

(2) To understand how professional decision makers attain their final decision based on all pieces of conflicting expert advice, I identified three *decision making strategies*: the majority rule, prioritize, and list pros and cons.

Two interviewees followed the first strategy, the majority rule. The decision makers picked the majority from all the pieces of advice and accept the advice. For instance, Decision Maker 1 indicated that, "I tried to consult more people from different companies and from outsiders. They also gave me some of their information. And I just pick the majority (Decision Maker 1, p.8)." Decision Maker 8 also applied the majority rule when he was confused by multiple conflicting expert advice:

I was confused, and this confusion led to the fact that I asked more people. [...] They

gave me more pieces of different advice, but like that time, the number of people who were saying that if he was not working properly, you were justified in not giving his authorship or firing him or letting him go. So I was getting that input more, and I selected the majority. Eventually it was going in the direction of the majority because no one did directly say to me that I should keep him (Decision Maker 8, p.12).

Two interviewees followed the second strategy, prioritize. The decision makers analyzed the priorities of all advisors and order their advice based on the decision makers' and advisors' priorities. For example, Decision Maker 10 described how he analyzed and balanced every party's priority:

Priorities of each individual person are different. Finally, we have to balance between all the priorities and also take care of ourselves as a person. Whatever decision you make should not affect the organization. It should not affect the stakeholders of the project as well. So when we are in a decision making process, think about all the stakeholders who are involved in this and think about which priority is more important and what needs to be exercised first, second and sequence the priorities, which one is the optimum one (Decision Maker 10, p.13)?

In addition, Decision Maker 11 performed the prioritize strategy to assess different advisors' opinions:

It's the relative weight of the importance of the person giving the advice. It's also the perception. So if someone was to make things work better so we can better serve students, people who can give me advice from a student's point of view or knowing what serves best students, that's going to have more weight than someone else's (Decision Maker 11, p.34).

Three interviewees followed the third strategy, list pros and cons. The decision makers combined advice from different advisors and listed all the pros and cons of every solution. For example, Decision Maker 3 mentioned that, after two IT teams of advisors strongly recommended their own technologies, “I listed on all the pros and cons received from different individuals, and then I did some analysis that whether whatever they is recommending was making sense or not because sometimes you get rubbish information as well (Decision Maker 3, p.8).” Decision Maker 6 also conducted this strategy after receiving advice from his team members and his supervisor. He said, “I listed all the pros and cons of the project, and tried to see the future of the project (Decision Maker 6, p.4).”

### **5.2.3. Behavioral outcomes and decision results of getting multiple conflicting expert advice**

To answer the research question about the behavioral outcomes and decision results of receiving conflicting advice from multiple experts when making professional decisions, I analyzed eleven interviewees’ transcripts from the following two aspects: **behavioral outcomes** (such as decision makers’ expanded advice seeking, advice selection, and decision making speed) and **decision results** (such as decision making difficulty and helpfulness, decision accuracy or effectiveness, and decision making satisfaction regarding the process and the result). Please refer to Figure 10 for a brief summary and find details in the following text.

**Behavioral outcomes.** When summarizing which professional decision makers’ behaviors were influenced by getting multiple conflicting expert advice and how these behaviors were influenced, *decision makers’ expanded advice seeking behavior, advice selection, and decision making speed* were mainly discussed by eleven interviewees.

(1) *Expanded advice seeking behavior* refers to the fact that decision makers solicited more advice after getting conflicting advice from different advisors. Since some interviewees admitted that getting a few pieces of conflicting advice from different experts brought them confusion (please refer to the section that discusses “decision makers’ thinking regarding themselves” on page 112-113), it drove me to look into the reason and purpose for them to seek more expert advice. Based on the data from eight interviews in which the decision makers did have expanded advice seeking behaviors, I discovered the following three purposes for professional decision makers to seek more advice after getting conflicting advice from different advisors: 1) to collect more information or/and expert opinions, 2) to verify and compare conflicting advice from different experts, and 3) to justify decision makers’ initial or final decision is optimal so the advisor who disagreed could be convinced.

The first purpose was to collect more information and opinions from experts to reduce confusion, and seven interviewees had such purpose. For example, Decision Maker 1 explained,

I needed to combine knowledge or information I got from a wider pool, not only limited [the advisors] to the people work in my company. [...] As long as I got conflicting information, I tried to figure out any other channels to get a different insights or different personal angles (Decision Maker 1, p.5-6).

The other example can be found from Decision Maker 8’s statement about “getting more advice, becoming more confused, and then asking more advice to reduce confusions” (please refer to the original quotation on page 112-113). Fortunately, Decision Maker 8 successfully eliminated his confusion by using the decision making strategy “majority rule” after more pieces of expert advice were collected (please refer to the original quotation on

page 115-116).

The second purpose was to use the new advice to verify the accuracy of the existing conflicting advice from different experts and to compare them, and four interviewees had such purpose. For instance, when Decision Maker 2 received a piece of advice from the manager from another department, which was different from his internal advisors' recommendations, according to him,

I had contradictory recommendations. We had a very good feeling why she was recommending against it...because she wanted to get more money in her budget and bring in the property at a lower value so that it makes her job easier. So understanding that, we went and looked at technical data ourselves and we brought in a third-party expert, and we talked to her manager (Decision Maker 2, p.8).

Similarly, Decision Maker 3 was offered with contradictory advice from two IT teams regarding their own technology, and he was not sure which advice to follow. Therefore, "I had to go to my program manager, project manager to seek his advice because he's from IT. He understands both the systems very well (Decision Maker 3, p.6-13)."

The third purpose was to prove that the decision maker's initial or final decision is better than other suggestions, which helps the decision maker to convince the advisor who disagreed with the decision maker's initial or final decision. Three interviewees had such purpose. For instance, Decision Maker 11 believed that based on the information she already obtained, she had made up her mind to conduct the new way to run the office, however, there was still disagreement from some of her subordinates. According to Decision Maker 11,

I'm thinking how do I convince everyone else that this is a good idea too? Because I

could just say I'm the boss and I said and let's go. But that's not the best, I don't think. It's better to have buy-in. [...] We worked it out and that's really part of the reason I brought the external in because that sometimes it's easier for them to hear from someone who wasn't me saying that, "Oh, this could work for you." Then it sounds true, doesn't it? [It is] sort of like with kids. They don't want to hear it from their mother. It's better if it's their friend (Decision Maker 11, p.4-33).

It is obvious that the external expert in project management played the role to assist Decision Maker 11 to successfully convince her subordinates who resisted the new approach.

(2) *Advice selection* refers to how the decision makers selected advice to make the decision among the multiple pieces of conflicting expert advice. Based on the data collected from eleven interviews, I discovered the following three ways for professional decision makers to select advice in such situation: complete advice taking, advice combination, and complete advice discounting.

First, complete advice taking means that the decision maker took one piece of advice completely. Five interviewees selected their advice in this way. For instance, Decision Maker 5 took the financial advisor's advice in the end. He said,

I took the advice that is suggesting that we should commercialize this project, but not producing it ourselves. [...] Technically speaking, producing it was next to impossible. I wouldn't say it was not an option but in that atmosphere, we were not the right people to producing it (Decision Maker 5, p.27).

Decision Maker 11 also took complete advice in the end:

I followed the one that saying “get go [conduct the new approach]”...and it was almost pushed by my other colleagues [from other units] who said “Hey, yeah this is the way we’re organized in other units, so that’s the way to go.” There were a few reasons. One was efficiency. I just think it’d make the office work better; but second – and this was the best part to my mind – it was to give more responsibility to the staff so that they could fully take the level of responsibility that they should have, possibly even increasing their job level here at the organization because we work on a kind of pay grade system. So this is going to enhance the pay grades of some of them, so that’s great (Decision Maker 11, p.30).

It should be noted that all the advice that was completely accepted by decision makers was classified under the category of healthy conflicting expert advice. This result suggests that professional decision makers’ advice taking behaviors are impacted by the nature of advice.

Second, advice combination means that the decision maker mixed the information and solutions from several pieces of advice. Five interviewees’ advice taking followed this behavioral pattern. For example, Decision Maker 3 concluded, “What we did was that we could combine both approaches, and come up with something in which we were using inputs from both teams, and we handled some part of it in Java, and the most remaining part in mainframe (Decision Maker 3, p.7).” Furthermore, Decision Maker 9 provided valuable insights regarding the profound reason of mixing different pieces of advice:

At the end I made a cumulative decision. It was not a piece of advice given by a single advisor. It was a mix. So I took two lists to my manager, and I told him at the end that I selected two guys from his list because my manager had already offered them the position initially...as a promise and a reward of good performances on some

tasks. [...] The reason I mixed the advice is that, nowadays, going with those traditional ways of thinking, like taking only one piece of advice, right or wrong, that's not the way. You have to be diplomatic. I had to pick "rights" "rights" "rights" with a little bit of "wrongs", and then tried to figure out what the "wrongs" were and get those "wrongs" converted into "rights". So I had to think in numerous ways (Decision Maker 9, p.34).

In the category of advice combination, some decision makers integrated several experts' perspectives and technical suggestions, while others took advantage of the healthy advice and made up the negative impact of the unhealthy advice. This result indicates that when both healthy and unhealthy conflicting expert advice is given, professional decision makers are able to gather wisdoms from the multiple pieces of healthy conflicting advice, or to reduce the negative influence of unhealthy conflicting advice (or even to improve such advice to a healthier one) by learning from the healthy advice.

Third, complete advice discounting means that the decision maker did not take anyone's advice. Three<sup>18</sup> interviewees decided to completely discount all pieces of advice they received. For example, in the first decision making stage, Decision Maker 6 said, "I did not follow anyone's advice [the decision maker's initial decision was to submit a proposal with the team member's own idea and produce the device. The team members suggested to only submit a proposal without producing anything. And the supervisor of the project suggested the team submit a proposal using the supervisor's own idea] (Decision Maker 6(1), p.25)." In another interview, when I asked Decision Maker 8 which advice he followed in the end, he said,

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<sup>18</sup> For those who noticed that the total number of interviewees is over 11 (it seems like there were 13 interviewees), the reason of such result is that, 1) Decision Maker 6 performed a complete advice discounting in the first decision making stage, and he applied an advice combination in the second decision making stage; 2) Decision Maker 10 completely accepted the decision support offered by one of his advisors, which suggested the method of combining certain pieces of others' advice. Thus, Decision Maker 10's advice selection included two different ways: complete advice taking and advice combination.

It was my decision, and I followed my (initial) decision...I didn't listen to anybody's unclear advice because that was not a situation that I could work it out. [...] Because it's not something right. It's something wrong. You can't just act to stay good (neutral) in the society or just to keep some friendship (Decision Maker 8, p.15-16).

According to the transcripts, these decision makers all received conflicting advice from multiple advisors that was mostly unhealthy, which forced them to drop the idea of depending on other experts, and instead, to fully rely on their own judgments.

(3) *Decision making speed* refers to the influence of getting multiple conflicting expert advice on decision making speed. Amongst eleven interviewees, five decision makers' final decision was made in a week or less than a week, four decision makers' final decision was made in about a month or half a month<sup>19</sup>, one decision maker's final decision took four months to make, and another decision maker's final decision cost a year to make. Furthermore, ten of the interviewees believed that multiple conflicting expert advice delayed their decision making process, and only one interviewee claimed that multiple conflicting expert advice accelerated his decision making process.

As indicated above, most professional decision makers considered their decision making process was delayed and their decision making speed was slowed down by the existence of multiple conflicting expert advice. For example, decision maker #1 pointed out:

If I didn't seek any advice from other people, I could have made the decision quickly. But I would not know if I have made the right decision. So it definitely costs more time if you ask people from different channels, but it is helpful (Decision Maker 1,

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<sup>19</sup> In Decision Maker 6's interview, he did not specify how long the first and second decision making stages last. In total, Decision Maker 6 spent nearly three weeks on the task, including deciding submit a proposal of the design with the team members' idea and produce the device as well, and choosing the proper materials for the realization of the design.

p.10).

Decision Maker 2's quotation supported decision maker #1's statement:

It's faster without conflicting advice, but I think I will walk away from it less sure about what I'm doing. Because when you have conflicting advice it really makes you re-examine your assumptions. Of course if you have an impedance to a process it's going to slow it down. But I don't consider it a bad thing to have some impedance (Decision Maker 2, p.18).

On the other hand, Decision Maker 7 was the only interviewee considered that getting multiple conflicting expert advice increased his decision making speed. He said,

Actually this time it was very fast, but sometimes it could be lengthier. It depends on the team members. My team members wanted to finish this project and go to the next thing. They are totally focused. [...] And they're all very committed to this project. [...] And they have the same goal-to make this work and to make money (Decision Maker 7, p.31-32).

It is worth mentioning that all pieces of conflicting expert advice Decision Maker 7 received from different experts were healthy, he was not emotionally attached to the decision task itself or his advisors, he highly trusted his advisors and he was very confident about himself from the beginning till the end, and he did not get confused in such situation. These facts could be beneficial for him to make a satisfying decision in a shorter period (three days).

**Decision results.** As the final outcome of taking multiple conflicting expert advice, the

decision results I am considering in this research include the influence of multiple conflicting expert advice on the *decision making difficulty* and *the helpfulness of multiple conflicting expert advice*, the *final decision accuracy or effectiveness*, and *decision makers' satisfaction regarding the decision making process and decision results*.

(1) Concerning the influence of multiple conflicting expert advice on the *decision making difficulty*, nine interviewees admitted that it became more difficult for them to make decisions under such situation. For example, Decision Maker 4 said, "In this case, it rather made my decision process more complicated (Decision Maker 4, p.38)." In addition, in the first decision making stage, Decision Maker 6 consider it was more difficult:

The initial stages, it was a little bit difficult. We had to decide on a single project idea, and then we had to work on it. I got three ideas, and from the three ideas I had to narrow it down to only one idea. That's a bit difficult. It takes a lot of time (Decision Maker 6(1), p.27).

As indicated in the quotation, it is easy for decision makers to link decision making speed to decision making difficulty. Moreover, Decision Maker 5 specifically pointed out that it was the unhealthy advice he received that increased the decision making difficulty: "the one piece of advice from the boss make it more difficult for us, because as I told you, it was not technical, it was around the bushes, and it was the reason that hindered us to do our job (Decision Maker 5, p.30)."

(2) Regarding the *helpfulness of multiple conflicting expert advice*, I expected this to be a factor that would be the opposite of decision making difficulty. However, although nine interviewees described an increased decision making difficulty, all of the eleven interviewees claimed that having multiple conflicting expert advice was helpful to their decision making.

In the first example, Decision Maker 7 was one of the interviewees who did not think getting multiple conflicting expert advice created any difficulty for them to make a proper decision. He said,

Actually it wasn't more difficult. They definitely made us feel that we are sure what we are doing. It's an actual advantage. [...] They helped me to rule out mistakes I might make. And I could go much deeper than what it is (Decision Maker 7, p.32).

However, more interviewees' answer touched on not only the difficulty but also the helpfulness. For instance, Decision Maker 9 explained,

I got many different possible solutions to it. And selecting the solutions that would be appropriate was a very difficult task because everything had advantages and disadvantages. [...] Conflicting advice from different people was also very helpful, because when the advisor 1 gave me a plus and minus, and the advisor 2 he gave me his plus according to the advisor 1's minus. Internally, they were trying to solve their own negative points. I did not have my mind. It was like everyone's mind is working on my problem to find out what is the best match (Decision Maker 9, p.37).

Therefore, multiple conflicting expert advice could be helpful when different pieces of advice are able to remedy each other's limitations, even though the collection, processing, and integration of these pieces of advice might be difficult.

(3) In terms of the *decision accuracy or effectiveness*, all interviewees considered their final decisions were quite accurate or very effective. For the decision task required a location selection, Decision Maker 1 finally decided to perform the trial project in City N. She claimed,

We had everything set up and my boss was invited to see the current situation. She was very satisfied with what we did. On the last day, we had our customer to come to our site and the customer was very satisfied with what we had arranged for them as well (Decision Maker 1, p.2).

In addition, Decision Maker 3 provided evidence that showed the effective generalization of his final decision on other projects:

My decision was effective. And the client liked the approach that we followed. And later on we delivered two projects on a similar nature. Both of them followed the same approach. And then we utilized some piece of work that had already done for the first project. It resulted in saving some money for the client as well. So the client became happier about it (Decision Maker 3, p.19).

Even in the case where Decision Maker 5 encountered huge obstruction from the upper-level management in the company at first, his final decision was proven to be incredibly successful and gained the support from the entire company. According to Decision Maker 5:

This project got the vote and passed. All the people on the panel observed our passion for the project. They felt like ‘if we don’t give these guys this project, they will go crazy’. And they dedicated actually nine percent—it’s supposed to be eight percent—nine percent of the development budget to our project and they developed it in only three months, which was very good and we worked 24 hours, seven days per week for that. The outcome was very good as well in terms of financial reputation and the recommendation I get after that. So I’m really happy about the risk that I took

(Decision Maker 5, p.28).

As indicated by the above quotations, there were objective external validations (from Decision Maker 1's boss and the customer, from Decision Maker 3's client, and from the panel of Decision Maker 5's company) of all these professional decision makers' decision effectiveness. This suggested that the desirable decision accuracy and effectiveness was not based on interviewees' biased opinion.

(4) With regards to the decision makers' *satisfaction of the advice taking and decision making process*, more interviewees expressed their disappointment regarding the process of dealing with multiple conflicting expert advice. Seven interviewees were not satisfied with the decision making process at all. As Decision Maker 3 said, "To be honest, [I was] not really [satisfied], because getting too many pieces advices is also not good. It was hampering or playing with my mind (Decision Maker 3, p.15)." Decision Maker 9 also pointed out:

I was not at all satisfied about it, because it really took a lot of time. It took a week. Initially I did not know anything about it, so I had to go slowly with every advisor. This is not the ideal way to make and decide on something this major. So I was not satisfied on the way I had done that. At least for pressure I got from them (Decision Maker 9, p.34-35).

To be noted, all interviewees who were not satisfied with the decision making process received one or more pieces of unhealthy conflicting expert advice, which suggested the negative influence caused by unhealthy advice on professional decision makers' satisfaction of the advice taking and decision making process.

Another two interviewees had medium satisfaction with their decision making process.

For instance, when Decision Maker 5 reflected on the entire advice taking process, he admitted that, “it could have been done better. We could have played it better...We could have played in a way with less pressure or less stress (Decision Maker 5, p.29).” Decision Maker 2 also expressed similar opinion:

I wouldn't say satisfied because I don't enjoy the politics of it. But I also understand working in that organization that was a reality. Decisions were made partially based on the technical, a bit on the people. [...] and another part is just because some outside influences. [...] So there were lots of influences and I had to take all of those into account on how they would affect one advisor to advise one thing against someone else. Everyone has different weightings for those (Decision Maker 2, p.17-18).

These decision makers understood that the reality was not perfect and the path to reach the final goal could be tough. They accepted the fact, but they were not entirely happy about it.

Only three interviewees explicitly said that they were quite satisfied with their decision making process<sup>20</sup>. Decision Maker 1 and Decision Maker 7 who only acquired healthy conflicting expert advice simply said that they were satisfied with the advice taking and decision making process they experienced. Decision Maker 6 elaborate on his satisfaction on the decision making process in the second stage, in which he received healthy conflicting advice from his team members regarding the proper materials: “after deciding on that [submit a proposal with the team members' idea and realize the product] and getting more information on the single product, then I was really happy. I could really feel that something is progressing (Decision Maker 6(2), p.27-28).” It is worth mentioning that these three

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<sup>20</sup> Decision Maker 6 was satisfied with the process of second advice taking and decision making stage, but he was not satisfied with the first stage.

interviewees gained only healthy conflicting expert advice, which revealed that the more pieces of healthy expert advice the professional decision makers received, the more chance they were satisfied at their advice taking and decision making process.

(5) When being asked about the decision makers' *satisfaction of the advice taking and decision making result*, all interviewees were highly satisfied. For instance, although Decision Maker 3 faced with the unpleasant conflicts between two teams of advisors, he emphasized his satisfaction with the final results:

Yes, certainly I was satisfied because the final result was good. Even the client was happy about it. And both of the teams were also okay, although they were not 100 percent happy because I didn't completely follow the advice of either of them. But yeah, ultimately the end result was good, the client was happy, and that makes me very satisfied (Decision Maker 3, p.16).

In Decision Maker 7's interview, it was much simpler:

Yes, [I was satisfied with the decision result]. The best thing is that we aimed for 52 days at first to make the money back when we started our profit scale. But what happened was we got all the money back in 16 days (Decision Maker 7, p.28)!

The data indicated that that for all the efforts, the conflicts, and the struggles the professional decision makers had went through, eventually they were all paid back. As the old saying goes, "no pain, no gain."

### **5.3. Relationships and Interactions between Multiple Conflicting Expert Advice and the Emotional, Cognitive, and Behavioral/Decision Outcomes**

In Section 5.1 and 5.2, I developed a framework of the decision making background and condition based on eleven professional decision makers' interview data, and I conducted analyses to explain the emotional, cognitive, and behavioral outcomes and decision results of receiving multiple conflicting expert advice. Indeed, the abovementioned decision making conditions and different outcomes are not isolated from each other, and I have touched on certain connections between these elements in the previous interpretations and presented relevant quotations. In Section 5.3, the purpose is to summarize the relationships between the multiple conflicting expert advice the professional decision makers gained and the followed emotional, cognitive, behavioral/decision outcomes, and the interactions between each outcomes, and I have visualized such relationships and interactions in Figure 12.

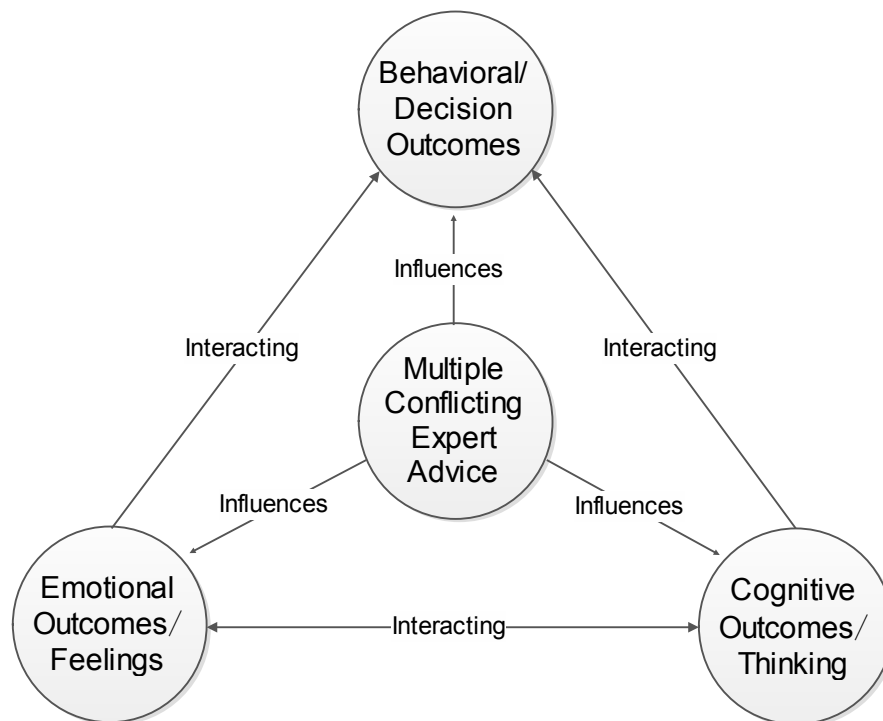


Figure 12. Relationships and Interactions between Multiple Conflict Expert Advice and the Followed Emotional, Cognitive and Behavioral/Decision Outcomes.

**Multiple conflicting expert advice influences professional decision makers'**

**emotional, cognitive and behavioral/decision outcomes.** As presented in Figure 12, this entire qualitative research is based on the influence of receiving multiple conflicting expert advice when people are making professional decisions. According to the previous analysis regarding the nature of advice, I have discovered healthy (including “technical disagreements” advice and “different information sources or perspectives” advice) and unhealthy multiple conflicting expert advice (including “problematic by nature” advice, “incompatible frame of reference” advice, and “interest conflict” advice). I will summarize the influence of advice on professional decision makers’ emotional, cognitive and behavioral/decision outcomes separately.

(1) Concerning the emotional outcomes generated by multiple conflicting expert advice, both professional decision makers’ positive and negative emotions are closely related to the nature of conflicting expert advice they gained.

In particular, receiving healthy conflicting expert advice usually leads to professional decision makers’ feeling of happiness, and their appreciation and gratitude to their advisors. And decision makers feel comfortable with the situation in which several experts disagree with each other from pure technical angles or from the perspectives of different fields or industries. On the contrary, being offered with unhealthy conflicting expert advice constantly leads to professional decision makers’ negative feelings, such as worry, depression, and frustration. In an extreme example, Decision Maker 5 and his team were provided an unpleasant insinuation from a senior member in the company who disliked not only the certain project but also the Decision Maker 5’s entire department. Such unhealthy advice aroused both the decision maker and all the other advisors’ anger.

In sum, interviewees who had mostly healthy conflicting expert advice, including Decision Maker 1, and Decision Maker 6 in his second decision making stage only

experienced positive emotions, while interviewees who had mostly unhealthy conflicting expert advice, including Decision Maker 4, Decision Maker 6 in his first decision making stage, and Decision Maker 8 only experienced negative emotions. Interestingly, although the multiple pieces of conflicting expert advice Decision Maker 7 gained were mostly healthy, as mentioned before, he was not emotionally attached. The lack of interpersonal relationship history between Decision Maker 7 and his advisors decreased their emotional investment to this specific decision task.

(2) Regarding the relationship between multiple conflicting expert advice and professional decision makers' cognitive outcomes, more attention is paid to the change of interviewees' thinking regarding the advisors (trust) and their thinking regarding themselves (self-confidence).

First, professional decision makers' pre-advice cognition-based trust seems not easy to change after receiving conflicting expert advice, because they had their logic and reasons to back it up in the first place. When the advisors the decision makers trusted less at first indeed provided unhealthy advice in the end, it confirmed decision makers' doubts toward these advisors. When the advisors the decision makers trusted very much before seeking their advice actually offered healthy advice afterwards, the decision makers certainly maintained a high level of trust in these advisors. On the other hand, in some cases even when the advisors the decision makers highly trusted in the beginning gave decision maker unhealthy advice, since the decision makers had considered, analyzed and understood the advisors' intention and specific situations ahead, their trust stayed high and did not change. In the contexts where the decision makers' post-advice trust increased (no matter whether the pre-advice trust was high or low), mostly it was because certain advisors changed their mind afterwards and cooperate with the decision makers in a more effective way.

Moreover, no matter how confident the interviewees was before gaining conflicting expert advice from different experts, they became more confident or stayed highly confident afterwards. Some of the professional decision makers paid more attention to the support offered by certain advisors (even there might be some other experts suggesting the opposite), some confirmed that there was no better solutions from others than their own initial decisions, and there were some others who were not feeling confident at first became more confident with themselves mainly because of the sufficient information they obtained from multiple conflicting advice.

Last but not least, by comparing certain advice to professional decision makers' initial judgment or independent information search, or to advice from other experts, decision makers' advice quality check is a powerful and effective filter to identify and confirm unhealthy advice among all pieces of conflicting expert advice, and therefore assists the decision makers to minimize the possible damage.

(3) In terms of the influence of multiple conflicting expert advice on professional decision makers' behavioral outcomes and decision results, decision makers' advice selection, decision making difficulty and helpfulness, decision accuracy or effectiveness, and satisfaction regarding the decision making process and the results are profoundly influenced by the nature of advice they received.

First, all professional decision makers who take a piece of advice completely follow the healthy conflicting expert advice eventually. When decision makers are provided nothing but several pieces of unhealthy conflicting expert advice, they have no alternatives but to mainly depend on their own knowledge and judgment. In some circumstances when both healthy and unhealthy conflicting advice was offered, some decision makers take multiple experts' unique perspectives and specific technical knowledge into consideration to make a their final

decision (completely take the healthy expert advice), while others took advantage of the healthy advice to fix the shortcomings of the unhealthy advice, in other words, they applied an advice combination.

Second, to most professional decision makers (especially to those who are not experts on the specific decision tasks, and who are novice decision makers), facing with and integrating conflicting advice offered by multiple experts is a very challenging situation. However, although it was more difficult for most interviewees to make their decisions in such situation, they all believed that seeking advice from different experts – even they disagreed with each other and might have offered healthy or unhealthy advice – was helpful to their decision making. When different pieces of advice are able to remedy not only the decision makers' but also other advisors' limitations, and to deliver substantial knowledge and valuable insights, the final decisions based on such advice are usually accurate and effective.

Third, according to the eleven interviews, the process of making professional decisions based on multiple conflicting expert advice is not quite satisfying. More decision makers are disappointed at the complicated or even frustrating decision making process caused by the existence of unhealthy conflicting expert advice. Even some decision makers understand that it is inevitable for different experts to offer inconsistent advice that could be constructive or destructive, their satisfaction about such reality still stays at a median level. Only those who acquired all healthy conflicting expert advice reached a high satisfaction regarding their advice taking and decision making process. Contrary to the satisfaction about the process, all interviewees were highly satisfied with the results of their final decision. Such satisfaction is more related to the aforementioned decision accuracy and effectiveness, and relatively independent from the previous and detailed advice giving and taking process. Fortunately, no matter how severe the challenge of analyzing and digesting conflicting expert advice from

multiple advisors was, the professional decision makers I interviewed generally achieved accurate or effective final decisions.

**Interactions between decision makers' emotional, cognitive and behavioral/decision outcomes.** As indicated in the Figure 8, when receiving multiple conflicting expert advice, the professional decision makers' emotional reactions are interacting with the cognitive outcomes. And in the meanwhile, both of these two advice taking outcomes are interacting with decision makers' behaviors and the final decision results.

(1) First, professional decision makers' emotions may impact their behavioral outcomes and the decision results through the influence of the emotional outcomes on the cognitive outcomes. The data analysis suggested that the generation of any emotional reactions toward the conflicting expert advice or the advisors might lead to insufficient decisions. According to Decision Maker 1, becoming "emotional" during the advice taking would let decision makers fail to "look at the situation more deeply" and rush to make a "quick decisions" (Decision Maker 1, p.11), and a decision made based on insufficient information processing is not reliable. Therefore, Decision Maker 1 intentionally avoided being emotionally influenced and ignored her feelings when multiple experts offered her different advice, in order to ensure an adequate and profound cognitive processing regarding the information she gained, which could assist her to make a favorable decision in the end. Meanwhile, this example also indicates that becoming emotional would accelerate the professional decision making speed and negatively influence the decision accuracy or effectiveness.

Furthermore, professional decision makers' negative emotions are closely related to the increased decision making difficulty and their undesirable satisfaction regarding the advice taking and decision making process. For instance, Decision Maker 5 who was unwillingly

provided with unhealthy expert advice by an influential advisor in the company experienced intensive negative emotions (such as frustration and anger). Therefore, the entire situation became more difficult than it was, and he was not quite satisfied with his advice taking and decision making process. As he indicated,

[Before making the final decision and during the advice taking process] I had a huge amount of stress. I lost weight. [...] It could have been done better. We could have played it better...We could have played in a way with less pressure or less stress (Decision Maker 5, p.28-29).

On the other hand, professional decision makers' positive emotions are directly linked to and impacted by some desirable decision results, such as an effective final decision and the decision makers' satisfaction regarding the final decision. For example, although Decision Maker 5 suffered from the pressure and the feeling of anger that were caused by the unhealthy advice, he became happy after achieving a very effective and satisfactory final decision. As he described,

This project got the vote and passed. All the people on the panel observed our passion for the project. [...] And they dedicated actually nine percent [...] and they developed it in only three months, which was very good and we worked 24 hours, seven days per week for that. The outcome was very good as well in terms of financial reputation and the recommendation I get after that. So I'm really happy about the risk that I took. I'm really happy (Decision Maker 5, p.28).

(2) From another perspective, professional decision makers' cognitive outcomes, especially their thinking regarding themselves, also produce impacts on their emotional reactions. First, according to the above data analysis, the enhancement of one's

self-confidence always promotes positive emotions. For instance, Decision Maker 11 claimed that her self-confidence boosted when she was “supported and there’s an agreement [between the decision maker and the subordinate and between some other advisors]”, which “of course makes you [refers to Decision Maker 11 herself] feel good. It’s a positive feeling (Decision Maker 11, p.25-28)”. Second, when professional decision makers are experiencing confusion, most likely they are suffering from negative emotions as well. As presented before (please see the quotation explaining “confusion” on page 112-113), in the first decision making stage, Decision Maker 6 was very confused “about which one [advice] to choose, [and] which one would be the best.” He emphasized, “I didn’t feel happy about it (Decision Maker 6(1), p.21).”

Furthermore, professional decision makers’ cognitive outcomes certainly influence their behavioral outcomes and decision results. As explained before, insufficient advice processing might rush the decision making speed, and therefore negatively impact the effectiveness and accuracy of the final decision. In addition, decision makers’ thinking regarding multiple conflicting expert advice – the advice processing procedure (to communicate with different advisors and obtain clarifications, and to perform advice quality check) and the decision making strategies they applied (such as the “majority rule” “prioritize” and “list pros and cons”) – drives some decision makers to expand their advice seeking behavior (to conduct previous advisors’ advice quality check), and is essential to their advice selection. Such cognitive outcomes assist professional decision maker to understand the overall situation and to grasp the critical information regarding certain tasks. Then they are able to distinguish the unhealthy advice from the healthy ones, to take all feasible solutions into consideration, and to apply the optimal advice selection to make the final decision.

Last but not least, some decision results, such as the decision making difficulty, also can

be connected to professional decision makers' thinking. For instance, Decision Maker 4 believe that, "it [receiving multiple conflicting expert advice] rather made my decision process more complicated (Decision Maker 4, p.38)." Similarly, Decision Maker 6 indicated that, in his first decision making stage, "We had to decide on a single project idea, and then we had to work on it. I got three ideas, and from the three ideas I had to narrow it down to only one idea. That's a bit difficult (Decision Maker 6(1), p.27)." It is reasonable to assume that decision makers' more complex cognitive process is one aspect of the increased decision making difficulty. Having to perform additional information processing makes it harder to reach a final decision. In addition, experiencing more decision difficulties requires decision makers' better thinking skills and wiser decision making strategies, which makes the cognitive process more challenging.

## **6. DISCUSSION**

By conducting eleven interviews, this qualitative research has discovered a wealth of informative results, which shed light on how professional decision makers feel, think, and act when they receive multiple conflicting expert advice. Collecting and analyzing multiple experts' conflicting advice and selecting from different opinions evidently increase the professional decision making complexity. The diversity of advisors' background, expertise and intentions along with their interpersonal relationship with the decision makers considerably impact the advice they provide. Integrated with the characteristics of the decision task and advisors, the features of conflicting expert advice create a variety of consequences in terms of professional decision makers' emotional, cognitive, and behavioral reactions toward the advice taking situation and the final decision results.

### **6.1. A Model of Multiple Conflicting Expert Advice Taking and Professional Decision Making**

One of the contributions this current qualitative research made to advice and decision literature is the construction of a model describing the environment of receiving multiple conflicting expert advice when making professional decisions. By the summarization of the characteristics of decision tasks, decision makers, and multiple conflicting expert advice, this research outlines the background of a dynamic advice taking and decision making process in professional contexts. As Yaniv and Milyavsky (2007) argued, "real life decisions are often not self contained—the range of possible options for choice and their descriptions are often not fully specified" (p.104). In particular, the current study confirmed that, when the business or personnel related decision task the decision makers are facing is risky or uncertain and may significantly influence their career, the task becomes challenging and important to them. If the time and resources the professional decision makers are offered to make the final

decision is limited, they are most likely to solicit extra help. With regards to decision makers' advice seeking reasons, Yaniv and Milyavsky (2007) mentioned three of them. First, they suggested the function of others' information/opinion on framing and refining decision makers' preferences, which is similar to the interviewees' motive "to collect more information or to gain better ideas than decision makers' initial decision" in the current research. Second, Yaniv and Milyavsky (2007) suggested the role of others' advice on decision makers' self-affirmation, which is similar to the interviewees' motive "to verify decision makers' initial decision is optimal" in the current research. Third, Yaniv and Milyavsky (2007) pointed out that some decision makers ask other's opinion to share responsibilities. Over and above these three reasons, this qualitative study revealed other motives for seeking advice. First, soliciting expert advice could be a standard procedure demanded in some organizations, which is an aspect that differentiates multiple advice taking and decision making in professional contexts and in our daily life. Second, asking a third person's opinion could be a strategy for professional decision makers to verify the accuracy and applicability of existing advice. Similarly, in some cases, decision makers expand their advice seeking behavior when existing advisors disagree and offer conflicting advice. Taking such actions allows decision makers to perform an advice quality check, and is beneficial to the proper use of multiple decision making strategies (i.e., majority rule, prioritize, and list pros and cons, etc.). Last but not least, some professional decision makers ask more experts for advice to convince the advisor whose suggestion is different from the decision makers' initial or final decision. According to one of the most robust advice research conclusions, discounting opinions that are different from those held by the decision makers themselves is a consequence of egocentric bias (Krueger, 2003). Moreover, many organizational decisions need buy-in from the group of employees (Vroom & Jago, 1988). Hence, it is necessary and important to convince everyone of the best course of action. Soliciting evidence and support from other experts suits the purpose. Sometimes, it is simply caused by the cognitive dissonance generated by the disagreement between the decision makers and the advisor

(Festinger, 1962). When professional decision makers are experiencing cognitive dissonance, especially when the advisor who disagrees with them is holding expert power (French & Raven, 1959), they are likely to become psychologically distressed. To reduce the discomfort produced by dissonance, decision makers may acquire new information or recommendations to increase the existing consonance.

To acquire the finest solution, as discussed above, decision makers are inclined to seek advice from more than one expert. Some of the experts possess knowledge and skills about this specific task, some others are generally considered as experts because of their well-known reputation, many years of work experience, or higher hierarchical status in the organization. However, the advanced analysis on the characteristics of advisors suggested that the quality and feasibility of advice is not solely determined by the advisors' expertise. Bonaccio and Dalal (2010) demonstrate that when there is missing information about advisor characteristics, advisors' expertise and intentions are perceived as most important to decision makers' evaluation and acceptance of others' advice. The finding of the current research corresponds with the above conclusion, and confirms the central role of advisors' expertise and intentions in determining the nature of their advice.

Moreover, this qualitative study also managed to subdivide advisors' expertise and to look into different bases of their advice. In Bonaccio and Dalal's (2010) policy-capturing experiments, the participants were informed if the advisor was an expert or not, and if so, what the level of their expertise was (high/low). In addition to the advisors' "high" or "low" expertise, the current research analyzes different pieces of expert advice that is based on experts' current problem analysis, past experience, personal taste/personality, or false information. Based on codes revealed from the eleven interviews, how relevant experts' knowledge and skills were to the specific decision task and the basis of their advice played a critical role in influencing decision makers' perception of the advice. For instance, to choose

a proper data analysis software, the decision maker receives advice from a young SPSS data analysis specialist based on his current user experience, and advice from a general computer engineer with ten-year work experience based on the unrealistic information of out-dated software. Both advisors are computer experts, and the latter is more senior than the former. However, not only does the former have more task-relevant knowledge and training than the latter does, but the basis of the former advice is much more reliable than the other. Therefore, the data analysis specialist's advice should be more dependable and viable than the computer engineer's advice. Furthermore, concerning advisors' intention, Bonaccio and Dalal's (2010) also informed participants if the advisor was known to look out for the welfare of others or not (positive/negative) in the policy-capturing experiments. More specific than the advisors' "positive" or "negative" intention, the current study discovers three types of advisors' intention: decision maker-focused, task-focused, and advisor (self)-focused advice giving motives. Clarifying advisors' intentions separately is more accurate and practical than the general classification in previous literature. Under the same condition, experts with a decision maker-focused advice giving motive are expected to be more helpful. In real life, professional decision makers are recommended to take the relevance of advisors' expertise, the advice basis, and the advisors' intention together into consideration when multiple experts advise differently.

Additionally, the discovery and interpretation of advice nature – the healthy and unhealthy advice – highlighted the model of multiple conflicting expert advice taking and professional decision making. Concerning the healthy advice, the conflicting expert advice that is purely technical disagreements between advisors, or is originated from advisors' different information sources or perspectives, is considered beneficial to professional decisions. Such result confirms the accuracy benefits brought by multiple uncorrelated sources (Soll, 1999; Johnson, Budescu, & Wallsten, 2001). Correspondingly, Yaniv and Milyavsky (2007) agree that having several highly dependent advisors reduces the marginal

gains of adding any one of them to the total. On the contrary, concerning the unhealthy advice, the conflicting expert advice that is problematic by nature, or is dominated by the advisor's incompatible frame of reference (compared to the decision maker's frame of reference) or the interest conflict (between the advisor and the decision maker/task), is considered harmful to professional decision making. The JAS literature has explicitly studied the difference between decision makers and advisors, and some argue that people suggest differently when giving advice to others and when choosing for themselves (Kray, 2000). The reason is that, as someone's advisors, people focus on the most important attribute and favor the options with the highest value on that attribute, but they tend to balance different attributes when the decision is theirs to make (Kray & Gonzalez, 1999). Nevertheless, when advisors' questionable intention and negative professional relationship with the decision maker are detected, the unhealthy advice caused by advisors' incompatible frame of reference or interest conflict cannot be explained by the abovementioned research. For instance, when Decision Maker 4's buyer suggested Decision Maker 4 to complete the production and delivery on time, and to ship the products by air, the buyer was dominated by his task-focused and self-focused motive. In addition, the buyer was lack of the intention to assist Decision Maker 4 with the actual problem solving (such as how to enhance the productivity, and which delivery plan would consume less time and money). In this case, even though a cooperative professional relationship exists, the expert's advice was mostly unhealthy, and he would not suggest the same if he was the decision maker. Furthermore, if the expert is primarily motivated by his/her personal agenda, and the professional relationship between him/her and the decision maker determines that his/her self-interest will be negatively influenced by the success of the decision task, his/her advice is mostly damaging to the decision maker. An interviewee (Decision Maker 2) explicitly related such advice to the famous agency problem (Eisenhardt, 1989). In short, this qualitative study fills the gap regarding the social reason of advice giving and taking (Bonaccio & Dalal, 2006), which reminds professional decision makers to be extremely cautious with advice from

competitors and to be analytical with advice from co-operators and friends. It is necessary to point out that this research did not focus on weighing and comparing the importance of conflicting advice offered by supervisor-advisor, peer-advisor, and subordinate-advisor, or offered by friend-advisor or non-friend-advisor. The influences of hierarchical status and workplace friendship on multiple advice-taking and decision-making need further investigations.

While, this study did not focus specifically on the five types of advice discussed by Dalal and Bonaccio (2010). However, the in-depth analysis of different types of advice based on the qualitative data supplements previous understanding on recommendations concerning which option to choose or not to choose, information about options, suggestions concerning how to make the decision, and interpersonal assistance. According to Dalal and Bonaccio's (2010) investigation based on a policy-capturing approach, neutral information, especially when it is novel to decision makers, is considered most preferred. The current study partially agrees the above statement, but it also demonstrates that neutral information about options could be destructive if it is false information itself or is based on experts' past experience that is not applicable to the latest situation. Furthermore, corresponding to Dalal and Bonaccio's (2010) assumption, decision support is generally useful to decision accuracy as it provides strategies to structure and solve the problem. However, an exception occurs with the recipient of unhealthy, "incompatible frame of reference" advice. Decision support from advisors whose priority or goal is incompatible with the decision maker's could be misleading and less desirable. Similarly, social support, also known as interpersonal assistance from advisors, is supposed to provide decision-related self-efficacy and a sense of belonging to decision makers (Horowitz et al., 2001). However, for the advisor who is capable of providing actual and direct help (such as recommendations for a certain solution or decision support to overcome the difficulties), contributing nothing but empathy to the decision maker for the purpose of staying out of trouble, is perceived as useless in terms of

both the decision maker's regulation of emotions and the decision effectiveness/accuracy.

Finally, as an innovative finding of this qualitative study, I emphasize the existence and the influence of another type of advice, insinuation, on the decision making process in workplaces. Insinuation type of advice is defined as the vague, subtle, and unpleasant hints or messages to pressure the decision maker and to make things to act in a certain way. It might be perceived as a less direct or a contrived form of recommendation. When making professional decisions, insinuations are usually provided by individuals whose personal agenda is to further their own self-interest, which could be negatively impacted by the outcome of the decision task and commonly involves organizational politics. In the literature, organizational politics is generally defined as the organizational behavior that is strategically designed to maximize short-term or long-term self-interest (Ferris, Russ & Fandt, 1989), and it is commonly considered as dysfunctional. In such context, advisors could intensify the pressure applied on decision makers through nonverbal cues like odd intonations, hostile facial expressions, and defensive gestures, or through sarcasm or rumors among the social networking within the organization. Although the insinuation from advisors is sometimes under the disguise of a helping behavior and appears to be a passive way to influence certain decisions, it undoubtedly generates aggressive harm to professional decision makers and the decision outcomes. Insinuation is a kind of noticeable but inevitable unhealthy advice in business or personnel related decision making contexts. Future research is encouraged to further the examination of the characteristics and the influence of insinuation in workplaces, and to investigate the feasible solutions to overcome difficulties derived from advisors' insinuation.

## **6.2. Emotional, Cognitive and Behavioral Consequences of Conflicting Expert Advice on Decision Makers**

Since there is a lack of research in terms of advice taking and the following emotional consequences, one of the most interesting and noteworthy findings of this qualitative study is the identification of mixed emotional outcomes. Both positive (happiness, appreciative, and comfort) and negative emotional reactions (worried, depressed, frustrated, and angry) were reported by interviewees, which suggests that soliciting more expert advice with contradictory content is not always favorable and beneficial (e.g., Jungermann & Fischer, 2005). An essential factor that determines the direction of emotional outcomes is the nature of conflicting advice (healthy or unhealthy). Healthy conflicting expert advice brings decision makers positive feelings, and they are happy about, and appreciate and enjoy the process of taking such advice. On the contrary, unhealthy conflicting expert advice causes negative emotional experiences, such as feeling worried, depressed, frustrated, or even angry. According to the interview-based data, in the condition of getting both healthy and unhealthy conflicting expert advice, professional decision makers generally experience more negative emotions, unless most pieces of conflicting expert advice they gain are healthy advice. The negative impact of information overload (Meyer, 1998) on individuals' emotional states might provide explanations for the less desirable emotional experience described above (Eppler & Mengis, 2004). In addition, Gino and Schweitzer (2008) discovered that decision makers who felt incidental gratitude were more trusting and more receptive to advice, and had higher decision accuracy than those in a neutral state. Decision makers in a neutral state were more trusting and more receptive to advice, and had higher decision accuracy than those who felt incidental anger. Such findings are moderately supported by some interviewees' opinion, which claims that being neutral and emotionally unaffected is beneficial to professional advice taking and decision accuracy. However, some professional decision makers' tendency and effort to avoid all kinds of emotions brings up the question:

whether having (advice taking) context related emotions (as opposed to the incidental emotions studied before), even the positive ones, places obstacles on the way to achieve satisfying decisions or not?

In this qualitative study, an interesting case revealed a promising positive relationship between the professional relationship with low-level closeness and stability and decision makers' low-level emotional attachment to the advisors and decision task. It is common to see that individuals in close relationships developing routine patterns of interaction and sharing many important plans and goals (Simpson, 1987). Kelley et al (1983) suggests that in close relationships, partners have frequent and strong influence on one another in different activities across time. Closeness and stability of a relationship is a factor that influences the extent to which an individual is emotionally invested in the relationship. Therefore, in a temporary work team where the decision maker and the advisors are having relatively distant professional relationships, all team members are not likely to be emotionally sensitive to the complex advice taking process. Future research on professional decision making experience can look into the potential advantages and disadvantages of taking advice from individuals who have different levels of interpersonal closeness with decision makers.

In terms of professional decision makers' thinking regarding their advisors, the current study indicates that most of them have cognition-based trust in expert advisors before seeking their advice. Their pre-advice trust is rooted in a rational assessment of advisors trustworthiness, and seems merely change after receiving conflicting expert advice. According to extant research, the mistrust that sometimes accompanies advice is generally due to the questions about the advisor's expertise and intentions Schrah et al. (2006), and these advisor qualities are detectable before advice seeking. Thus, decision makers' trust built on such information is relatively sound and stable. As previous advice literature has discovered that decision makers' trust is positively related to their advice taking (Sniezek,

Heath, Van Swol, & Nochimowski, 1998; Sniezek & Van Swol, 2001), the current finding assists our understanding regarding how decision makers' cognition influences their advice selection and utilization.

In addition, when examining professional decision makers' thinking regarding themselves, this research confirmed a commonly maintained or increased post-advice self-confidence, which partially supported previous JAS literature on decision makers' confidence and overconfidence. Heath and Gonzalez (1995) demonstrated that by interacting with others and obtaining advice, decision makers' self-confidence increased even though their decision was not necessarily more accurate. Sniezek and Buckley (1995) also verified decision makers' overconfidence after taking advice, but they argued that those who received conflicting recommendations from their advisors were not overconfident. In this qualitative research, decision makers displayed high or higher confidence even when multiple experts suggested differently and provided conflicting advice. I assume that there are two causes for such results. First, although advisors disagreed for different reasons, the presence of healthy expert advice indeed assisted the professional decision making process and finally improved the decision effectiveness and accuracy. Second, for those who had a pre-advice initial decision, many of them were open to the advice from experts who are in favor of their initial judgments, and (may or may not deliberately) discounted (or even completely ignored) different opinions from others (e.g., Yaniv & Kleinberger, 2000). In this case, professional decision makers might subjectively feel supported and became more confident. In addition to self-confidence, as predicted by information overload literature (e.g., Eppler & Mengis, 2004), when multiple pieces of conflicting expert advice are presented, the increased information volume, diversity and complexity leads to professional decision makers' confusion. Therefore, their decision making speed might be delayed, and more decision making difficulties are perceived.

Concerning professional decision makers' thinking regarding conflicting expert advice, the current research revealed two forms of advice taking in the communication and clarification phase: one-on-one advice discussion and group-based advice discussion. To a certain degree, professional decision makers choosing different forms or combining the two essentially reflects their leadership styles (Colquitt, Lepine & Wesson, 2009). The fact that all interviewees seek experts' advice to assist their decision making indicated that none of them had an autocratic style (Vroom, 2000). Those who performed one-on-one advice discussion present the current decision task to multiple experts individually and reserved their authority to make the final decision, which suggested their consultative leadership style (Vroom, 2000). The decision makers who also conducted group-based advice discussion with multiple experts were more facilitator than decision makers, and showed their facilitative leadership style (Vroom, 2000). I assume that the ones who had both advice communication and clarification forms embraced a combination of consultative and facilitative styles. It would be interesting for future research to link the advice taking effectiveness and efficiency to professional decision makers' leadership styles under different conditions. In addition, advice taking and decision making as a social behavior varies in the degree that advisors collaborate in the process (Savadori, Van Swol & Sniezek, 2001). The transformation from a one-on-one advice discussion to a group-based advice discussion also lift the individual decision making process to a group decision making level, which connects individual-based advice giving and taking studies to team or workgroup research (for a review, see Brodbeck, Kerschreiter, Mojzisch, & Schulz-Hardt, 2007).

Furthermore, several decision making strategies aid the professional decision makers' cognitive analysis of multiple conflicting expert advice. First, the majority rule they followed is reminiscent of the research on social decision schemes (Davis, 1973, 1982), which suggests that groups can aggregate individual inputs into a group product by adopting the pre-discussion alternative supported by the majority of individual group members. Second, to

narrow the multiple pieces of conflicting expert advice down to a few applicable solutions and manageable amount of information, professional decision makers prioritize all options and screen out those that are minimally acceptable. According to image theory (Beach, 1990; Beach & Mitchell, 1990), decision makers use their store of knowledge, the images, to set standards and principles for the decision goals and decision plans. Some pieces of advice are admitted into the choice set when it (or the advisor's frame of reference and priority) is compatible with the decision makers' standards and principles, whereas the others are rejected. And then decision makers evaluate whether the solutions in the existing choice set are making progress to the achievement of their decision goal, and rank the solutions based on their assessment (Beach, 2005). Third, listing pros and cons has been a traditional decision making strategy performed for hundreds of years. Ben Franklin once described the "prudential algebra" in a letter to his friend, "I cannot [...] advise you what to determine, but [...] I will tell you how. [...] My way is to divide half a sheet of paper by a line into two columns; writing over the one Pro, and over the other Con. [...] When I have thus got them all together in one view, I endeavor to estimate the respective weights (Bigelow, 1887, p.522, as cited in Dawes & Kagan, 1988, p.202)." This strategy concentrates on the weighted average of reasons for and against one or more options (Dawes & Kaga, 1988), and here conflicting advice from different experts. By conducting this qualitative study, interviewees' narrative uncovers how multiple decision making strategies, including the majority rule, prioritize, and list pros and cons, are applied in real-life professional decision making context.

Finally, as discussed above, the characteristics of advice, and the generated emotional and cognitive outcomes, are all found influential to professional decision makers' behavioral consequences and the final decision result. In sum, healthy conflicting expert advice is much more acceptable compared to the unhealthy one, and the ways of professional decision makers' advice selection are profoundly impacted by the amount of healthy and unhealthy

conflicting expert advice they obtain. It is worth mentioning that the result of this qualitative study did not completely differentiate the influence of advice nature from the power of advice discounting or to solely confirm either one of them. For the interviewees whose initial decisions before seeking others' advice were relatively firm, the advice they finally selected usually supported their initial decisions. And in some cases, the decision makers rejected all pieces of expert advice, among which they gained no consensus between advisors and themselves. Such phenomenon seemed to suggest the influence of advice discounting caused by decision makers' egocentric bias. On the other hand, by performing thorough analyses concerning the advisor and advice characteristics, especially advice nature, it also indicated that all pieces of selected advice were healthy, and in the cases where decision makers conducted complete advice discounting, all pieces of the rejected advice fit the description of unhealthy expert advice. Such result recognized the substantial influence of advice nature on professional decision makers' advice selection. Empirical evidence is needed to explain that, under the same condition, whether decision makers' egocentrism or the advice nature dominantly influences decision makers' advice selection, and how these two factors interact with each other and contribute to the multiple advice taking process and decision effectiveness/accuracy.

This research also uncovers a dual impact of multiple conflicting expert advice on professional decision results. Although a majority of decision makers sensed that receiving conflicting advice from different experts complicates the decision making process and increases the decision making difficulty, all decision makers claimed being aided by such advice taking process. Professional decision makers' disappointment during the course of dealing with multiple conflicting expert advice and their great satisfaction at the pleasant decision results in the end are observed as well. It appears that the dark side of having multiple conflicting expert advice mainly interferes with the process of approaching the goal (by causing more negative emotions, increasing cognitive workload and confusion, and

impeding the decision making progress), whereas the bright side of being able to access to multiple conflicting expert advice essentially leads to desirable decision consequences (such as decision makers' strengthened self-confidence and the widely-recognized effective/accurate final decision). An ancient Chinese poem written by Lu You (1167) in Southern Song Dynasty portrays this advice taking and decision making experience: "After endless mountains and rivers that leave doubt whether there is a path out, suddenly one encounters the shade of a willow, bright flowers and a lovely village."

### **6.3. Research Limitations**

In this section, I will indicate the limitations concerning the design and the operation of the entire study. First, regarding the gender of participants, there was a lack of balance between the number of female interviewees and the number of male interviewees. Only two females were recruited among the eleven participants. Since all interviewees were voluntary and they all approached the researcher on the basis of their interest in and eligibility of participating the research, the research could not purposefully control the actual number of females and males. This limitation determined that the current research could not examine multiple conflicting expert advice taking and decision making from the perspective of gender related features.

Second, given the decision making scenarios described by interviewees all happened in their professional life, and because I used a retrospective interview protocol, many interviewees could not recall the exact number of expert advisors whom they had interactions with. Therefore, this research was not able to provide precise data in this regard, which set a limit to the investigation of the relation between advice influence and the number of experts who supported that certain advice. In the future, it would be interesting to study how professional decision makers weigh multiple pieces of conflicting advice from the

perspective of advisor's importance and the number of advisors. For instance, whether the advice from one very influential advisor is more favorable than the advice from a group of less influential advisors or not? If an imbalance of advice preference could be found, whether and how the change of advisor number would make a difference?

Third, based on the literature review and the research questions I am aiming to answer, an interview-based qualitative approach was considered to be the most appropriate method for this particular research. As the general guideline in qualitative studies suggested, the research purpose is not only to study a few individuals but also to collect extensive details about each individual studied (Creswell, 2013). Indeed, such methodology has made ample contributions and provided this research with informative insights. However, compared to a quantitative research, the current qualitative approach did not bring me a large sample size with regards to advisors and different pieces of advice. The topic on sample size of qualitative research is still hotly debated, and some say little understood (Mason, 2010). According to Ritchie et al. (2003, p.84) qualitative samples often "lie under 50". Charmaz (2006, p.114) suggests that "25 (participants are) adequate for smaller projects". Green and Thorogood (2009 [2004], p.120) argue that "the experience of most qualitative researchers (emphasis added) is that in interview studies little that is 'new' comes out of transcripts after you have interviewed 20 or so people". Mason (2010) concludes that researchers who do not understand the concept of saturation conduct a comparatively large number of interviews, which ensures that their sample sizes, and therefore their data, are defensible. On the other hand, those who understand the concept of saturation find it easier to submit theses based on larger samples than are needed. Nevertheless, the sample size is irrelevant because the quality of data is the measurement of its value. In the current research, the theoretical saturation was achieved (no new themes or codes were revealed from the interviews and I observed that repetitions occurred frequently; Auerbach & Silverstein, 2003) when eleven interviews were conducted and the information of twelve decision making processes was

collected. Since every individual decision maker could only be exposed to limited pieces of conflicting expert advice, the patterns and trends concerning the advice characteristics and the advice taking consequences were discovered according to the knowledge that was learned from the twelve decision making experiences. Despite the inspiring research results, I am also concerned about the generalization of these discoveries. Future studies based on data from larger samples regarding the new concepts, relations, and effects that are revealed from the current study are strongly encouraged.

Forth, as introduced in the advice research paradigm, there are two types of decision tasks in JAS research: the judgment task and the choice task. According to the summary in Bonaccio and Dalal's (2006) review, advice researchers merely provide the rationale for their selection of one type of decision task over another. However, evidence (Gigone & Hastie, 1993, 1997; Hinsz, 1999; Payne et al., 1993) indicates that decision maker's response mode (making quantitative estimation or choosing among options) does influence decision processes. In the current study, interviewees were the centers of the research subject, and they controlled the collection of information about the type of decision tasks they approached. Thus, the decision maker's response mode was not designed intentionally and standardized before conducting interviews. Moreover, professional decision makers offered some examples in which a single decision making process was mixed with both judgment tasks and choice tasks. For example, Decision Maker 4 as a factory owner had to choose from the following options: 1) do not buy new machines to accelerate productivity and deliver products by air, 2) do not buy new machines to accelerate productivity and let the sub-contractor to produce for the decision maker, 3) buy three new machines to accelerate productivity, and 4) buy many more than three new machines to accelerate productivity. The last two choices contained the element of quantitative estimations. Indeed, these tasks are much closer to the realistic advice taking and decision making process. However, it also became extremely difficult to control this factor in the data analysis of the multiple

conflicting expert advice taking model and various outcomes. In short, the establishment of an adaptable and standardized advice research paradigm in terms of decision task and decision makers' response mode is required. From another perspective, it is reasonable to assume that the current research results could be generalizable to both judgment and choice tasks.

Finally, as expected in the research proposal, the amount of information regarding the decision making experiences with positive outcomes and negative outcomes was imbalanced. During the stage of conducting interviews with professional decision makers, I was hoping to balance the number of interviews for each situation. However, the natural variation in outcomes failed to present an equal representation of satisfactory and unsatisfactory final decision results. Although most interviewees had objective external validations to demonstrate their achievement, we cannot exclude the likelihood that participants tried to build up a socially admired image by sharing only their successful decision making experience. Hence, further research on the influence of multiple conflicting expert advice on the diversity of decision results is important.

In conclusion, this interview-based research suggests that it is not always best to have it all. For professional decision makers, seeking as much expert advice as possible brings them both challenges and benefits from the aspects of their emotional, cognitive, and behavioral and decision consequences, and it certainly is "no pain, no gain".

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## **8. APPENDICES**

### **Appendix A. Research Participants Recruitment Flier**

Researchers from the Telfer School of Management at the University of Ottawa are looking for participants who have the experience of being a business or personnel related decision maker and were faced with multiple conflicting advice from different experts. We are interested in the emotional, cognitive, and behavioral outcomes generated when decision makers are getting multiple contradictory expert advice in such professional decision making context. Thus, a researcher will ask you to share your experience and outlook of a business related or personnel related decision you have made when there were some possible options in front of you and several pieces of conflicting advice were given to you. The study takes about 40 to 60 minutes to complete, and all participants will receive \$20 as compensation. The participation will be on a first come, first served basis.

Participant requirements:

- Current MBA students from Telfer School of Management at the University of Ottawa;
- Have experiences of being a business or personnel related decision maker and were faced with multiple conflicting advice from different individuals (especially experts);
- Have the ability to articulate such experience in English.

If you are interested in participating in this study or for more information, please contact Xiaoxi Chang at [REDACTED]. Thanks for your interest!

## Appendix B. Interview Protocol

### **Is It Best to Have It All: Emotional, Cognitive and Behavioral Consequences of Conflicting Expert Advice on Decision Makers (Professional, Business or Personnel-Related Decision)**

Time of interview: 40 minutes to 1 hour

Date: \_\_\_\_\_

Place: \_\_\_\_\_

Interviewer: Xiaoxi Chang, M.Sc. Management student, Telfer School of Management, University of Ottawa

Interviewee: \_\_\_\_\_

The main reason of doing this study is to explore and understand the emotional, cognitive and behavioral outcomes generated when decision makers are getting multiple contradictory expert advice in a **business or personnel-related decision making context**. I am mainly interested in identifying decision makers' feeling, thinking and behavior in such situation and the relationship between these reactions. I would like to know your experience and your point of view and there is no right or wrong answer. If you don't feel like answering one of my questions, you can simply say "that is private information" and we will skip it. Is it alright if I record this interview?

I will give you a few minutes to think about a choice you have made in an important, business-related or personnel-related decision making context, where there were several possible options in front of you (offer an example if necessary: here is an example of a choice type of decision making situation. You have to choose a flavor of ice-cream when there are chocolate, vanilla, and strawberry flavors). During this decision making process, you got contradictory advice from different sources. And there are different kinds of advice, such as recommendation for (advice in favor of a particular option), recommendation against (advice against one or more option), information (neutral advice giving more information about the option without suggesting a particular one), and decision support (no specific outcome advice; instead, input or support to guide the judge's decision-making process). Let me know when you are ready.

1. I'll start by asking you a few questions about what your situation was like when you were the decision maker of an important, business-related or personnel-related decision making context (use the term depends on the interviewee's response) and had several people giving you contradictory advice.
  - 1) Could you describe what the decision making task/situation was about?
  - 2) Did you have the knowledge, experience or information about this task/situation?

- 3) If I understand it right, you had advice from several other individuals. Did you ask for those opinions? If so, what was the reason that you asked others' advice?
  - 4) Let's talk more about the advisors you had.
    - a) How many advisors did you have? (Approximately)
    - b) Who were they (or what were their roles in the organization/situation)?
    - c) What was your relationship with them?
    - d) What was their relationship with each other?
    - e) What was their knowledge, experience or information about this task/situation?
  - 5) What did they suggest you to do?
  - 6) How did the different pieces of advice conflict/different from each other?
  - 7) What do you think the reason would be in terms of they gave you those pieces of advice?
2. Your description about this particular decision making context is really helpful. Next, I would like to ask about the feelings/emotional experience you had when your advisors were giving contradictory or different suggestions.
- 1) What emotions were you experiencing? Could you describe the feeling for me?
  - 2) What was the reason that you think you had those feelings/emotions (go with the interviewees' word)?
3. The next questions are aimed directly at getting your perspective.
- 1) What were you thinking when these individuals were giving you contradictory advice?
  - 2) Trust
    - a) How much did you trust the advisors prior to receiving their advice?
    - b) Did your trust change after getting different advice? If so, how?
  - 3) Confidence
    - a) Were you confident about your decision before getting their advice?
    - b) Had it changed compared to your prior confidence without their opinions? If so, how did your confidence change?
4. The next questions are about the result of making that decision after you had others' contradictory advice.
- 1) Which advice did you follow in the end?
  - 2) What were the reasons that you chose to take that advice (if the interviewee chose none of them, ask the reason as well)?
  - 3) Were you satisfied with the decision making process?
  - 4) Were you satisfied with the decision outcome?
  - 5) How long did it take for you to make the final decision?
  - 6) Do you think it was faster or slower to make the final decision? What do you think the reason was?
  - 7) Were they helpful or making it more difficult for you to make the decision? What do you

think the reason was?

- 8) How was the accuracy (or effectiveness, depends on the particular decision context the interviewee described) of your final decision? What do you think the reason was?
- 9) What would be your strategy of making a business or personnel-related decision when having multiple contradictory expert advice in the future?
  - a) Probing: are you going to seek advice from different people?

5. Finally, I would really appreciate if there are other thoughts about today's topic you would like to share with me.

## **Appendix C. Consent Form**

**Title of the Study:** Is It Best to Have It All: Emotional, Cognitive and Behavioral Consequences of Conflicting Expert Advice on Decision Makers

**Principal Investigator:** Silvia Bonaccio, Ph.D.  
Telfer School of Management; DMS 5149  
University of Ottawa  
55 Laurier Avenue East  
Ottawa, Ontario, K1N 6N5

**Co-Principal Investigator:** Xiaoxi Chang  
Telfer School of Management; DMS 6160  
University of Ottawa  
55 Laurier Avenue East  
Ottawa, Ontario, K1N 6N5

**Invitation to Participate:** I am invited to participate in the abovementioned research study conducted by Professor Silvia Bonaccio and Xiaoxi Chang.

**Purpose of the Study:** The purpose of this study is to understand the emotional, cognitive and behavioral outcomes generated when decision makers are getting multiple conflicting expert advice. The main focus is to identify decision makers' feeling, thinking, and behavior in such situations and the relationship between these reactions, and discover factors that moderate the influence of conflicting expert advice.

**Participation:** My participation will consist essentially of taking part in an individual interview lasting about forty minutes to one hour. In addition, I will be asked to respond to a few questions regarding my own decision making experience and my outlook on it. I do not have to answer any questions that I do not want to answer. No personally identifying information will be collected. I agree that the researcher can audio-record this conversation and discussion.

**Benefits:** My participation in this study will help researchers explore the actual consequences of taking multiple conflicting expert advice to make decisions in business context or personal life context. Information gained from this study will also be useful for my own decision making strategy under complex situations in real life.

**Risks:** There are no foreseeable risks from participating in this study. If at any point I feel that answering a question or sharing my personal or emotional experience makes me uncomfortable, I can either skip it or withdraw from the study completely without any negative consequences whatsoever.

**Confidentiality and anonymity:** I have received assurance from the researcher that the information I will share will remain strictly confidential. The contents will be used only for research purposes. Anonymity will be protected in the following manner. I have been assured that in written reports, my name (those or others' whom I may mention) will be disguised.

**Conservation of data:** The recording of the interviews will be transcribed by the research team and the original recordings will be destroyed. The data collected (transcripts and electronic copies of the data) will be kept in a secure manner in the principal researcher's office. The hard copies will be locked in a cabinet and the electronic copies will be password protected. Hard copies will be kept for 10 years following the publication of these results. The electronic copies of the interview data will not be destroyed, but the password will be change periodically to ensure continued confidentiality. The data will not be made available to those outside of the researcher's research team.

**Compensation.** I will be awarded \$20 for my time. And I will receive the compensation even if I choose to withdraw from the study.

**Voluntary Participation:** I am under no obligation to participate and if I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering any negative consequences. If I choose to withdraw, all data gathered until the time of withdrawal will be destroyed.

**Granting Agency:** This study is funded by the School of Management Research Fund which was awarded to Professor Silvia Bonaccio and Xiaoxi Chang.

**Acceptance:** I, \_\_\_\_\_, agree to participate in the above research study conducted by Professor Silvia Bonaccio and Xiaoxi Chang of the Telfer School of Management, the University of Ottawa.

If I have any questions about the study, I may contact the researcher at the numbers mentioned herein. If I have any questions with regards to the ethical conduct of this study, I may contact the Protocol Officer for Ethics in Research, University of Ottawa, Tabaret Hall, 550 Cumberland Street, Room 154, Ottawa, ON, K1N 6N5, tel.: 613-563-5387 or [ethics@uottawa.ca](mailto:ethics@uottawa.ca).

There are two copies of the consent form, one of which is mine to keep.

Participant's signature: \_\_\_\_\_ Date: \_\_\_\_\_

Researcher's signature: \_\_\_\_\_ Date: \_\_\_\_\_

## Appendix D. Final Code List Based on Data Collected from Eleven Interviews

The following four tables indicate four aspects revealed from the literature and the data (decision background/condition, emotional outcomes/feelings, cognitive outcomes/thinking, and behavioral outcomes/decision results), first level codes/descriptive codes, second level codes, code descriptions and quotations from interview transcripts. Please see the thesis proposal manuscript file for details regarding how this list was structured.

Table 2. First Level Codes and Second Level Codes Regarding the Decision Background/Conditions

Codes	Code description	Quotations
<b>DECISION TASK</b>	<b>Background information about the decision task</b>	
<b>Professional Decision Task</b>	The content of the professional decision task	
<b>-Business-related decision task</b>	The decision task is about a business event or project in a professional environment	<p>1) I worked in acquisitions and divestitures. What we did was we purchased assets from other companies for oil and gas companies. And the purpose of my group is to go out and purchase these assets (Decision Maker 2, p.2).</p> <p>2) We have a product [a kind of pickle], and it is manufactured in India itself. And what we have to do is...to choose the market in India or the market abroad (Decision Maker 7, p.1).</p>
<b>-Personnel-related decision task</b>	The decision task is about a managerial or personnel issue in a professional environment	<p>1) We had adopted a new program and we had to merge several small-scale shops into one brand name...I was being chosen as the head in the merger proposition in which I had to build a team, a small team like for six or seven people. In that team, it would comprise a person from the inventory department, a person from sales, marketing, and supply chain...My manager had given me a list. In the list it had like 20 names and out of 20 names, I had to short list six of them. Those 20 were the best you can find, according to my manager [...] I actually made up calls to relative departments and ask from my friends what these people's statuses were [...] I did not get a good review about most of them. So there was a biggest problem for me, like I cannot go back and fight with my manager that...the list that you gave me is worthless (Decision Maker 9, p.1-3).</p> <p>2) It was about the organization of how the tasks are assigned and the work done by the different employees here. So it was organized in a certain fashion, and I wanted to flip it to be instead of being transfers this way [horizontally run the office], I wanted the staff to work more longitudinally (Decision Maker 11, p.1).</p>
<b>Decision Task Feature</b>	The feature of the professional decision task	
<b>-Urgent</b>	The decision task is urgent	<p>1) If it's critical and especially if there's a timeline, of course you feel frustrated because you know you have to reconcile the differences before you can move on. (Decision Maker 2, p.15).</p> <p>2) On the other hand, the technology is proceeding very fast, so we were really afraid of competitors. We didn't know for real if he [the designer of the device] would go into other companies or if this documentation had been leaked. And in Middle East you don't have a very</p>

		strong law support so you can't just say: "Okay sign this and if you have previously leaked this information, we'll sue you" (Decision Maker 5, p.3).
<b>-Risky or uncertain</b>	The decision making situation is risky or full of uncertainties	<p>1) I think it's always uncertain. Everything we're doing is a forecast so there's always uncertainty. You try to build a bit of a buffer in that, but you can only do so much (Decision Maker 2, p.16).</p> <p>2) Option four was to go to some external agent. That is also expensive. And again, when you go to the contractors you cannot supervise the process. You don't know how the quality will come... You cannot monitor them (Decision Maker 4, p.9).</p> <p>3) It's the challenge what we have in any project...it's a new technology, which was not implemented before. Neither the client knew how long it would take to complete, nor the project manager knew. It was like we failed to mitigate the risk, which was the challenge I would say...[Researcher: the project in nature is actually challenging and risky?] Exactly. It's a complex project. It falls in complex category (Decision Maker 10, p.13).</p>
<b>-Limited resources and budget</b>	There are limited resources and budget to support the decision making process	<p>1) The initial capital investment for this product was very high. We had similar experiences with smaller devices but prototyping bailed is expensive. And we have to get license for human factors, for health, everything was quite expensive [...] On this project, we were asking for about eight percent of yearly budgets for new inventions, which is a very big proportion of the budget. So we had a very strong external pressure [from the company rather than from the decision maker's own team] (Decision Maker 5, p.3-4).</p> <p>2) My project is like purely engineering domain-based project, but that project will be driven by many sources. We helped client representative, we helped direct clients, and the project manager of my organization was driving that project. I was dealing with the project and it depended upon how much time we needed to complete this project and how many resources with respect to what we deal with the project. If we focused on time alone, the customer would be satisfied, but we would be losing money because we needed to add more resources to make the project complete before that deadline. If we focused on more resources, the project manager would suffer because he would lose the budget. So it's a constraint of both time and budget of the project (Decision Maker 10, p.1).</p>
<b>-Greatly influences decision maker's (DM's) career</b>	Making this decision influences the decision maker's career	<p>1) If I'm going to take a decision in favor of mainframe, whether it is going to work or not? If it doesn't work, then what is going to happen? Whether it will have any impact on my career or not? And in case if I follow the Java approach, what is the impact I will have? I am not sure because if something goes wrong, then certainly I will be held responsible for that, and it is going to affect in my career and my appraisals. So I was concerned about that. I was certainly worried about my work, because ultimately I was responsible for getting it done (Decision Maker 3, p.14).</p> <p>2) In other way, I would say it was a war, now it was a battlefield. So after three months, if you [the company] would say, no, it's not working, we should leave the company. There was no way and other employees would always be laughing at us (Decision Maker 5, p.26).</p>

		3) That's the reason I had those kinds of feeling. I was scared... because this might affect my job and I was nervous about what can happen next. I don't know because these guys are going to advise me something and...I don't know the outcome of it (Decision Maker 9, p.33).
<b>DECISION MAKER'S CHARACTERISTICS</b>	<b>Background information and features of the decision maker</b>	
<b>Decision Maker's Expertise</b>	How much relevant knowledge, experience or information about this task/situation the decision maker has	
<b>-Novice</b>	The decision maker has no relevant knowledge, experience or information about this task/situation	<p>1) During the whole process, different people were giving different advice. But I took that positively in a sense that I was a new entrepreneur, and new in the garment business. It was expected to me that some problems would happen because I didn't know this trade. So in all the processes, I have to learn a lot of things (Decision Maker 4, p.35).</p> <p>2) No, I didn't have professional knowledge [of leading a team]. But it was simple and we were supposed to complete the project. If you [the team members] are not bringing any contribution, you cannot share any kind of authorship or any kind of financial matter (Decision Maker 8, p.3).</p> <p>3) I had no experience in choosing people. I had no experience in making [personnel] decisions. I had no experience in doing such kind of task (Decision Maker 9, p.9).</p>
<b>-Knowledgeable but not an expert of the particular task</b>	The decision maker has some knowledge, experience or information (about this task/situation) in general, but he/she is not an expert.	<p>1) So my expertise is in engineering, but because I work in acquisitions and divestiture, through my experience, I would say I was a pretty good decision-maker in a lot of things. [...] But I think the big thing was I had the experience to understand and to communicate with people. So like I might not know everything about surface rights or mineral rights or geology, but I knew enough of the language that I could ask some questions and I could usually pick up their technical literature and learn if I needed to (Decision Maker 2, p.4-5).</p> <p>2) I was working in Australia for M Gas. It's a second big player in oil and gas expansion in Australia [...] My domain was instrumentation engineering. And we deal with automation in industries...that project was my third last project. I have five years of experience before, which we did many, many small-scale projects. But this was very big. The challenge with this project was the technology, what they used was very innovative and never implemented any way (Decision Maker 10, p.4-5).</p>
<b>Decision Maker's Advice Seeking Behavior</b>	The reason and purpose for the decision maker to seek advice from others	
<b>-Standard procedure</b>	Seeking advice from specialists is a standard procedure of performing the decision task	<p>1) Part of it [the reason for the decision maker to seek others' advice] is I have to do it. Like part of the procedure is I have to talk to exploration. I have to talk to operations. I have to talk to people about the safety of the assets. There's a checklist of experts that I have to go through (Decision Maker 2, p.3).</p> <p>2) Before [making the decision] we [all the team members] go for a meeting and we'll have the</p>

		case. We know what the situation is...[During the meeting] the team gives a little scenario to discuss our work. Then we have to sit in our own cubicles...and have to come up with whatever solutions we can get...And they'll also give me their points and I will put in my points [in the second meeting]. Then we'll choose on what is the best thing. Everyone needs to participate. It's not like I'll decide everything (Decision Maker 7, p.6).
<b>-To collect more information/expert opinions</b>	The purpose to seek advice is to collect more information and opinions from experts	<p>1) I did seek the advice from the people having those operational experiences, especially from the people at first line operations, because they are the people getting daily experience with the clients (Decision Maker 1, p.2)</p> <p>2) [Researcher: what was the reason that you asked for others' advice?] Because I needed to know what their priorities are. For example, the project manager's priority is to keep the budget close. He can't lose the budget. The customer [his/her priority], is the timeline. He doesn't want to make the project delayed or get late delivery. And the engineering manager was like in my situation, to be more precise. He wants to save his resources, keeping them happy. Also he wants to support the project manager to drive the project. [Researcher: So you are trying to understand the priorities of each side. That's why you asked for their advice?] Exactly, yes (Decision Maker 10, p.6).</p>
<b>-To verify DM's initial decision is optimal</b>	The purpose to seek advice is to prove that the decision maker's original decision is better than others' suggestions	<p>1) I consulted colleagues in City N and in City S because I figured in City S, maybe we didn't have the advantage to provide to customers comparing with the competitors. So I just gave them the other option to be in City N. And to support my [initial] decision, I consulted different people in different parties, and figure out how the feasibility was (Decision Maker 1, p.9).</p> <p>2) I would say that based on the information I had, I had made up my mind that I was going to go program-based [a new way to restructure the office] instead of this way [the old way]. I had basically made up my mind. But then I'm thinking how do I convince everyone else that this is a good idea too? I could just say I'm the boss and I said and let's go. But that's not the best. I don't think so. It's better to have buy-in. So I actually got an outsider but someone who doesn't work here (Decision Maker 11, p.4).</p>
<b>-To gain better ideas than DM's initial decision</b>	The purpose to seek advice is to find a better solution and to prevent the possible mistakes the decision maker could make with his/her original decision	<p>1) I asked, like what is your idea, what is your idea to see if their opinions and their ideas are much better than mine. And if that is more efficient and effective, I'll try that (Decision Maker 6, p.7).</p> <p>2) Actually, I have a few other things from other markets [...] Then I even called them [decision maker's friends], because I need to know what I'm doing is right. They are just my friends; they are not in this project...and [they give opinions on] if they think it's good to go, in case I'm wrong they'll point out that I'm wrong, where I am wrong (Decision Maker 7, p.23).</p> <p>3) I did not know exactly that if any decisions I would take, how would that impact my manager and how would that in turn impact my job. So I just wanted to make sure that I asked a couple of people what if I do this, or what if I do that...So they can actually better guide me because they stayed longer in the organization, and they were quite tenured (Decision Maker 9, p.9).</p>
<b>Decision Maker's</b>	The decision maker has an initial	1) I propose Ningbo because I figure this option could be even more beneficial to what our

<b>Initial Decision</b>	decision before receiving others' advice	<p>customers were asking for. They only thought of Shanghai, because it is the international trade and shipping center, but they had very limited knowledge about Ningbo. And they never considered about that because they just didn't consider it as an option... I figured we could do something in Ningbo. It is a harbour, and it also has many factories around Ningbo. It is even closer from factories to the...seaport...So I proposed Ningbo as an option and a solution (Decision Maker 1, p.9).</p> <p>2) One person – he was our friend as well as colleague – since it was not paid, he was not willing to like contribute a lot [to the project]. And he wanted his name in that as an author. Along with that, when we were at the end of the project, we came to know that we'd be paid some money [...] I proposed that he be out of the team, and we would not put his name in the authorship, as well as we would not give him a fraction of the money (Decision Maker 8, p.2).</p>
<b>Decision Maker's Relationship With Advisors</b>	The relationships between the decision maker and different advisors	
<b>-Cooperative/ Positive professional relationship</b>	The advisors are the decision maker's coworkers, supervisors, subordinates, or outsiders (e.g., individuals from consulting companies or other teams/departments in the same company, or clients or suppliers, etc.) who have good or cooperative relationships with the decision maker	<p>1) I had some previous relationships with my buyers. They gave me [clothes] orders. I definitely have connections with them, and I was in their good book. That is the reason they have placed order with us. And with my suppliers, some machinery dealers, I had good relationships with them for sure because I buy machinery from them. It's in their interest to keep a good relationship with me (Decision Maker 4, p.13).</p> <p>2) I had a very good relationship with the financial advisor. She was a very nice woman. She had a very good understating of the market and the financial points of view of everything, and she was really honest (Decision Maker 5, p.7).</p> <p>3) One is project manager who is not my direct supervisor. The other one is client who was having a long-term relationship with the organization as such, but nothing directly with me as a person. And the other one is my direct supervisor who is the engineering manager [...] The other two are my supervisors in previous projects. [Researcher: How's your interpersonal relationship with them?] It was very good (Decision Maker 10, p.7).</p>
<b>-Competitive/ Negative professional relationship</b>	The advisors are the decision maker's coworkers, supervisors, subordinates, or outsiders (e.g., individuals from other teams/departments in the same company, or competitors in the industry, etc.) who have negative or competitive professional relationships with the decision maker	<p>1) But when we talked to other managers, especially the manager who's receiving the assets, her view was against it. But part of it was she wasn't really against it. She was just trying...to get more money, more budgets. She was making sure that something that would benefit the company wouldn't affect the metric that she was getting measured on. [...] So she applied pressure on us, especially knowing that we had a timeline to bring in these assets. To make our estimates go lower, to do everything to make it look like this property wasn't good so that the minute it comes into her hands, she's doing great with it (Decision Maker 2, p.2).</p> <p>2) When I talk to my buying office, and [for production information]. They lost that order to me. They did it the last time [giving terrible advice]. [Researcher: They don't get along with your factory?] Yes [they were not getting along with my factory]. So they were not that cooperative, but it was okay because I didn't mind. I just wanted to get information from them</p>

		(Decision Maker 4, p.14). 3) I would say that to the people who report to her [one advisor whose authority is negatively impacted by the office restructure strategy], she has a lot of influence. So I think there was perhaps, it's just my opinion, I have no way to really validate but I think they were weary of maybe expressing an opinion counter to hers (Decision Maker 11, p.15-16).
<b>-Friendly personal relationship</b>	The advisors are the decision maker's coworkers, supervisors, subordinates, or outsiders (e.g., personal friend from consulting companies, or other teams/departments in the same company, etc.) having friendly personal relationships with the decision maker	1) And my friends [team members working on a project]. I'm there with them for four years, and we formed a group. So it's all very good relationship I had (Decision Maker 6, p.13). 2) There were my colleagues and friends. One of my friends is also a close friend of that person's. I had to work on many details with that person (Decision Maker 8, p.5). 3) All of them were my friends. The IT guy, the R&D guy and I did our graduate from the same college. So I knew them for about five years (Decision Maker 9, p.12).
<b>ADVISOR'S CHARACTERISTICS</b>	<b>Background information about the advisor(s)</b>	
<b>Advisor Sources</b>	Where the advisors come from	
<b>-Internal advisor</b>	The advisor is from the decision maker's unit when performing this specific decision task (the unit could be a team, an office, a department, or a company/an organization)	1) Within my group, I had very experienced engineers. There were some close to 60 years old. We had very experienced geologists. And then mid-level engineers kind of similar to mine, and then other engineers. So I think within our group, we had 10 people. And I would talk to all of them in making decisions. They were a knowledge source for us. So that's my group (Decision Maker 2, p.5). 2) So there is one guy who was like our senior in our company. He's the one with whom I have discussed a lot. There were my colleagues and friends. One of my friends is also a close friend of that person's. I had to work on many details with that person. And my supervisor, under whom I was working, he was another advisor (Decision Maker 8, p.5).
<b>-External advisor</b>	The advisor is not from the decision maker's unit when performing this specific decision task (e.g., individuals from consulting companies or other teams/office/departments in the same company/organization, or clients or suppliers, etc.)	1) Externally, for each project we took on we would recruit advisors from over seven departments, including managers or senior technical people. For each project we were usually working with groups of 20 to 100 people, so I would consider that, for the external group, there were probably at least five to 10 people whose opinions really mattered. They would take the information from the people working underneath them and gave it back to us. This is like [the support from] the technical aspect and operational aspect (Decision Maker 2, p.5). 2) One advisor was from the procurement department. He was the person who purchased all the stuff. The second guy was from the IT department. And the third was from the engineering department. From the R&D department there were more technical advisors (Decision Maker 9, p.11) 3) I actually got an outsider but someone who works also at the department but who doesn't

		work here [in the office]. This person has an expertise in project management and had recently reorganized in her office. She had done a task-based accounting of each process and procedure and she had mapped it out, she had identified inefficiencies and redundancies and working with the team, they made a better process map. So she basically did that here (Decision Maker 11, p.4).
<b>Advisor Expertise</b>	How much relevant knowledge, experience or information about this task/situation the advisor has	
<b>-Expert in general</b>	The advisor is considered as an expert in general according to his/her hierarchical status, previous working experience, age, or reputation, etc., but he/she is not an expert on this specific task/field/market/industry/technology	<p>1) So it's like they have a certain level of knowledge, but they don't have... such experience in this area (Decision Maker 3, p.20).</p> <p>2) Normally buyers, they do not have that much expertise. So that they can give you advice on ultimately how you will stitch a garment. Because of those, we call the merchandiser who works with us... and works as a junction between say ultimate buyer and garment factories, we call them merchandiser. And these people just gave us their advice... about the earlier producer (Decision Maker 4, p.18).</p> <p>3) [Researcher: So what was the professor's background? He was supposed to be one of the experts.] Yeah, but... he was not into that field [...] He's also engineer, so he basically knows about what a microprocessor is and how things work in the area. But he might not be too deep into electronics. He's good in electrical and basic things of electronics (Decision Maker 6, p.10).</p>
<b>-Expert of the particular task</b>	The advisor is considered as an expert on this specific task or technology, or in this particular field, market, or industry.	<p>1) They are all first line operators. So they know how the procedure would be, and how the real project would be executed. [...] And the other one is the project manager in Ningbo, who would be the person to execute those things in Ningbo if the project is going to be launched in Ningbo. And the other one was the warehouse manager in Ningbo. He knows how the capability and facility could be supportive to the project (Decision Maker 1, p.3).</p> <p>2) We also had people working on the finance because of the way the corporation was [...] then we had a group that built the economic models from our inputs and evaluated those models against others. So they built the models and then after that they would evaluate those models against other business opportunities (Decision Maker 2, p.6).</p> <p>3) This person has an expertise in project management and had recently reorganized in her office. She had done a task-based accounting of each process and procedure and she had mapped it out, she had identified inefficiencies and redundancies and working with the team, they made a better process map. So she basically did that here (Decision Maker 11, p.4).</p>
<b>Advisor Intention</b>	The intention and motive for the advisor to give a certain piece of advice	
<b>-Decision maker-focused motive</b>	The advisor offers advice in order to assist the decision maker with the decision making process	<p>1) I was happy with my advisors because I trusted them and I knew that they were honest to me. The energy, and the synergy that was in the group was outstanding and the effort that people put on the project was really, really flawless. They really did the best they could (Decision Maker 5, p.23-24).</p> <p>2) I know that whenever I'm going to ask them for any favor or anything, they're going to do their best to get the thing done for me. [...] So even whatever advice they gave me had some</p>

		<p>bad points, the other person would rectify it and try to give a solution to it (Decision Maker 9, p.29).</p> <p>3) The other one [another external advisor], he was very focused on me. He was like no, even if you lose the client, it's the organization who's going to be responsible [the decision maker's manager/supervisor was asking him to approach the task in a way the client disliked]. It's not me [personally] who's going to lose [otherwise it would be difficult for the decision maker to survive in the company if his supervisor was not satisfied with him]. So he was more focused on me. I was happy because he has some more attention on me. He's more focused on my career too (Decision Maker 10, p.20).</p>
<b>-Task-focused motive</b>	The advisor offers advice in order to ensure the completion of the decision task	<p>1) They [the decision maker's buyers] were communicating their opinion to us and said that they could extend the shipment by 15 days. And then we had to ship it within this period. Otherwise it should be air shipped. We had to deliver the garment because it was the order of what we have committed to the ultimate buyers, they have already advertised for this product (Decision Maker 4, p.18).</p> <p>2) My supervisor told me that whatever he [the team member who was not contributing] was doing was wrong, but I should try to work it out and get it [the project] done (Decision Maker 8, p.8).</p> <p>3) The engineering manager was balancing between both, not directly. He couldn't come and tell me that I had to extend the time to complete the job because he was my direct supervisor and wanted to support me. And he couldn't say anything to project manager. That would look like professional argument happening between those two. But finally he recommended that whatever happens, please complete this on time and complete this as much as possible. It was like he was not taking sides (Decision Maker 10, p.12).</p>
<b>-Advisor (Self)-focused motive</b>	The advisor offers advice in order to reach self-serving purposes	<p>1) But when we talked to other managers, especially the manager who's receiving the assets, her view was against it. But part of it was she wasn't really against it. She was just trying...to get more money, more budgets. She was making sure that something that would benefit the company wouldn't affect the metric that she was getting measured on. [...] So she applied pressure on us, especially knowing that we had a timeline to bring in these assets. To make our estimates go lower, to do everything to make it look like this property wasn't good so that the minute it comes into her hands, she's doing great with it (Decision Maker 2, p.2).</p> <p>2) I can sense that rather than getting it done through the right way, they were more interested in getting the work. So they were not concerned about which way is better. They were more concerned about who will do it. [...] Advisors were more interested in pushing for their own agendas. Like they were more interested in getting the piece of work for their own teams. So I won't say they were very helpful (Decision Maker 3, p.12-20).</p> <p>3) I would say in the case of my one subordinate, that one was more rocky because she did initially resist the change, but I think that it's just because...it's not always easy to change after many years of a similar thing. [...] I just think the [subordinate's] motivation was, "let's stay</p>

		with the comfortable and what we know [in the old way, this advisor supervises all the staff in the office]” (Decision Maker 11, p.6-22).
<b>Advisor’s Relationship With Other Advisors</b>	The relationship between advisors	
<b>-Cooperative/ Positive professional relationship</b>	The advisors are coworkers, supervisors & subordinates having good or cooperative professional relationships	<p>1) Between the advisors, I would say quite well because they all worked together on other projects. In the company I worked in, you never got the case of like people avoiding each other. I know my manager didn’t get along well with some others. They may even have had negative views on each other. But they still worked well enough. Like had other people not told me that they butt heads, I would never actually know that. There was still enough of a willingness to work. It never got to a point where it was dysfunctional (Decision Maker 2, p.9).</p> <p>2) About the relationships between my advisors, when I talked to the machinery companies [one group of the advisors the decision maker had], they’ve had [information of] some factories [other producers, which were also the decision maker’s advisors] who bought their machines and who had good relationships with them as well...They [the machinery companies] definitely talk to the people who had good terms with them (Decision Maker 4, p.14).</p> <p>3) [Researcher: What were the relationships between the advisors?] These five members are actually a team. They always work together. They are stable. So I think they should be good. The developers had a good relationship with the IT guy (Decision Maker 7, p.9).</p>
<b>-Competitive/ Negative professional relationship</b>	The advisors are coworkers, supervisors & subordinates, or competitors from other teams/departments/company/organizations having negative or competitive professional relationships	<p>1) But when we talked to other managers, especially the manager who’s receiving the assets, her view was against it. But part of it was she wasn’t really against it. She was just trying...to get more money, more budgets. She was making sure that something that would benefit the company wouldn’t affect the metric that she was getting measured on. [...] So she applied pressure on us, especially knowing that we had a timeline to bring in these assets. To make our estimates go lower, to do everything to make it look like this property wasn’t good so that the minute it comes into her hands, she’s doing great with it (Decision Maker 2, p.2).</p> <p>2) Our relationships were good [including the two advisors supporting different IT technologies], but when it comes to business, sometimes they want their thing to win, no matter whether it is 100 percent right or not. It’s my way or the highway. So that kind of atmosphere was there in the situation (Decision Maker 3, p.5).</p>
<b>-Friendly personal relationship</b>	The advisors are coworkers or college classmates having friendly personal relationships	<p>1) And my friends [the team members], like I’m there with them for four years [in college], and we formed a group. So we all have very good relationship. [...] They’re all very good friends (Decision Maker 6, p.8).</p> <p>2) During that time we were a group of four members, and we were friends. So during that time, we all worked for a company, but I was in charge of that particular project. It was voluntary work for us. We were paid monthly, but for that particular project. So what happened is that the four of us, four colleagues, and out of that, three of us were very serious about the job. One person – he was our friend as well as colleague – since it was not paid, he was not willing to contribute...For this particular project we are publishing some paper. And he wanted his name</p>

		in that as an author. Along with that, at the end of the project, we came to know that we'd be paid...a certain amount of money for the completion of the project [...] I proposed that he should be out of the team, and we would not put his name in the authorship, as well as we would not give him a fraction of the money. But among four of us, since we were friend, some of the team members were suggesting let's keep him (Decision Maker 8, p.2).
<b>-No relationship</b>	The advisors don't know each other at all	<p>1) Our technical advisor was just like our inventor. He was very technical. He actually didn't know anyone in the company [including the leader of daily production department], and he was always in his room (Decision Maker 5, p.7-8).</p> <p>2) For the relationship with the external expert who helped us with the [charting and analysis] I think they [staff in the decision maker's office] got to know her better. And I think that to someone they normally wouldn't interact with very often, and they got to know her a little better (Decision Maker 11, p.7-8).</p>
<b>ADVICE CHARACTERISTICS</b>	<b>Background information about the advice</b>	
<b>Advice Type</b>	The type of advice	
<b>-Recommendation for or against an option (or options)</b>	Suggestions in favor of a particular option or against one or more options	<p>1) When we asked an opinion of some of the engineers who were evaluating it [the purchase plan and the assets], their view is yes, we should be acquiring this for the right price. But when I talked to ... the manager who was receiving the assets, her view was against it... (Decision Maker 2, p.2)</p> <p>2) What T.L. said is that it was pickle... and it was not a perishable good. Even if you sent it to the lowest means of transport, even if it took months, it would still be worth it. If it were another kind of product like tomatoes that I wanted to ship it, I'd need to ship it by flight. So he said we could go for the foreign market itself and the profit would be much higher (Decision Maker 7, p.12).</p> <p>3) At that point my friend gave me some advice. He said you should go with your manager [the list the manager provide]. Whatever he's saying just do it and get the job done somehow...At least I could take a lot of time because the time constraint was not a problem (Decision Maker 9, p.6).</p>
<b>-Neutral information</b>	The neutral advice providing more information about the decision task without suggesting a particular option	<p>1) I just asked the piece of information from different people. [...] The information I got is about custom supervision rules...the information I got at the very beginning is to figure out the [government] regulations. That is a very fundamental thing for us to figure out if we can carry on this project there or not (Decision Maker 1, p.9).</p> <p>2) If it started from a small product and we wanted to keep updating it, then we would need to have a very large database. So we would be spending lots of money in that. Is it fine with us to go for all we can add? Probably add some [is fine], and we'll collaborate on it. [...] They [the advisors] gave me information about the amount of money we had to spend for creating the databases, and the amount of money we had to spend on maintaining the database...if we were</p>

		going to have the backup. We could have our backup in California, or we could have our backup in India. [The information is about] the technical specification, not about the business specification (Decision Maker 7, p.13-14).
<b>-Decision support</b>	Responses or strategies to guide the decision maker's decision making process	<p>1) Initially I was a bit confused, and I had a word with my manager that this is what is happening in the team, and I'm getting conflicting suggestions, and to be honest, things are not on track. What should I do? He suggested me that I should sit down with them, have a cup of coffee, and then try to bring everything on the table so that whatever decision I take, it is an informed decision rather than a hasty one (Decision Maker 3, p.12)</p> <p>2) The professor's point of view is that why get into trouble? Just try to work it out. Try to manage it out. Don't put yourself in any kind of trouble or something (Decision Maker 8, p.10).</p> <p>3) [The advisor from the R&amp;D department said that] if the manager still suggests me to take the people from that list [after the decision maker explains how ineligible/incapable those employees could be], it's okay. Just don't say that I won't be able to work with them. Say it's okay, fine, but just let them know that what I have figured out of the whole thing, and probably he would be having some good impressions about it [regarding the reference check the decision maker conducted himself] (Decision Maker 9, p.18).</p>
<b>-Social support</b>	Socio-emotional supports acknowledging the importance and difficulty of the decision to be made	<p>1) From our company I was working for, they told me it's my decision, [they will agree with] whatever I decide to do since I was in charge of the project and I was the one who's leading the team. [...] My boss said, "It's up to you. You knew him [the unqualified member the decision maker proposed to remove from the authorship list], and we got some information [about this team member]. I'll try to help you more (Decision Maker 8, p.2-3)."</p> <p>2) So the procurement guy actually mentioned what complications I might get into. [But] he didn't have much idea about selecting people. He just told me, 'it's better that you should be selecting the team with which you're comfortable with.' It was just like a back-end support... a moral support you can say (Decision Maker 9, p.24).</p> <p>3) For the deans and vice deans, I think they're coming at it from their point of view. The reason they would possibility support an initiative [of restructuring the office] like this is simply because of efficiencies. The dean is the head of the whole school. So he's got a lot of responsibilities. At the end of the day, he's going to be sold on "can you make it more efficient" (Decision Maker 11, p.17-18).</p>
<b>-Insinuation</b>	Vague, subtle, and unpleasant hints or messages to pressure the decision maker	<p>1) It was pretty obvious her agenda was to make the property look poor to apply pressure on us so that she could get promises of budget from the senior management so that in the end, it would make her look better (Decision Maker 2, p.2).</p> <p>2) The main pressure we had was that there were people who were not happy about the allocation of that amount of budget to our department. The man who was the vice president of our daily production, he has a very, very strong political influence in the company. So he was personally a friend of our president and CEO and he was senior and he was very compelling, he was very captivating. [...] He was not really [giving] an option [...] I would say he was one of</p>

		<p>the sources giving us high recommendations. [...] We never sat one on one and talk about the project. We were just receiving his messages or his ideas about the project. [...] He was too big to come to our humble meetings. He is from other departments and he wouldn't ever risk it coming to our meetings. He couldn't cross the boundaries. [Otherwise] We would complain that he's interfering. But he was always sending his messages through different channels. For example, one of our members in the meeting said, 'Oh, you know what? I just see Mr. B [who was not the daily production leader, and just the team member's friend], and he said that Mr. A [the daily production leader] is not really happy about the project and things like that.' So we were under pressure. [...] it was not technical, it was around the bushes, and it just pushed us, hindered us to do our job (Decision Maker 5, p.6-30).</p>
<b>Advice Basis</b>	Based on what the advisors provide their advice	
<b>-Current problem analysis</b>	Advice based on advisor's current calculation, analysis, and understanding regarding the specific decision task	<p>1) If they come up with differing reasons, a lot of it arises from the fact of where they are coming from. Are they in the environmental group? Are they concerning with what we are going to be doing with these assets 50 years from now as opposed to if they have concerns from the operations group? Are their concerns on why we shouldn't buy this asset is on the current operations or current prices (Decision Maker 2, p.3)?</p> <p>2) The mainframe guy was suggesting that we needed to build a new table to capture that information so that whenever we need to retrieve it later on, we could do that. And he was suggesting that we would have to build altogether a new module for that. And later on we could use the same module in case we needed to retrieve that information on any of the new screen or other screen. The Java guy was saying that rather than using the mainframe tables, we could use individual tables, and we could capture this information in that itself in the local database. And then we could get it, retrieve whenever we need, so there was no need to go with the mainframe approach (Decision Maker 3, p.6).</p> <p>3) The financial lady was saying that our economy is not in a good situation. If we can secure a very, very good contract with one of those major producers, it was her advice actually to take the design to document and to commercialize it, but don't produce it because she was saying that the overhead cost and the capital costs we're producing, it is off through the roof. We should just go for the commercialization. It's safe and secure and you're putting this amount of money and our chances of getting it back soon is very, very high (Decision Maker 5, p.10).</p>
<b>-Past experience</b>	Advice based on advisor's experience from the past	<p>1) People come from a lot of different experiences. In a lot of things, especially in business, people, instead of doing an analysis they just pull from experience. They say oh, I worked in something similar and here's my experience...but the experience isn't that applicable or people aren't putting that much thought into what they've said (Decision Maker 2, p.15).</p> <p>2) The problem happened there when he said he could produce 1,300 pieces per day, and he started producing 300 pieces out of that. He didn't have any realistic idea. I think the reason he said so is that we could do it with normal yarn, but it [the decision maker's product] required a special type of thread, and that thread broke a lot. And it just didn't allow us to provide good</p>

		<p>production (Decision Maker 4, p.20).</p> <p>3) School A is huge. It's the largest one with some huge number of students. We have about 3,000 or 4,000 students and they must be double that. So the advice from the staff there become less valuable because you don't want to just take what School A says about this or that is the way. [...] I would say it [the colleagues' advice] was mainly based on their experience and [...] given that I have the same title as my colleagues and [...] we have enough similarities. [...] So I would say that it was based on their experience but which may have a lot [rationalities] behind it (Decision Maker 11, p.23-24).</p>
<b>-Advisor's personal taste/personality</b>	Advice based on advisor's personal taste, liking, interest, or personality traits	<p>1) The technical guy once mentioned it [one of the reasons he supported the new device] as well. He liked the guy who invented this. He liked him personally. They didn't have any backgrounds, but they were both technical and they understood their languages. He liked him and he said it once that let's keep this guy in the company. So for the sake of this guy, we should accept this project. So, yes, I think he liked him and he wanted him to stay in the company, but the mechanism was really good itself as well (Decision Maker 5, p.9-12). [...] It was not in a good run that we need to be conservative in these things. He was not really questioning the mechanism or the financial issues in the project, he just kept saying it's risky [with no evidence to back it up]...I was thinking if 2) there is something really defective or dangerous about the project, I'd like him to point it out. But he didn't (Decision Maker 5, p.22).</p> <p>2) It's because of the "like nature" of the person. He [the advisor who suggested the decision maker to keep the team member who didn't contribute] is also one of my best friends. I know he's like a kinder person, and he always try to support people and everything (Decision Maker 8, p.9).</p> <p>3) I would say in the case of my one subordinate, that one was more rocky because she did initially resist the change, but I think that it's just because...it's not always easy to change after many years of a similar thing (Decision Maker 11, p.6) [...] I just think the [subordinate's] motivation was, "let's stay with the comfortable and what we know [in the old way, this advisor supervises all the staff in the office]" (Decision Maker 11, p.22).</p>
<b>-False information</b>	Advice based on untruthful and misleading information	<p>1) Our problem started with my production people. Because when I took the order, I asked them, "Can we do it? How long will it take? What machine and how many will you need? Whether it is feasible for me?" When I took an order I had the costing sheet. I have to understand that I will get some profit out of it. Otherwise, there is no point of working for the order. [...] The problem happened there when he said he could produce 1,300 pieces per day, and he started producing 300 pieces out of that. He didn't have any realistic idea. I think the reason he said so is that we could do it with normal yarn, but it [the decision maker's product] required a special type of thread, and that thread broke a lot. And it just didn't allow us to provide good production. [...] The production people and the misleading information they gave due to their ignorance was not motivating (Decision Maker 4, p.20-21).</p> <p>2) He gave me a list to recommend the people based on his judgment or the information he had.</p>

		[...] When I made a background check, I actually came to know that a couple of people working there who were on the list were not working quite well. They were trying to figure out how to skip work (Decision Maker 9, p.4).
<b>Advice Nature-Healthy Conflicting Expert Advice</b>	Conflicting expert advice that is more beneficial and favorable	
-Technical disagreement	Conflicting advice originates from different technical analyses or methods conducted by different advisors	<p>1) One suggestion was basically run the economic model differently. And a lot of those things are costs way out in the future. [...] I think there were a lot of discussions. We ran a lot of other modeling. We would have one engineer that told us these wells can produce for however long at a certain rate, and the abandonment isn't that big of an issue. And then we have her group saying oh it's going to be a huge issue. So we ran a lot of modeling, and we actually looked at historical data. The good thing is these are technical disagreements (Decision Maker 2, p.10).</p> <p>2) The information analyst [processing all the data] said that I should keep in mind that for every project, I have to pay a certain amount of money for ISO certification to get into a new market. So the amount I spend on certification was going to be a loss and wouldn't give me anything. [...] He said that we should go with the local market because it's easier for marketing, and the product delivery might not get delayed because it could be easily transferred. But what T.L. said is that it was pickle... and it was not a perishable good. Even if you sent it to the lowest means of transport, even if it took months, it would still be worth it [the profit from an individual product in the foreign country is almost a hundred times higher than it is in the local market]. If it were another kind of product like tomatoes that I wanted to ship it, I'd need to ship it by flight. So he said we could go for the foreign market itself and the profit would be much higher (Decision Maker 7, p.10-12).</p> <p>3) I collected procedures from other units, procedures from our units, and organization charts. And then all the work that the external expert on project management did with all the charting was an actual resource and those were visual and some of them were color coded. And we presented them different ways. We presented them both by process with colors and then she [external expert on project management] gathered up all the tasks that belonged to an individual and charted them so that people could see: "Wow, no wonder it's so busy. Look you're everywhere, you're doing it all, all over" (Decision Maker 11, p.20).</p>
-Different information sources or perspectives	Conflicting advice originates from advisors' unique perspectives or different channels or sources from where the advisors get their information.	<p>1) I think, from their perspective, they must have different concerns about their roles specifically... because people are different... They could have their perspectives. [...] In Country A, the law and the regulations are vague. It is too flexible sometimes. You don't have a black and white thing. [...] If people have different entrances into different situations, they could get different information (Decision Maker 1, p.4-8).</p> <p>2) The technical guy was 100 percent on it [sign the contract and produce the device themselves]. He was saying, "It is interesting. The design is very, very nice. The mechanism is very smart and we should go for it." The financial lady was saying that our economy is not in a</p>

		good situation. If we can secure a very, very good contract with one of those major producers, it was her advice actually to take the design to document and to commercialize it, but don't produce it because she was saying that the overhead cost and the capital costs we're producing, it is off through the roof. We should just go for the commercialization. It's safe and secure and you're putting this amount of money and our chances of getting it back soon is very, very high (Decision Maker 5, p.10).
<b>Advice Nature-Unhealthy Conflicting Expert Advice</b>	Conflicting expert advice that is more harmful and damaging	
-Problematic by nature	Conflicting advice that is problematic by nature, such as false information, or unjustified, unethical, or unrealistic advice	<p>1) Our problem started with my production people. Because when I took the order, I asked them, "Can we do it? How long will it take? What machine and how many will you need? Whether it is feasible for me?" When I took an order I had the costing sheet. I have to understand that I will get some profit out of it. Otherwise, there is no point of working for the order. [...] The problem happened there when he said he could produce 1,300 pieces per day, and he started producing 300 pieces out of that. He didn't have any realistic idea. I think the reason he said so is that we could do it with normal yarn, but it [the decision maker's product] required a special type of thread, and that thread broke a lot. And it just didn't allow us to provide good production. [...] The production people and the misleading information they gave due to their ignorance was not motivating (Decision Maker 4, p.20-21).</p> <p>2) I don't know why some people are supporting him [the unqualified team member]! I was irritated, and I was like what's wrong with you? He's not working...because of the simple fact that something is wrong, and people are trying to keep being wrong and trying to give that wrong a chance. I myself, by nature, am very hard working. And I just don't like that some people just come and take a share of your hard work (Decision Maker 8, p.14).</p> <p>3) He [the decision maker's manager] gave me a list to recommend the people based on his judgment or the information he had...When I made a background check, I actually came to know that a couple of people who were on the list were not working quite well. They were trying to figure out how to skip work or something (Decision Maker 9, p.4).</p>
-Incompatible frame of reference	Conflicting advice that is mainly influenced by the advisor's incompatible criteria to make judgments, incompatible focus, goals, or priorities	<p>1) Within our group, we don't really have room for conservatism. [...] We need to be more risk tolerant because if we are not, we will never make deals. When I go to these experts for advice, they have a lower risk tolerance. A lot of times they're more conservative. [...] I usually have to have a discussion with the purpose of why we're doing things. [...] I think the biggest thing is people have agendas, and it's really easy to be conservative. I can give you an answer that's conservative and be safe, and it doesn't take me any time. [...] Yes, it is...safe. But we can't be safe. Like if everyone's being safe then our group fails (Decision Maker 2, p.12-13).</p> <p>2) They were communicating their opinion to us like they could extend the shipment by say 15 days. And then we had to ship it within this period. Otherwise it should be air shipped. We had</p>

		<p>to deliver the garment because it was the order of what we have committed to the ultimate buyer, they have already advertised for this product. [...] To the buyers, it doesn't matter what you'll do to solve the production problem. They just need the delivery in time (Decision Maker 4, p.17-18).</p> <p>3) The engineering manager was balancing between both, not directly. He can't come and tell me that I have to extend the time to complete the job because he is my direct supervisor and wants to support me. And he can't say anything to the project manager. That would look like professional argument happening between those two. [...] It was like he was not taking sides (Decision Maker 10, p.12).</p>
-Interest conflict	<p>Conflicting advice originate from advisor's personal agenda to achieve the goal of furthering his or her self-interest. The advisor is essentially worried about being negatively influenced by the outcome of the decision task. In most cases, the advice is offered by the advisor through the use of power and social networking within an organization, which may become an obstacle for the decision making process or undermine the accomplishment of the decision task.</p>	<p>1) I can sense that rather than getting it done through the right way, they were more interested in getting the work. So they were not concerned about which way is better. They were more concerned about who will do it. [...] Advisors were more interested in pushing for their own agendas. Like they were more interested in getting the piece of work for their own teams. So I won't say they were very helpful (Decision Maker 3, p.12-20).</p> <p>2) The machinery suppliers, they wanted to sell machine. They said, no, sir, I can give you this machine within seven days, but you have to spend \$4,000, which would work well for you (Decision Maker 4, p.15)... They [other competitor factories and producers] wanted to hold my garments [order] as their security [they suggested the decision maker to transfer the production contract to other factories]. But they are playing with your order. They wouldn't care whether they could do it in time with high quality or not. They would just take the order (Decision Maker 4, p.29).</p> <p>3) But what she was doing, at least in my point of view, was she wasn't saying no. What she was doing was just a game of politics. [...] So to make our estimates go lower, to do everything to make it look like this property wasn't good so that the minute it comes into her hands, she's doing great with it. [...] It's much more frustrating when you know it's because of politics. [...] But if it's more politics it's frustrating because you know you just have to work through it. [...] If she was a perfectly objective technical advisor I think it's different. But when she had her own goals, and other advisors that were involved in evaluating the project were for the project, and she was one person against several [experts' opinions]...so it's many experts against one expert who had an agenda. [...] It's like the agency problem. She's doing it for her wellbeing versus what a lot of us view it as the wellbeing of the company (Decision Maker 2, p.2-17).</p> <p>4) The main pressure we had was that there were people who were not happy about the allocation of that amount of budget to our department. The man who was the vice president of our daily production, he has a very, very strong political influence in the company. So he was personally a friend of our president and CEO and he was senior and he was very compelling, he was very captivating. [...] He was not really [giving] an option but we should play politics. [...] I would say he was one of the sources giving us high recommendations. He was very powerful in the company and he was the main external pressure on this decision making. [...] He had a</p>

		partial knowledge, but we never sit one on one and talk about the project. We were just receiving his messages or his ideas about the project. [...] He was too big to come to our humble meetings. He is from other departments and he wouldn't ever risk it coming to our meetings. He couldn't cross the boundaries. [Otherwise] We would complain that he's interfering. But he was always sending his messages through different channels. For example, one of our members in the meeting said, "Oh, you know what? I just see Mr. B [not the daily production leader, just the member's friend], and he said that Mr. A [the daily production leader] is not really happy about the project and things like that." So we were under pressure. [...] it was not technical, it was around the bushes, and it just pushed us, hindered us to do our job (Decision Maker 5, p.6-30).
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Table 3. First Level Codes and Second Level Codes Regarding the Emotional Outcomes/Feelings

Codes	Code description	Quotations
<b>POSITIVE EMOTIONS</b>	<b>The emotional experiences that are positive and favorable</b>	
<b>-Happiness</b>	The decision maker is happy about getting multiple conflicting expert advice	<p>1) After getting more information on the single product [different advisors offered insights on the advantages and disadvantages of several materials for production], I was really happy because I would think that something was progressing (Decision Maker 6(2), p.27).</p> <p>2) I was happy because I was getting more and more information. My picture was getting clearer and clearer every day (Decision Maker 9, p.38).</p> <p>3) The other one [another external advisor], he was very focused on me. He was like no, even if you lose the client, it's the organization who's going to be responsible [the decision maker's manager/supervisor was asking him to approach the task in a way the client disliked]. It's not me [personally] who's going to lose [otherwise it would be difficult for the decision maker to survive in the company if his supervisor was not satisfied with him]. So he was more focused on me. I was happy because he has more attention on me. He's more focused on my career too (Decision Maker 10, p.20).</p>
<b>-Appreciative</b>	Decision maker is grateful to and appreciate and enjoy having multiple conflicting expert advice	<p>1) I do think that is a very good opportunity for me to figure it out as part of my experience [by taking different information and opinions from multiple advisors]. I appreciate the process very much. [...] Listen to them and they have their insights, and I appreciate those things because I never think about that, I never thought of those ideas. So I really appreciate the education that can give me the comprehension about how to look at the situations, how to look at the problems, and how to make a right decision at the moment based on the information I have (Decision Maker 1, p.7-11).</p> <p>2) If it's because of actual technical differences, I think to a degree I can actually even enjoy it because it's a deeper learning...So if it's actually a technical interpretation that's different, I think I tend to enjoy that conversation (Decision Maker 2, p.15).</p> <p>3) I really welcome all those things [team members' different suggestions regarding product materials]. That was really good to have. I knew three or four materials we could use, and one</p>

		<p>person [one of the team members] introduced all kinds of materials, among which I was comfortable with a particular one. And he [another team member] says, “No, this material is lightweight if it’s used. We cannot use it to have a complete product.” So that came as a good idea, right? I accepted it and I appreciated it (Decision Maker 6(2), p.26).</p>
<b>-Comfort</b>	Decision maker is comfortable with getting multiple conflicting expert advice	<p>1) I would say I was quite comfortable with every level where they were. The advisors all had very good specific technical knowledge. When the senior VPs talked, it was always about strategic visions. They played the role that they were supposed to. I never felt there was an advisor who I couldn’t trust on something that’s their specialty (Decision Maker 2, p.9).</p> <p>2) I’m comfortable with having different pieces of advice and I think it’s important and it doesn’t bother me. I think all I have to do when getting different pieces of advice is to tease it apart, understand the perception of the person giving you that advice and then weighing it in the grand scheme of things (Decision Maker 11, p.29).</p>
<b>NEGATIVE EMOTIONS</b>	<b>The emotional experiences that are negative and destructive</b>	
<b>-Worried</b>	Decision maker is worried (scared and nervous) when getting multiple conflicting expert advice	<p>1) If I’m going to take a decision in favor of mainframe, whether it is going to work or not? If it doesn’t work, then what is going to happen? Whether it will have any impact on my career or not? And in case if I follow the Java approach, what is the impact I will be having? I am not sure because if something goes wrong, then certainly I will be held responsible for that, and it is going to affect in my career and my appraisals. So I was concerned about that. I was certainly worried about my work, because ultimately I was responsible for getting it done (Decision Maker 3, p.14).</p> <p>2) I couldn’t see it earlier. Definitely I was nervous. And then I looked for the options, but ultimately, when I was looking for alternatives, but they [the multiple pieces of conflicting advice from the external advisors, such as the machinery suppliers, the decision maker’s garment buyers, and the sub-contractors, etc.] were not applicable to me. [...] I was not getting good ideas from these people who were giving me advice...They were acting for their interest, but I was looking for a solution, and I wasn’t getting it. So I got definitely nervous about what I should do (Decision Maker 4, p.33-34).</p> <p>3) On the very first day when he gave me an opinion, I felt like it was very simple, but at the same point in time when I talked to another guy, he gave me a bad thing about it [the first advice]. [...] After getting onto a couple of solutions, I felt like no, this is not that easy. It needs to be taken care of immediately and it is my first priority, and I’m feeling actually nervous about it. Like what will happen to my job? I was feeling scared about it. I don’t want to take any wrong decisions. I was worried a lot. [...] I was scared that this might affect my job and I was nervous about what could happen next. I don’t know because these guys are going to advise me something and [...] I don’t know the outcome of it. So that’s the reason I had those kinds of feelings. But if I were confident, then definitely I wouldn’t have those feelings (Decision Maker</p>

		9, p.31-33).
<b>-Depressed</b>	Decision maker is depressed (demoralized, unhappy, and feels down or bad) when getting multiple conflicting expert advice	<p>1) I was getting little demoralized in the sense that whenever I was approaching someone for a solution, and I was expecting to get a solution right away and to get a workable solution. But those are not happening...I did get demoralized (Decision Maker 4, p.32).</p> <p>2) I felt bad about it because as one team, we should have focused on getting the tasks done in the right way rather than thinking about who is doing that. But somehow this was not happening (Decision Maker 3, p.12).</p> <p>3) For a while it was not fun to come to work and so just one step at a time [...] Definitely in the early days, it was almost to the point of like a depression about work. Because in the early days when I saw that I didn't have the buy in or I didn't agree with my subordinate, it was tough [...] I think because we disagreed in the beginning, she and I both dug in our heels. Then we're not even agreeing on small things just to preserve a little. So it was a difficult time. It was not pleasant (Decision Maker 11, p.19-27).</p>
<b>-Frustrated</b>	Decision maker is frustrated (irritated, annoyed and disturbed) when getting multiple conflicting expert advice	<p>1) If it's critical and especially if there's a timeline, of course you feel frustrated because you know you have to reconcile the differences before you can move on. I guess in cases where you know you have to reconcile the differences to move on, it can be frustrating. It's much more frustrating when you know it's because of politics. Like these little blocks, nothing's as neat and clean as that. But if it's more politics it's frustrating because you know you just have to work through it. [...] I think you can probably bottle all of those up with frustration. Like anxiety, maybe nervous, maybe little elements of that, but really just frustration or annoyance sometimes. But much more when it's dealing with people that are disagreeing for their agendas. Sometimes it gets frustrating when people are extremely conservative, and they refuse to move off from that. I've had a few cases like that where you know they're being extremely conservative. You've shown them your technical view of it and they don't agree. [...] Just because everyone has different tolerances of risk. That becomes frustrating because again, I know I can't get past that [...] I guess it's frustrating because I know the next step is to work through politics (Decision Maker 2, p.15-16).</p> <p>2) She [the financial advisor] was very conservative as well. So she never said, "OK, go for it. Fight him" or things like that. She was always saying from financial point of view, "it works because of this number you as can see." I didn't know and she was always saying that we should always respect our seniors and be careful about that as well. So she was not really helping the situation in this regard. She was saying that it was possible to run this project, but no [don't fight with the senior who wanted to terminate the decision maker's department]...It was a disaster. [...] He [the senior] was too big to come to our humble meetings. He is from other departments and he wouldn't ever risk it coming to our meetings. He couldn't cross the boundaries. [Otherwise] We would complain that he's interfering. But he was always sending his messages through different channels. For example, one of our members in the meeting said, "Oh, you know what? I just see Mr. B [not the daily production leader, just the member's friend], and he said that</p>

		<p>Mr. A [the daily production leader] is not really happy about the project and things like that.” So we were under pressure. [...] It was not technical, it was around the bushes, and it just pushed us, hindered us to do our job (Decision Maker 5, p.16-30).</p> <p>3) I was at some point very irritated. I was disturbed and frustrated...I don't know why some people are supporting him! I was irritated, and I was like what's wrong with you? He's not working...because of the simple fact that something is wrong, and people are trying to keep being wrong and trying to give that wrong a chance. I myself, by nature, am very hard working. And I just don't like that some people just come and take a share of your hard work. That was the main part of irritation. [...] These pieces of conflicting advice were the ones that delayed the process and made me more irritated or frustrated. [...] It was more difficult in a sense that something is wrong. Some people are saying that let's keep him, and some other is saying I don't know. One is saying work it out. And it's like you don't know, and you ask yourself why. Why should I do that? So it was that kind of emotionally stresses I got. I felt terrible, frustrated. What's going on? Why should I do anything that is not justified in my eyes (Decision Maker 8, p.14-19)?</p>
<b>-Angry</b>	Decision maker is angry with getting multiple conflicting expert advice	<p>1) Actually I reacted very strongly to Mr. A's [the leader of daily production department, the senior in the company] opinion. I get to the point that I didn't care about the logic behind what he's saying. When Mr. A was saying something, I just didn't talk about him. Whenever it gets to his points, all of us were really angry, because we thought that what he's doing is unfair. [...] We're a bunch of young engineers and our intention is helping the company but we are not in a good situation. So yes, I would say that's angry (Decision Maker 5, p.23).</p>
<b>OTHER EMOTIONAL OUTCOMES</b>	Other emotion-related conflicting advice taking outcomes	
<b>-Not Emotionally Attached</b>	Decision maker is not emotionally attached to the advice taking and decision making situation	<p>1) Emotionally, there was no feeling at all because I don't always work with them [the advisors who were also the temporary team members]. And we don't hate each other or we don't like each other either. We contribute to the same project this time and we all want profit. That's all. [...] I gave him [the advisor whose opinion is less applicable] the points that, 'these were the things with which you were making mistakes.' I think this works well. So I guess if the advisor finds a fault in that, he can tell us, and I would probably go with something else. [Researcher: So you're not feeling any emotions regarding conflicting advice from different advisors?] No (Decision Maker 7, p.25-26).</p>
<b>-Avoid/Ignore Emotional Reactions</b>	Decision maker ignores or avoids his/her feelings and emotions during the advice taking and decision making process	<p>1) I didn't pay too much attention about the feelings and emotions I had to those information, because I personally understand those information, they cannot be really consistent because it is people. [...] I think maybe it is better not to make a decision too quickly. Sometimes, especially when it is a kind of emotional decision. It is really not that good, because when you have time, you can back up the decision with evidence. I mean you can take a look at the situation more deeply and more considerably, instead of making a very quick decision based on the information</p>

		<p>you have when you feel kind of emotional...(Decision Maker 1, p.8-11)</p> <p>2) I was trying to restrict being emotional and do those things, because ultimately it was a task and we needed to get it done. So no need to get emotional. Whatever is better and whatever is feasible, that is the approach that is going to work. So I was not at all emotional or sentimental about the approaches, but certainly these teams were. [...] In case if I was getting too emotional, usually I went for a break, having a cup of coffee or tea or thinking about something else, so that I could deviate my mind from that particular topic. And this helped me a lot (Decision Maker 3, 11-p.14).</p>
<p><b>-Transition of Emotional Experiences</b></p>	<p>Decision maker experiences the transition of his or her emotions during the advice taking and decision making process</p>	<p>1) When I got the first solution, I felt very high. I got these things. I was very happy. When I asked the other guy who said that this could turn negatively to your job, so then I felt very scared. I was like in the bottom half. I was feeling very scary. But as when I got more information, I felt like now I'm going to get my whole solution off it, so it was gradually going up again. And when I got my decision, I was very confident again (Decision Maker 9, p.42).</p> <p>2) Definitely in the early days, it was almost to the point of like a depression about work. Because in the early days when I saw that I didn't have the buy in or I didn't agree with my subordinate, it was that tough. [...] I think because we disagreed in the beginning, she and I both dug in our heels. Then we're not even agreeing on small things just to preserve a little. So it was a difficult time. It was not pleasant. [...] Then I started seeing a personal coach to discuss these issues, and I started meditating and doing different things to try to get like an inner peace to help with everything and to realize that, I don't have to climb a mountain in one day. No one does that. It's one step at a time. So I broke down this thing that seemed like a huge big deal into smaller manageable steps. And then I started to feel better and feel like I was having better interactions, interpersonally with this person...So I would say that it really started like down low, not good and then it just slowly with time went a lot [better] (Decision Maker 11, p.27-28).</p>

Table 4. First Level Codes and Second Level Codes Regarding the Cognitive Outcomes/Thinking

Codes	Code description	Quotations
<b>THINKING REGARDING ADVISOR(S)/ OTHERS</b>	<b>How the decision maker thinks about the advisors: the decision maker's willingness to be vulnerable to the advisor based on positive expectations about the advisor's actions and intentions</b>	
<b>Type of Trust</b>	The type of trust the decision maker has	
<b>-Cognition-based trust</b>	The decision maker's trust is rooted in a rational assessment of the advisor's trustworthiness	<p>1) [Researcher: How much did you trust those advisors?] I would say not 100 percent because there were several reasons. I had to understand what their agenda was. The other one is they were not used to looking at acquisitions the way we do (Decision Maker 2, p.10).</p> <p>2) I did not trust them 100 percent. But since we were on the same team, they gave me their input and then I would analyze which one was more logical, then we would follow that approach (Decision Maker 3, p.9).</p> <p>3) Ms. S [the financial advisor], now when I'm thinking about it, I trusted her because of her reputation of being trustworthy or being someone dedicated to the company. I never second-guessed her calculation (Decision Maker 5, p.18).</p> <p>4) I trusted them because they were not involved directly with this project and they had professional experiences as well. They had gone through such situations before. And they are the ones who have a personal relationship with me. They won't guide me in the wrong track (Decision Maker 10, p.14).</p>
<b>-Affect-based trust</b>	The decision maker's trust depends on feelings toward the advisor that go beyond any rational assessment of trustworthiness	<p>1) Because they are my people [producers and workers work for the decision maker's factory], they are the people whom I'm interacting with all the time and I know them, they know me. Even in a culture when you are dealing with many people and you cannot know everybody [inside out] because it's a professional relationship, you are still interacting with them all the time. So there is a certain level of trust embedded (Decision Maker 4, p.30).</p> <p>2) My friends? I trust them to the core. I know that whenever I'm going to ask them for any favor or anything, they're going to do their best to get the thing done for me...So even whatever advice they gave me had some bad points, the other person would rectify it and try to give a solution to it (Decision Maker 9, p.29).</p>
<b>Change of Trust</b>	The change of the decision maker's trust in others	
<b>-High→ Higher</b>	The decision maker's pre-advice trust is high, and the post-advice trust is higher	[Researcher: How much did you trust the advisors before getting advice?] I trust all of them. Even for the people who disagreed with the idea of switching, I still trust them. Their expertise is still solid. [...] I would say now that I probably trust my subordinate a little bit more actually because I found a way to work with her and to get her on board. So that amplified the trust that I think is there between us because you can't help it but, if you feel likes someone doesn't trust your opinion now we're not talking about flavours of ice cream, we're talking about something where there's a decision being made. When we have an opinion, we would like our opinion to be shared...So the fact that I found a way to work with my subordinate I think strengthened that

		trust. For me, it did anyway (Decision Maker 11, p.22-25).
<b>-High→No change</b>	The decision maker's pre-advice trust is high, and the post-advice trust stays the same	<p>1) I really trusted my technical guy because I had an understanding about taking on issues myself, so he couldn't really fool me in a way. Ms. S [the financial advisor], I guess now I'm thinking about it, I trusted her because of her reputation of being trustworthy or being someone dedicated to the company. I never second-guessed her calculation...and the trust in them didn't change after all (Decision Maker 5, p.18).</p> <p>2) [Researcher: How much did you trust the advisors before getting advice?] Very much. Very much. [Researcher: Did your trust change after getting conflicting advice from them?] No, no, no. It didn't change at all, because I know everyone very closely. I know they are not going to harm me. If you look at each one of them, this guy, he's looking after his friend. My supervisor, he doesn't want to get into trouble. My supervisor, he is like okay, don't get into any trouble. So yeah, it didn't change my opinion towards them (Decision Maker 8, p.13).</p>
<b>-Low→Higher</b>	The decision maker's pre-advice trust is low, and the post-advice trust is higher	<p>1) I did not have any trust in the professor because he was not going to help me or guide me. He was just going to say whether this was right or wrong. [...] [Researcher: Have your level of trust in the professor changed after getting conflicting advice?] Yeah. After two or three conversations and when we were totally into the project, he was asking questions like how to do this or how it would work. He was asking all those questions that were helpful [so I trusted him more] (Decision Maker 6, p.18-21).</p>
<b>-Low→No change or lower</b>	The decision maker's pre-advice trust is low, and the post-advice trust stays the same	<p>1) [Researcher: How much did you trust those advisors?] I would say not 100 percent because there were several reasons. I had to understand what their agenda was. The other one is they were not used to looking at acquisitions the way we do. [...] Within our group, you don't really have room for conservatism. [...] We need to be more risk tolerant because if we are not, we'll never make deals. When I go to these experts for advice, they have a lower risk tolerance. A lot of times they're more conservative. [...] There are lots of things that make the advice I get not the optimal, what we're looking for or the best fit. [...] It's much more frustrating when you know it's because of politics...[...] If she was a perfectly objective technical advisor I think it's different. But when she had her own goals, and other advisors that were involved in evaluating the project were for the project, and she was one person against several...so it's "many experts against one expert who had an agenda"... It's like the agency problem. She's doing it for her wellbeing versus what a lot of us view it as the wellbeing of the company (Decision Maker 2, p.10-17).</p> <p>2) [Researcher: How much did you trust the advisors before getting advice?] To be honest, not very much, and that's the reason why I asked other team members also to give me suggestions on that I can compile and compare. [...] [Researcher: Did your trust change after getting conflicting advice from them?] Not really because of my past experience, to be honest. My trust level didn't change. I was not having 100 per cent trust on like either of them. But I was able to take a decision based on the input given by them (Decision Maker 3, p.9-10).</p>

<b>THINKING REGARDING DECISION MAKER/SELF</b>	<b>How the decision maker thinks about him/herself in terms of self-confidence and decision makers' confusions</b>	
<b>Change of Self-Confidence</b>	The change of the decision maker's self-confidence	
<b>-High→ Higher</b>	The decision maker's pre-advice self-confidence is high, and the post-advice self-confidence is higher	<p>1) [Researcher: Were you confident about this decision task before getting advice from others?] Yeah, I was really confident. [Researcher: How did your confidence change after getting conflicting advice?] My confidence became more when I heard their ideas. I expected something much better than mine [initial decision]. If they have come up with much more innovative out-of-the-box ideas, I would drop mine and I would have listened to them. [Researcher: It's like you had already got a high-level confidence and you were expecting better ideas from your advisors. But then you found out, well, yours was still the best, so you had more confidence regarding your own idea, right?] Yeah (Decision maker 6(1), p.22).</p> <hr/> <p>2) I was already confident because I had seen enough of what was going on to feel like even though I might not have known, specific to a level of detail, I knew that currently how we were organized, and it wasn't working. I had staff reporting to me that were saying they were working like 20 hours overtime a week. I know something's broken because for the number of students we have, there is more than enough staff to do our job [...] So without knowing a lot of detail, I was already confident that what we had wasn't working, so I thought the likelihood that I'm going to make it worse is small. I figured that anything new was going to be an improvement... [Researcher: Did your confidence change after getting conflicting advice from different advisors?] Because when I first started my job here, I had not previously worked really in an academic unit. And my staffs all have years of experience in academic unit. At the beginning, I really deferred that they must know better because they've done this before and I haven't. So I would say that this increased my confidence, and I became more confident about this decision [...] Yeah, it was the support, that was very...reassuring... I'm being supported and there's an agreement [between the decision maker and the subordinate and between some other advisors] and that always of course makes you feel good. It's a positive feeling (Decision Maker 11, p.25-28).</p>
<b>-High→ No change</b>	The decision maker's pre-advice self-confidence is high, and the post-advice self-confidence stays the same	<p>1) [Researcher: Were you confident about this decision task before getting advice from others?] Yes, I was confident with my first idea, yes. [Researcher: Did your confidence change after getting conflicting advice from different advisors?] No, it didn't change (Decision Maker 7, p.22).</p> <hr/> <p>2) [Researcher: Were you confident about this decision task before getting advice from others?] Yeah, I was confident, yeah. [Researcher: Did your confidence change after getting conflicting advice from different advisors?] No. Because I always believe in something that if you work hard, you'll get the reward; if you don't, you won't. So yeah, I was clear. But the only thing is</p>

		that some people were saying let's keep him [keep the authorship of the team member who didn't contribute], but why should I keep him? It's not justified. I was trying to justify myself through others. [Researcher: So even though there are some voices saying that you should keep him, your confidence actually didn't go down?] No, it didn't go down (Decision Maker 8, p.13-14).
<b>-Low → Higher</b>	The decision maker's pre-advice self-confidence is low, and the post-advice self-confidence is higher	<p>1) [Researcher: Were you confident about this decision task before getting advice from others?] I will say not too confident because for every one of these acquisitions I do a preliminary evaluation. I look at previous liabilities we've checked...so I can get an idea of what's going on, but I would never make a recommendation to management based on what I currently knew, because...it was the procedure to get everyone else's buy-in. [...] But I guess I have a frame of reference, because...I do my own analysis. So if they say something and I find that lines up with my previous experience, it's easier for me to accept. If they say something that's really off then I say, oh, is there something going on here? [Researcher: Did your confidence change after getting conflicting advice from different advisors?] I would say yes because most of the time I can work through them. It's not like I sit there with everyone telling me different things. Usually I have enough time that I get conflicting advice that I learn something from that experience, whether it's technical, and we have a technical discussion and figure out what's going on or I learn something about a person's motive (Decision Maker 2, p.12-13).</p> <p>2) [Researcher: Were you confident about this decision task before getting advice from others?] No, it's mechanism. Sometimes it works, sometimes it doesn't. So you never know before you're actually prototyping it. You can't trust the numbers on the paper. And the market is very unstable and very dangerous. So, no, till the day you really sealed that agreement to just sell the whole certification to the company, I was really worried. I was not certain at all. [Researcher: Did your confidence change after getting conflicting advice from different advisors?] Yes. Yes. After I got advice, the more people supporting an idea, the more confident I was (Decision Maker 5, p.21).</p> <p>3) [Researcher: Were you confident about this decision task before getting advice from others?] No, I was not confident at all. I did not know what to do about it. When my boss called me and told me that there's this thing. Then I left. And on my way back to my cabin, I was like what should I do now? [Researcher: Did your confidence change after getting conflicting advice from different advisors?] Yeah, it changed a lot. Now I came like it's not very easy to make such kind of decisions. I needed to think in different perspectives just to make sure that decision doesn't affect my career. [...] My confidence did improved a lot. If somebody asked me to make any sort of decisions right now, I know how to tackle it (Decision Maker 9, p.30).</p>
<b>-Confusion</b>	Decision maker is confused when getting multiple conflicting expert advice	1) I felt confused because these conflicting ideas are coming from different teams. And I'm not an IT guy, although I was working with an IT company. So I was not sure whether whatever Java team was saying was 100 percent correct or not. And that was the reason that I was not having 100 percent trust on them. I had to go to my program manager and project manager to seek his advice because he's from IT. He understood both of the systems very well. [...] Getting the conflicting information or conflicting advice makes you a bit uneasy and uncomfortable. I get confused about whether any of those suggestions is the right approach or not (Decision Maker 3,

		<p>p.1316).</p> <p>2) When they are different, I felt confused. I even thought that why I couldn't take their opinion and do it? I didn't feel happy about it. No. I was not happy, no. Maybe I felt a little confused. At the starting point when I had my initial ideas, and they gave me their initial ideas, at that time it was really confusing about which one to choose, which one would be the best. I was confused because everyone gave his or her own idea, and I don't think how I would feel happy about that. There was more confusion (Decision Maker 6(1), p.21).</p> <p>3) I was so confused. This confusion kind of resulted in letting me ask more people. I called my friend, and I just asked him what I was supposed to do. He gave some advice. Then it created some more confusion for me. Then I called up another friend. So this was the situation. So it was like I was confused, and this confusion led to the fact that I asked more people. [...] They gave me more pieces of different advice, but like that time, like the number of people who were saying that if he was not working properly, you were justified in not giving his authorship or firing him or letting him go. So I was getting that input more, and I selected the majority (Decision Maker 8, p.12).</p>
<b>THINKING REGARDING ADVICE</b>	<b>How the decision maker thinks about the advice</b>	
<b>Advice Processing Procedure</b>	The procedure that the decision maker follows to cognitively process the advice	
<b>-Communication and clarification</b>	The process of listening to the advisors and reflecting	
<ul style="list-style-type: none"> <li><b>One-on-one advice discussion</b></li> </ul>	Decision maker takes advice with individual advisor one at a time	<p>1) Initially I had a one-on-one with both of them. But when we were not coming into conclusion, then I took both of them to a conference room, and then we had a discussion on this (Decision Maker 3, p.17).</p> <p>2) I tried to get to them individually and talk to them because they're not always in a group setting the most apt, which is again normal. There's that nervousness, you won't be the only one (Decision Maker 11, p.11).</p>
<ul style="list-style-type: none"> <li><b>Group-based advice discussion</b></li> </ul>	Decision maker present all pieces of conflicting advice to all different advisors, and the group discusses how to make the decision together	<p>1) Initially I had a one-on-one with both of them. But when we were not coming into conclusion, then I took both of them to a conference room, and then we had a discussion on this (Decision Maker 3, p.17).</p> <p>2) All of us were all technical guys, we were all young and we were all fighting for the survival of this department. So we would openly talk to each other about what's going on. A, B and C could present themselves in the meeting just to explain everything. But usually I process all the information around with the group (Decision Maker 5, p.15).</p> <p>3) And I was saying okay fine, let's talk all together. And all the things happened. It's a complicated situation. So many messy things were happening (Decision Maker 9, p.26).</p>

<b>-Advice quality check</b>	Analyze, calculate and measure the reliability, accuracy, applicability, and efficiency of the information, options or solutions different advisors offered	
<ul style="list-style-type: none"> <li><b>Compare advice to initial decision</b></li> </ul>	Compare the advice to decision maker's initial judgment or independent information search	<p>1) I guess I have a frame of reference, because what I do is I do my own analysis. If they say something and I say that oh, that lines up with my previous experience, it's easier for me to accept...there is a good reference in that way (Decision Maker 2, p.14).</p> <p>2) I listed on all the pros and cons received from different individuals, and then I did some analysis that whether whatever they is recommending was making sense or not because sometimes you get rubbish information as well. Because IT works on garbage in garbage out. If your input is not correct, the output is certainly going to be wrong (Decision Maker 3, p.8).</p> <p>3) I was looking for their support of firing or getting rid of him because I myself could tolerate any kind of negligence. If you're not working, you're not getting any share. What I wanted to hear from them is supporting me in it. He's doing something wrong and he should be fired (Decision Maker 8, p.11).</p>
<ul style="list-style-type: none"> <li><b>Compare advice to others' advice</b></li> </ul>	Compare the advice to others' advice	<p>1) I just approached the advisor by asking more questions or saying, I'm getting a different view. I told the expert A I have people telling me something differently. How do you line the two up (Decision Maker 2, p.10)?</p> <p>2) Right now they'll commit something and later on they'll come up with an excuse and tell me this is not possible [two groups of advisors are recommending that their own technology can complete the task alone]. We have this obstacle [using only one technology might have its shortcomings], so we need help from another team to get it done. So I asked them to give me their input in writing so I could compare them. If it [either of the approach] is making sense to me, I'll follow that approach (Decision Maker 3, p.9).</p>
<b>Decision Making Strategy</b>	The decision making strategy or method the decision maker applies to decide amongst different pieces of advice	
<ul style="list-style-type: none"> <li><b>-Majority rule</b></li> </ul>	Pick the majority from all the pieces of advice	<p>1) I tried to consult more people from different companies and from outsiders. They also gave me some of their information. And I just pick the majority (Decision Maker 1, p.8).</p> <p>2) I was so confused. This confusion kind of resulted in letting me ask more people. I called my friend up, and I just asked him what I was supposed to do. He gave some advice. Then it created some more confusion for me. Then I called up another friend. So this was the situation. So it was like I was confused, and this confusion led to the fact that I asked more people. [...] They gave me more pieces of different advice, but like that time, the number of people who were saying that if he was not working properly, you were justified in not giving his authorship or firing him or letting him go. So I was getting that input more, and I selected the majority. Eventually it was going in the direction of the majority because no one did directly say to me that I should keep him (Decision Maker 8, p.12).</p>
<ul style="list-style-type: none"> <li><b>-Prioritize</b></li> </ul>	Analyze the priorities of all advisors and order their advice based on the decision maker's and	1) Priorities of each individual person are different. Finally, we have to balance between all the priorities and also take care of ourselves as a person. Whatever decision you make should not affect the organization. It should not affect the stakeholders of the project as well. So when we

	advisors' priorities	<p>are in a decision-making process, think about all the stakeholders who are involved in this and think about which priority is more important and what needs to be exercised first, second and sequence the priorities, which one is the optimum one (Decision Maker 10, p.13)?</p> <p>2) It's the relative weight of the importance of the person giving the advice. It's also the perception. So if someone was to make things work better so we can better serve students, people who can give me advice from a student's point of view or knowing what serves best students, that's going to have more weight than someone else's (Decision Maker 11, p.34).</p>
<b>-List pros and cons</b>	Combine advice from different advisors and list all the pros and cons	<p>1) I listed on all the pros and cons received from different individuals, and then I did some analysis that whether whatever they is recommending was making sense or not because sometimes you get rubbish information as well. Because IT works on garbage in garbage out. If your input is not correct, the output is certainly going to be wrong (Decision Maker 3, p.8).</p> <p>2) I listed all the pros and cons of the project, and tried to see the future of the project. What happens if the project is a big hit and you sell it to some big company, and that becomes their trademark project (Decision Maker 6, p.4)?</p>

Table 5. First Level Codes and Second Level Codes Regarding the Behavioral Outcomes and Decision Results

Codes	Code description	Quotations
<b>BEHAVIORAL OUTCOMES</b>	<b>The decision maker's behaviors and actions</b>	
<b>Expanded Advice Seeking</b>	The decision maker seeks more advice after getting conflicting advice from different advisors	
-To collect more information or/and expert opinions	The purpose to seek more advice is to collect more information and opinions from experts to reduce confusion	<p>1) At the same time, I needed to combine knowledge or information I got from a wider pool, not only limited [the advisors] to the people work in my company. [...] As long as I got conflicting information, I tried to figure out any other channels to get a different insights or different personal angles (Decision Maker 1, p.5-6).</p> <p>2) I was so confused. This confusion kind of resulted in letting me ask more people. I called my friend, and I just asked him what I was supposed to do. He gave some advice. Then it created some more confusion for me. Then I called up another friend. So this was the situation. So it was like I was confused, and this confusion led to the fact that I asked more people. [...] They gave me more pieces of different advice, but like that time, like the number of people who were saying that if he was not working properly, you were justified in not giving his authorship or firing him or letting him go. So I was getting that input more, and I selected the majority (Decision Maker 8, p.12).</p>
-To verify and compare conflicting advice from different experts	The purpose to seek more advice is to use the new advice to verify the accuracy of the existing conflicting advice from different experts and to compare them	<p>1) Our group understood that her group had an agenda, and she's had an agenda several times every time we worked with her. So what we did was that we met within our group and said that we need to go and find information to demonstrate to her that her concern isn't valid. So we went through the historical data to show how these wells can do, and we were working with a third party advisor because we needed to. And they supported our findings. So I guess I had contradictory recommendations. We had a very good feeling why she was recommending against it...because she wanted to get more money in her budget and bring in the property at a lower value so that it makes her job easier. So understanding that, we went and looked at technical data ourselves and we brought in a third-party expert, and we talked to her manager (Decision Maker 2, p.8).</p> <p>2) The mainframe guy was suggesting that we needed to build a new table to capture that information so that whenever we need to retrieve it later on. He was suggesting that we would have to build altogether a new module for that. And later on we could use the same module in case we needed to retrieve that information on any of the new screen or other screen. The Java guy was saying that rather than using the mainframe tables, we could use individual tables to capture this information in that itself in the local database. And then we could get it, retrieve whenever we need, so there was no need to go with the mainframe approach. [...] These conflicting ideas coming from different teams. I was working with an IT company, but I was not an IT guy. So I was not sure whether, whatever Java team is saying is 100 percent correct or not. That is the reason why I was not having 100 percent trust on them. So I had to go to my program</p>

		<p>manager, project manager to seek his advice because he's from IT. He understands both the systems very well (Decision Maker 3, p.6-13).</p> <p>3) I wanted to make a decision that is 100 percent sure to me and to my job. That's the reason I kept on asking three different people for different opinions and making them as audiences. If I asked that guy, I make the other two guys as audiences and I became an audience...I get a mixed bag...so I can just take some good points from it. [...] The third guy was really helpful because he did not have much information to help technically. But I wanted to make sure that I had one guy who is actually like my replica and who is going to understand everything and tell that back to me. He understands me and he's honest with me. [...] Basically, when I listened to A and an individual B also listened to A, A's whole perception came to himself. So he [A] kept on thinking what he's trying to explain to him [B]. There was another guy [C] who was also listening to him and him, both of them. He could compare (Decision Maker 9, p.29).</p>
-To justify decision makers' initial or final decision is optimal so the advisor who disagreed could be convinced	The purpose to seek more advice is to prove that the decision maker's initial or final decision is better than other suggestions, which helps the decision maker to convince the advisor who disagreed with the decision maker's initial or final decision	<p>1) I have to analyze it in another person's perspective. And I have to see why can't we do that and what if I do it on my own and what if I realize the professor's idea? What if the professor hates me for not doing his idea, and what if he doesn't give me grades? And you have to do some groundwork? I cannot just go and say that we'll make a product. I have to see if it is really possible for me to make a working product. So it takes time. I have to do presentations. I have to convince others (Decision Maker 6, p29-30).</p> <p>2) I would say that based on the information I had, I had made up my mind that I was going to go program-based [a new way to restructure the office] instead of this way [the old way]. I had basically made up my mind. But then I'm thinking how do I convince everyone else that this is a good idea too? Because I could just say I'm the boss and I said and let's go. But that's not the best, I don't think. It's better to have buy-in. [...] We came back in a subsequent meeting where it was to see if we could see any changes we could suggest. And that's probably the first time that I said out loud to the group that had they considered the idea that instead of working this way, they might work this way and just sort of let it sit. I didn't want to overly frighten anyone. It was just to plant the seed [...] And I think in a way that we got their buy-in, which from the beginning was something that I knew I needed. [...] We worked it out and that's really part of the reason I brought the external in because that sometimes it's easier for them to hear from someone who wasn't me saying that, "Oh, this could work for you." Then it sounds true, doesn't it? Sort of like with kids. They don't want to hear it from their mother. It's better if it's their friend (Decision Maker 11, p.4-33).</p>
<b>Advice Selection</b>	How the decision maker select advice	to make the decision among the multiple pieces of conflicting advice
<b>-Complete advice taking</b>	Decision maker take one piece of advice completely	<p>1) I took the advice that is suggesting that we should commercialize this project, but not producing it ourselves. [...] Technically speaking, producing it was next to impossible. I wouldn't say it was not an option but in that atmosphere, we were not the right people to producing it (Decision Maker 5, p.27).</p> <p>2) I followed the one that saying "get go [conduct the new approach]"...and it was almost pushed</p>

		by my other colleagues [from other units] who said “Hey, yeah this is the way we’re organized in other units, so that’s the way to go.” There were a few reasons. One was efficiency. I just think it’d make the office work better; but secondly – and this was the best part to my mind – it was to give more responsibility to the staff so that they could fully take the level of responsibility that they should have, possibly even increasing their job level here at the organization because we work on a kind of pay grade system. So this is going to enhance the pay grades of some of them, so that’s great (Decision Maker 11, p.30).
<b>-Advice combination</b>	Decision maker mixed the information and solutions from several pieces of advice and act on it	<p>1) What we did was that we could combine both approaches, and come up with something in which we were using inputs from both teams, and we handled some part of it in Java, and the most remaining part in mainframe (Decision Maker 3, p.7).</p> <p>2) At the end I made a cumulative decision. It was not a piece of advice given by a single advisor. It was a mix. So I took two lists to my manager, and I told him at the end that I selected two guys from his list because my manager had already offered them the position initially...as a promise and a reward of good performances on some tasks. [...] The reason I mixed the advice is that, nowadays, going with those traditional ways of thinking, like taking only one piece of advice, right or wrong, that’s not the way. You have to be diplomatic. I had to pick “rights” “rights” “rights” with a little bit of “wrongs”, and then tried to figure out what the “wrongs” were and get those “wrongs” converted into “rights”. So I had to think in numerous ways (Decision Maker 9, p.34).</p>
<b>-Complete advice discounting</b>	Decision maker didn’t take anyone’s advice	<p>1) No. I did not follow anyone’s advice [the decision maker’s initial decision was to submit a proposal with the team member’s own idea and produce the device. The team members suggested only submit a proposal without producing anything. And the supervisor of the project suggested the team submit a proposal using the supervisor’s own idea] (Decision Maker 6(1), p.25).</p> <p>2) [Researcher: Which advice did you follow in the end?] It was my decision, and I followed my [initial] decision...I didn’t listen to anybody’s unclear advice because that was not a situation that I could work it out. [...] Because it’s not something right. It’s something wrong. You can’t just act to stay good [neutral] in the society or just to keep some friendship (Decision Maker 8, p.15-16).</p>
<b>Decision Making Speed</b>	The influence of getting multiple conflicting expert advice on decision making speed	
<b>-Multiple conflicting expert advice delays decision-making process</b>	Multiple conflicting expert advice delays the decision-making process	<p>1) If I didn’t seek any advice from other people, I could have made the decision quickly. But I would not know if I have made the right decision. So it definitely costs more time if you ask people from different channels, but it is helpful (Decision Maker 1, p.10).</p> <p>2) It’s faster without conflicting advice, but I think I will walk away from it less sure about what I’m doing. Because when you have conflicting advice it really makes you re-examine your assumptions. Of course if you have an impedance to a process it’s going to slow it down. But I don’t consider it a bad thing to have some impedance (Decision Maker 2, p.18).</p> <p>3) I will consider the decision making process to be slower because this was a small project, and I</p>

		was having an understanding that we can come to a conclusion within three, four days. So it still took too long (Decision Maker 3, p.17).
<b>-Multiple conflicting expert advice accelerates decision-making process</b>	Multiple conflicting expert advice accelerates the decision-making process	[Researcher: Do you think it was faster or slower to make the final decision with multiple conflicting expert advice?] Actually this time it was very fast, but sometimes it could be lengthier. It depends on the team members. My team members wanted to finish this project and go to the next thing. They are totally focused. [...] And they're all very committed to this project. [...] And they have the same goal-to make this work and to make money (Decision Maker 7, p.31-32).
<b>DECISION RESULTS</b>	<b>The results of making the decision</b>	
<b>-Multiple conflicting expert advice increases decision-making difficulty</b>	Multiple conflicting expert advice makes the decision making more difficult	<p>1) In this case, it rather made my decision process more complicated (Decision Maker 4, p.38).</p> <p>2) But the one piece of advice from the boss make it more difficult for us, because as I told you, it was not technical, it was around the bushes, and it was the reason that hindered us to do our job (Decision Maker 5, p.30).</p> <p>3) The initial stages, it was a little bit difficult. We had to decide on a single project idea, and then we had to work on it. I got three ideas, and from the three ideas I had to narrow it down to only one idea. That's a bit difficult. It takes a lot of time (Decision Maker 6(1), p.27).</p>
<b>-Multiple conflicting expert advice is helpful to decision-making</b>	Multiple conflicting expert advice is helpful to the decision making	<p>1) [Researcher: Did multiple conflicting expert advice make it more difficult for you to make the decision or it was more helpful?] In some ways, it depends on the situation again. For instance, Microprocessors use 828, 815, and 813. Each one has its own advantages and disadvantages. I might not have read about all the microprocessors, but when someone said no, no, this microprocessor will do better and for this use, we went to use it as a communication processer because it was better. So someone who's more expert on the communication side came and said, no, this microprocessor would be better for this. That was a really welcoming idea (Decision Maker 6(2), p.30-31).</p> <p>2) Actually it wasn't more difficult. They definitely made us feel that we are sure what we are doing. It's an actual advantage. [...] They helped me to rule out mistakes I might make. And I could go much deeper than what it is (Decision Maker 7, p.32).</p> <p>3) I got many different possible solutions to it. And selecting the solutions that would be appropriate was a very difficult task because everything had advantages and disadvantages. [...] Conflicting advice from different people was also very helpful, because when the advisor 1 gave me a plus and minus, and the advisor 2 he gave me his plus according to the advisor 1's minus. Internally, they were trying to solve their own negative points. I did not have my mind. It was like everyone's mind is working on my problem to find out what is the best match (Decision Maker 9, p.37).</p>
<b>Decision Accuracy/ Effectiveness</b>	How accurate or effective the final decision is	1) We had everything set up and my boss was invited to see the current situation. She was very satisfied with what we did. On the last day, we had our customer to come to our site and the customer was very satisfied with what we had arranged for them as well (Decision Maker 1, p.2).

		<p>2) My decision was effective. And the client liked the approach that we followed. And later on we delivered two projects on a similar nature. Both of them followed the same approach. And then we utilized some piece of work that had already done for the first project. It resulted in saving some money for the client as well. So the client became happier about it (Decision Maker 3, p.19).</p> <p>3) This project got the vote and passed. All the people on the panel observed our passion for the project. They felt like “if we don’t give these guys this project, they will go crazy”. And they dedicated actually nine percent—it’s supposed to be eight percent to nine percent of the development budget to our project and they developed it in only three months, which was very good and we worked 24 hours, seven days per week for that. The outcome was very good as well in terms of financial reputation and the recommendation I get after that. So I’m really happy about the risk that I took. I’m really happy. [Before making the final decision and during the advice taking process] I had a huge amount of stress. I lost weight (Decision Maker 5, p.28).</p>
<b>Decision Making Satisfaction (Process)</b>	How satisfied the decision maker is regarding the process of making the decision with conflicting expert advice offered * All answers are promoted by the researcher asking “were you satisfied with the decision-making process of getting conflicting advice from different individuals?”	
<b>-High satisfaction</b>	Decision maker experiences high satisfaction with the decision making process.	<p>1) Yeah, I was (Decision Maker 1, p.10).</p> <p>2) The initial stages, it was a little bit difficult. We had to decide on a single project idea, and then we had to work on it. I got four ideas, and from the four ideas I had to narrow it down to only one idea. That’s a bit difficult. It takes a lot of time. But after deciding on that and getting more information on the single product, then I was really happy. I could really feel that something is progressing (Decision Maker 6(2), p.27-28).</p> <p>3) Yes, I was (Decision Maker 7, p.28).</p>
<b>-Medium satisfaction</b>	Decision maker experiences medium satisfaction with the decision making process	<p>1) It could have been done better. We could have played it better...We could have played in a way with less pressure or less stress (Decision Maker 5, p.29).</p> <p>2) I wouldn’t say satisfied because I don’t enjoy the politics of it. But I also understand working in that organization that was a reality. Decisions were made partially based on the technical, a bit on the people. [...] and another part is just because some outside influences. [...] So there were lots of influences and I had to take all of those into account on how they would affect one advisor to advise one thing against someone else. Everyone has different weightings for those (Decision Maker 2, p.17-18).</p>
<b>-Low satisfaction</b>	Decision maker is not satisfied with the decision making process	<p>1) To be honest, not really, because getting too many pieces advices is also not good. It was hampering or playing with my mind. But later on when I started filtering them out and putting them down on a piece of paper, it became a bit easier. But initially, getting too much advice and too much information was making me a bit uncomfortable (Decision Maker 3, p.15-16).</p> <p>2) No, no, no, I was not at all satisfied about it, because it really took a lot of time. It took a week. Initially I did not know anything about it, so I had to go slowly with every advisor. This is not the ideal way to make and decide on something this major. So I was not satisfied on the way I had</p>

<p><b>High Decision Making Satisfaction (Result)</b></p>	<p>Decision maker experiences high satisfaction with the decision making result  * All answers are promoted by the researcher asking “were you satisfied with the decision outcome and the result of your final decision?”</p>	<p>done that. At least for pressure I got from them (Decision Maker 9, p.34-35).</p> <p>1) Yes, I was satisfied. The result came out to be very satisfactory from the customer and we did have very good relationship with the customer later on (Decision Maker 1, p.6).</p> <p>2) Yes, certainly I was satisfied because the final result was good. Even the client was happy about it. And both of the teams were also okay, although they were not 100 percent happy because I didn’t completely follow the advice of either of them. But yeah, ultimately the end result was good, the client was happy, and that makes me very satisfied (Decision Maker 3, p.16).</p> <p>3) Yes. The best thing is that we aimed for 52 days at first to make the money back when we started our profit scale. But what happened was we got all the money back in 16 days (Decision Maker 7, p.28)!</p>
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## Appendix E. Summary of Decision Makers' Conflicting Expert Advice Taking and Professional Decision Making

Table 6. Summary of Decision Makers (DM)' Conflicting Expert Advice Taking and Professional Decision Making

DM ID	Decision Task	Options and Alternatives	DM's Initial Decision	Advisor Parties and Conflicting Advice
1	Select a proper location to perform a trial project (business related task)	1. City S 2. City N	2. City N	1. DM's supervisor: at first she was more familiar with (and tended to choose) City S. She supported the DM's decision making efforts afterwards 2. First line operators: information regarding the change of workload in City N 3. Local project manager in City N: conflicting information regarding local laws and regulations in City N 4. External advisors from consulting companies: conflicting information regarding local laws and regulations in City S and City N
2	Perform an acquisition divestiture project purchasing assets from other oil and gas companies at an optimal price (business related task)	1. Purchase the assets 2. Don't purchase the assets	1. Purchase the assets	1. Experienced engineers and geologists, finance/economics experts, the operation group, safety evaluators, the environmental group offered different technical details, which suggested the DM should purchase 2. The manager from another department advise the DM to not to purchase the assets, although based on her calculation the DM should 3. Some external technical experts gave advice on the price to purchase asset (not ideal), which was too conservative in the DM's case
3	Build a program to handle an IT company's policies, and decide whether it can be completed by Java or through mainframe technology (business related task)	1. Create the program with the Java technology 2. Create the program with the mainframe approach. 3. Mix both Java and mainframe technologies	None	1. Java team advised to use Java method only 2. Mainframe team advised to use Mainframe method only 3. DM's project manager who knew IT offered information and verification regarding other two teams' advice
4	Complete a garment order (40,000 pieces) and deliver them to the client	1. Tell the buyer that the order cannot be finished on time and ask for	None	1. Employees advised him to buy 3 machines and they could complete the task

	within 15 days (business related task)	<p>extension (will lose reputation, and it is uncertain if they can finish the task with the extension)</p> <p>2. Don't ask for an extension and deliver the products by air (the cost will be greatly increased)</p> <p>3. Buy new machines to enhance productivity (cost more on buying machines which will not be used frequently after this)</p> <p>4. Leave the orders to sub-contractors and producers (expensive and out of control and supervision)</p>		<p>2. The buyers suggested DM to deliver in time by air</p> <p>3. Machinery suppliers advised DM to buy many more machines which would not be useful after this production or ask sub-contractors to produce</p> <p>4. Other garment factories suggested DM to let them be the sub-contractor and produce the garment for him</p>
5	Complete a new device development project, and decide if a patent for a bailer device should be accepted, and how to apply the patent (business related task)	<p>1. Reject the patent.</p> <p>2. Commercialize the patent: purchase the patent, prepare a comprehensive business plan for it, and sell it to a manufacturer to produce</p> <p>3. Purchase the patent and produce the bailer themselves</p>	Between 1 and 2, not really sure	<p>1. Financial advisor: purchase the patent, prepare a comprehensive business plan for it, and sell it to a manufacturer to produce</p> <p>2. Technical advisor: purchase the patent and produce it</p> <p>3. VP from daily production department: applied pressure to decision maker's team, strongly against the project, even against the department</p> <p>4. One team member: should reject the patent directly</p>
6(1)	Stage1: Decide in what way should the team to complete a real-time engineering project designing an automobile alert system (business related task)	<p>1. Only submit a paper with the group members' design</p> <p>2. Realize the group members' design, produce the product, and sell it to other companies (realize and commercialize the design)</p> <p>3. Only submit a paper with the supervisor's design</p>	2. Realize the group members' design, produce the product, and sell it to other companies (commercialize the design)	<p>1. Three team members: submit a paper with their own idea</p> <p>2. Three team members: only submit a paper, but should not realize the design or produce the alert device</p> <p>3. Supervisor: submit a paper with supervisor's idea (for the authorship of a publication)</p>
6(2)	Stage2: Decide how to perform the project (the solution) after DM had made the decision to commercialize the project (business related task)	Different technical options regarding how to conduct the coding, what material to choose for production. No further details	None	Three team members have different suggestions regarding what material to use and different coding solutions

7	Decide which market to sell the Indian pickle (business related task)	<ol style="list-style-type: none"> <li>1. The US market</li> <li>2. The Indian market</li> </ol>	None	<ol style="list-style-type: none"> <li>1. Team leader: they should go for the US market because pickles are not perishable goods, they can spend the lowest cost on transportation and try a few states, which will still make profits</li> <li>2. IT analyst: go for the Indian market, because it is easier to do marketing and to transfer the goods</li> <li>3. Three software developers: information and technical specification about database, price and profits, etc.</li> <li>4. Leader of another team: information regarding how long the company can make money from the US market even the transportation fee is more</li> <li>5. A few friends working on other products in different markets provided relevant information</li> </ol>
8	Decide how to manage a disqualified team member (personnel related task)	<ol style="list-style-type: none"> <li>1. Exclude this disqualified member's name from the publication, and punish him by holding the portion of profit the team project could make.</li> <li>2. Keep the disqualified member's name on the publication because he is a friend</li> <li>3. Wait for the disqualified member to improve his performance</li> </ol>	<ol style="list-style-type: none"> <li>1. Exclude this disqualified member's name from the publication, and punish him by holding the portion of profit the team project could make</li> </ol>	<ol style="list-style-type: none"> <li>1. Team members: Keep the disqualified member's name and give him the money no matter how disappointing he performed</li> <li>2. Company senior: You are the decision maker, and the company will support whatever decision you make</li> <li>3. Supervisor: Don't get into troubles. Go work things out with this member</li> </ol>
9	Put together a team and select the team members for a merger project (personnel related task)	<ol style="list-style-type: none"> <li>1. Select team members from the list offered by the supervisor, in which there is no qualified employee. And there are a few people who have to be chosen because of organizational politics</li> <li>2. Convince the manager that the DM will choose his own team members without considering anyone on the manager's list</li> <li>3. Negotiate with the manager and create the list with both some people on the manager's list and those the</li> </ol>	<ol style="list-style-type: none"> <li>2. Convince the manager that the DM will choose his own team members without considering anyone on the manager's list.</li> </ol>	<ol style="list-style-type: none"> <li>1. Friend 1 from procurement department: at first he suggested to confront the manager and insist on DM's own list. "Do whatever you feel comfortable with."</li> <li>2. Friend 2/IT guy from R&amp;D department: don't tell the manager you cannot work with the people on his list. Just be frank, offer him information about these people, and let him to make the decision. Don't mix the list</li> <li>3. DM's manager: choose the team member from the list he made. However, these people on the list have bad profile, and they are there because they are friends with the</li> </ol>

		DM thinks are qualified		manager
10	Complete an engineering domain-based project (gas pipeline installation) with limited time and resources, the DM has to keep the customer and project manager happy at the same time (business related task)	<ol style="list-style-type: none"> <li>1. Take more time with the existing resources, but the customer will be unsatisfied</li> <li>2. Finish on time with extra resources offered by the company, but the company will cost more</li> <li>3. Finish the project on time with the existing resources, but expand the team members' working hours</li> </ol>	2. Finish on time with extra resources offered by the company, but the company will cost more	<ol style="list-style-type: none"> <li>1. Former supervisor 1: Listen to the project manager because he is the one to give feedback on DM's performance appraisal</li> <li>2. Former supervisor 2: take the risk to balance the project manager's advice and clients' advice, because the project manager will only give positive feedback when the client is happy</li> <li>3. The customer/client: finish the project on time no matter what</li> <li>4. The project manager: Keep the budget closed and complete the project with the existing money and human resource</li> <li>5. The engineering manager: complete the project as much and as soon as possible, not taking sides</li> </ol>
11	Design and modify the management style in a school administration office (personnel related task)	<ol style="list-style-type: none"> <li>1. Keep the old way to perform administration works: horizontally, every staff has work on every program in terms of one domain (such as admission, scholarship, research)</li> <li>2. Transfer to a new way to perform administration works: longitudinally, every staff only focus on one program but the work content includes all</li> </ol>	2. Transfer to a new way to perform administration works: longitudinally, every staff only focus on one program but the work content	<ol style="list-style-type: none"> <li>1. Equivalents from other departments: the horizontal approach DM's unit is using is not good, they should change to a longitudinal approach</li> <li>2. Dean: make it more efficient. I trust you and I have the willingness to try your approach</li> <li>3. External expert out of the office: performed data analysis, and recommended the longitudinal approach and made a process map for the team</li> <li>4. Other staff in the office: would like to try the longitudinal approach</li> <li>5. Subordinate directly report to the DM and some staff who supported her: strongly resisted the (new) longitudinal approach and insist on using the (old) horizontal approach</li> </ol>

## **Appendix F. Measures of Decision Makers' Traits and Potential Cognitive Bias**

As my thesis committee suggested, the features of professional decision makers might influence their decision outcomes of receiving multiple conflicting expert advice. I have taken the possible cognitive bias held by the decision makers (interviewees) and other personality factors into consideration during the data collection phase. To detect whether the decision maker is biased in any way, based on the discussion with my supervisor Dr. Silvia Bonaccio and my committee members, Dr. Magda Donia and Dr. Francois Chiocchio, I added items selected from the Dependent Decision-Making Style Scale (Scott & Bruce, 1995), the Feedback-Seeking Behavior Scale (Ashford, 1986; Gupta et al., 1999), the Openness to Experience Scale (Costa & McCrae, 1992), and the Positive and Negative Affect Schedule (Watson et al., 1988), all explained below.

To be noted, only nine interviewees completed all the scales. The first two interviews were performed as a pilot study and their research procedure did not include questionnaires. Since these measurements only include information from a very small sample, the data is not suitable for many statistical analyses, and the result is not generalizable. It is simply conducted as a quantitative help to detect trends in the qualitative accounts.

### **1. Dependent Decision-Making Style Scale**

Decision-making style is defined as the learned, habitual response pattern exhibited by an individual when confronted with a decision situation (Scott & Bruce, 1995). It is not a personality trait, but a habit-based propensity to react in a certain way in a specific decision context. Four decision styles were identified from prior theorizing and empirical research and defined in behavioral terms: (1) rational decision-making style is characterized by a thorough search for and logical evaluation of alternatives, (2) intuitive decision-making style is characterized by a reliance on hunches and feelings, (3) dependent decision-making style is characterized by a search for advice and direction from others, and (4) avoidant decision-making style is characterized by attempts to avoid decision making. As the current research focuses on the outcomes of receiving conflicting expert advice during the professional decision making process, the subscale regarding dependent decision-making style serves the research purpose very well.

To perform this measure, participants' responses on five statements are made on a 5-point scale ranging from "Strongly Disagree" to "Strongly Agree" with a total score of 25. The five statements that form the subscale include: 1) I often need the assistance of other people when making important decisions; 2) If I have the support of others, it is easier for me to make important decisions; 3) I rarely make important decisions without consulting other people; 4) I use the advice of other people in making my important decisions; and 5) I like to have someone

to steer me in the right direction when I am faced with important decisions.

## **2. Feedback-Seeking Behavior Scale**

Feedback seeking is a type of proactive behavior (Crant, 2000). Researchers find that feedback seeking is conducive to improved performance, because such behavior enhances the quality of the relationship between employees and their supervisors (Lam, Huang & Snape, 2007). As asking for others' feedback is very similar to advice seeking, this research include the feedback-seeking behavior scale developed by Ashford (1986) and modified by Gupta et al. (1999) to measure the degree of interviewees' feedback-seeking behavior.

To perform this measure, participants' responses to seven questions are made on a 7-point scale ranging from "Very Infrequent" to "Very Frequent" with a total score of 49. The seven items that form the subscale include: How frequently do you 1) Observe what performance behaviors your superiors reward and use this as feedback on your own performance; 2) Compare yourself with executives at your level in the organization; 3) Pay attention to how your superiors act toward you in order to understand how they perceive and evaluate your performance; 4) Observe the characteristics of executives rewarded by your superiors and use this information; 5) Seek information from your colleagues about your work performance; 6) Seek feedback from your superiors about your work performance; and 7) Seek feedback from your superiors about your potential for advancement within this corporation.

## **3. Openness to Experience Scale**

Although the Big-Five factors can be measured by several of these inventories, the most widely used five-factor questionnaire is the revised version of Costa and McCrae's (1992) NEO Personality Inventory (NEO PI-R). As the openness dimension provides a direct measure of how open individuals would tend to multiple information and others, we decide to only select items from this part of the scale. According to the NEO 30 facets, there are 20 items designed to measure participants' "openness". Six of these items capturing "openness to others" aspect and are chosen as our measure for participants' personality trait.

To perform this measure, participants' responses to the four positively-keyed items are made on a 5-point scale ranging from "Very Inaccurate" to "Very Accurate". The four items include: 1) I enjoy thinking about things; 2) I get excited by new ideas; 3) I carry the conversation to a higher level; and 4) I enjoy hearing new ideas. On the other hand, participants' responses to the two negatively keyed items are made on a 5-point scale ranging from "Very Accurate" to "Very Inaccurate". The two items include: 1) I am not interested in theoretical discussions; and 2) I

rarely look for a deeper meaning in things. The total score is 30.

#### **4. Goal Orientation Measurement**

Individuals have goal orientations, which are defined as individual differences in goal preferences in achievement situations (Dweck, 1986; Dweck & Leggett, 1988). Two major classes of goal orientations were identified: (1) A learning goal orientation of seeking to develop competence by acquiring new skills and mastering new situations and (2) a performance goal orientation of seeking to demonstrate and validate the adequacy of one's competence by seeking favorable judgments and avoiding negative judgments about one's competence. These goal orientations might influence professional decision makers' attitude and reactions toward others' advice, so the measurement of different goal orientations is considered necessary for this research.

A three-factor construct of goal orientation breaks the performance goal orientation into two separate dimensions (VandeWalle, 1997). As a performance goal orientation is defined as both the desire to gain favorable judgments and the desire to avoid unfavorable judgments about one's ability (Heyman & Dweck, 1992), both a prove dimension (gaining favorable judgments) and an avoid dimension (avoiding unfavorable judgments) for a performance goal orientation are conceptualized. Therefore, the VandeWalle's three-dimension scale (1997) measures the following three orientation goals: (1) Learning goal orientation: a desire to develop the self by acquiring new skills, mastering new situations, and improving one's competence; (2) Prove (performance) goal orientation: the desire to prove one's competence and to gain favorable judgments about it; and (3) Avoid (performance) goal orientation: the desire to avoid the disproving of one's competence and to avoid negative judgments about it. This scale is relatively preferred compared to previous proposed measurements (e.g., Bandura & Dweck, 1985; Leggett & Dweck, 1986) for this research because it is shorter and more widely used.

To perform this measure, participants' responses to thirteen statements are made on a 6- point scale ranging from "Strongly Disagree" to "Strongly Agree". Among the thirteen statements, five form the learning goal orientation sub-scale, which include the following items: 1) I am willing to select a challenging work assignment that I can learn a lot from; 2) I often look for opportunities to develop new skills and knowledge; 3) I enjoy challenging and difficult task at work where I'll learn new skills; 4) For me, development of my work ability is important enough to take risks; and 5) I prefer to work in situations that require a high level of ability and talent. Four form the the prove goal orientation sub-scale, which include the following items: 1) I'm concerned with showing that I can perform better than my coworkers; 2) I try to figure out what it takes to prove my ability to others at work; 3) I enjoy it when others at work are aware of how well I am doing; and 4) I prefer to work on projects where I can prove my ability to others. And the last four form

the avoid goal orientation sub-scale, which include the following items: 1) I would avoid taking on a new task if there was a chance that I would appear rather incompetent to others; 2) Avoiding a show of low ability is more important to me than learning a new skill; 3) I'm concerned about taking on a task work if my performance would reveal that I had low ability; and 4) I prefer to avoid situations at work where I might perform poorly. The total scores for each sub-scale are 30, 24, and 24.

## **5. The Positive and Negative Affect Schedule**

Since my thesis emphasize the professional decision makers' emotional experience during the multiple conflicting expert advice taking, I included the Positive and Negative Affect Schedule (PANAS; Watson et al., 1988) to understand their emotional experience in general. To perform this measure, participants' responses to ten positive affects (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, and active) and ten negative affects (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, and afraid) are made on a 5-point scale ranging from "Have No Such Emotion" to "Strongly Feel Such Emotion". The total scores for the positive affect and negative affect sub-scales are both 50.

## **6. Results on Participants' Traits and Potential Cognitive Bias**

First, Table 7 presents the information collected from nine interviewees using the Dependent Decision-Making Style Scale, Feedback-Seeking Behavior Scale, Openness to Experience Scale, and Positive and Negative Affect Schedule. It shows the *Means*, *SDs*, of the measured factors, and the correlations between them. The result suggests a significant positive correlation between the interviewees' feedback seeking behavior score and their prove performance goal orientation score,  $r = .85, p < 0.001$ . It also indicates a significant positive correlation between the interviewees' feedback seeking behavior score and their positive affect score,  $r = .76, p < 0.005$ .

In addition, I ranked every interviewee's score on each scale, and find the following trends. The interviewees whose advice seeing purpose is to verify their initial decision is optimal have lower scores on Openness to Experience Scale, Learning Goal Orientation Scale and Prove (Performance Goal) Orientation Scale. And their score on Negative Affect Scale is higher than most interviewees. Moreover, the interviewees who possess affect-based trust in their advisors have higher score on Openness to Experience Scale, but lower score on Negative Affect Scale.

According to Table 7, the signs of the correlation coefficients are mostly in the expected directions (e.g., the feedback-seeking behavior score is positively correlated to the openness to experience score). It is necessary to emphasize again that, due to the small sample size, the above

results are not generalizable and only show trends in the qualitative accounts to a certain degree.

Table 7. Means, Standard Deviations, and Correlations of Measured Interviewees' Features and the Piece of Healthy and Unhealthy Advice They Received

	Mean	SD	1	2	3	4	5	6	7	8
1. Dependent Decision-Making Style	4.13	.57	(.71)							
2. Feedback-Seeking Behavior	5.92	.64	.19	(.74)						
3. Openness to Experience	3.83	.51	-.25	.51	(.75)					
4. Learning Goal Orientation	5.49	.44	.25	.50	.37	(.67)				
5. Prove (Performance Goal) Orientation	5.11	.74	.39	.85**	.56	.55	(.78)			
6. Avoid (Performance Goal) Orientation	3.83	1.32	.06	.24	.28	-.33	.36	(.87)		
7. Positive Affect	4.38	.30	.34	.76*	.13	.51	.60	-.17	(.71)	
8. Negative Affect	2.44	.50	.23	-.52	-.56	-.54	-.57	.14	-.34	(.76)

Notes: (1) \*\*. Correlation is significant at the 0.01 level (2-tailed).

(2) \*. Correlation is significant at the 0.05 level (2-tailed).

(3) Measure 1 is based on a 5-point scale with a total score of 25; Measure 2 is based on a 7-point scale with a total score of 49; Measure 3 is based on a 5-point scale with a total score of 30; Measure 4 is based on a 6-point scale with a total score of 30; Measure 5 is based on 6-point scale with a total score of 24; Measure 6 is based on 6-point scale with a total score of 24; Measure 7 is based on 5-point scale with a total score of 50; and measure 8 is based on 5-point scale with a total score of 50.

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