

A Dyadic Approach to Information Mediation at Work: Examining Credibility and Value Perceptions

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Abstract

In daily interaction, workers play the dual role of information seekers and mediators by receiving or providing advice on how to find and use information. Using an online diary method, this study examines the dynamic and interactive process of information mediation focusing on (1) what factors influence how workers perceive the credibility of advice, (2) what factors influence how they perceive the value of the information mediation process, and (3) how their credibility perception impacts the value perception, depending on whether they receive or provide advice. The results show that, when receiving advice, credibility and value perceptions were almost exclusively influenced by the nature of the task for which the advice was needed. When providing advice, those perceptions were affected by more diverse factors including advice type and tenure. Furthermore, the relationship between credibility and value perceptions showed a marked difference depending on whether a person received or provided advice.

Keywords: workplace information behavior, information mediation, credibility, diary study

Introduction

Seeking information through colleagues is an important part of daily work. Compared with seeking information from document sources, the precision of queries is less crucial in seeking information from colleagues; instead, through conversation, two people can reach a mutual understanding regarding problem definition and what information is needed (Bruce et al., 2003; Robinson, 2010). Several researchers have identified those colleagues as information mediators, who intervene in the information seeking process of others by providing guidance and advice (Ehrlich & Cash, 1994, 1999; Kuhlthau, 2004). The concept of information mediation illuminates how information seeking at work becomes a social process in which strategies for finding and using information are developed and negotiated.

Information mediation is often invisible because of its embeddedness in daily interactions between workers (Ehrlich & Cash, 1999) as they play the dual roles of information seeker and mediator. Workers transition seamlessly between receiving and providing advice in finding or using information. In the process of information mediation, workers who provide advice would transfer their perspectives and judgments of information to colleagues who seek and receive advice, potentially influencing the seekers' subsequent information behaviors. The information seekers, however, may not accept their colleagues' advice as it is. Their acceptance depends upon the extent to which they perceive the advice to be credible and find the information mediation process to be valuable.

Taking a dyadic approach to studying information mediation at work, the ultimate purpose of this study is to better understand these dynamics in information mediation from the perspectives of both information seekers and mediators. We believe that the interactive process of information mediation bears further research given the current work environment in which organizations increasingly adopt social media and knowledge management tools. These tools provide workers with diverse communication channels through which they can intervene in each other's information seeking processes while unknowingly influencing one another.

Specifically, this study examines workers' credibility perception of advice as well as their value perception of information mediation. Previous studies about information behavior in organizational

settings tend to focus exclusively on the perspectives of information seekers, while paying relatively little attention to the perspectives of information mediators. This study presumes that advice shared in the process of information mediation and the value of the process itself are evaluated not only by those who receive advice but also by those who provide it. Unlike previous studies, therefore, this study examines the dual perspectives of information seekers and information mediators to gain a more complete understanding of trust perception and evaluation in the process of information mediation at work.

This study addresses the following research questions:

1. What factors influence how workers perceive the credibility of advice shared in the process of information mediation?
2. What factors influence how they perceive the value of the information mediation process?
3. How does their perceived credibility of advice relate to their perceived value of information mediation?
4. How do their perceived credibility of advice, value of information mediation, and the relationship between the two differ depending on whether they receive or provide advice?

In order to address these research questions, it is necessary to capture in-the-moment experiences of both advice-receiving and advice-providing in natural settings. We therefore conducted this study within a real-world workplace setting, using a diary method that combines signal- and event-contingent designs (Wheeler & Reis, 1991).

Literature Review

Studies have consistently found that organizational workers often rely on their colleagues for information. For instance, Allen (1977) found that engineers and scientists were nearly five times more likely to turn to a person for information than to an impersonal source such as a database. Despite the development of enterprise search systems, people still consider gathering information through personal contact with colleagues critical to the success of projects (Cross, 2000) and consult their colleagues as an "entry point to the written documents" (p. 11). A few studies have identified the significance of interpersonal information seeking in the workplace. According to Zipperer (1993), seeking information from colleagues is beneficial in that (1) they can provide feedback; (2) their memory might be the only way to access a document; and (3) they enable the selection of trustworthy experts within a particular subject domain. Kraut, Fish, Root, and Chalfonte (1990) argued that informal communication is necessary for organizational coordination given the nature of novelty, unexpectedness, and uncertainty in organizations. Organizational workers, therefore, deliberately build, maintain, and activate personal networks (Nardi, Whittaker, & Schwarz, 2000).

These studies indicate that information seekers have demonstrated a need for someone to be there for guidance during the process of finding and using information, as information mediators (Kuhlthau, 2004). While there is limited literature available about information mediators, existing studies have revealed their essential role in the process of seeking and using information. In the context of library service, Kuhlthau viewed information mediation as an intervention in a user's search process (2004). Her study distinguished between source- and process-oriented mediation, emphasizing the importance of the latter in seeking meaning. By observing customer support organizations, Ehrlich and Cash (1994) found that informal information mediation occurs across the process of daily work, from correctly diagnosing a problem, identifying, evaluating, synthesizing, interpreting, and applying information. The value of information mediation is often invisible to information seekers even if they frequently rely on mediators to identify problems and to learn what kind of information is available (Ehrlich & Cash, 1999). These literature collectively acknowledge the significant yet under-recognized roles of information mediators in the flow of knowledge. To better understand the dynamics of information mediation, however, more research is needed from both the perspectives of the information seeker and the information mediator about how people trust the advice they receive or provide and how they benefit from the process.

In examining people's perceptions of advice, the credibility research literature provides several attributes that influence whether or not people will believe the information. Credibility has been defined as a combination of trustworthiness and expertise (Hovland, Janis, & Kelley, 1953) that determines the believability of information (Fogg & Tseng, 1999). Fogg and Tseng categorized credibility into four types including presumed, reputed, surface, and experienced credibility. In their framework of credibility assessment, Hilligoss and Rieh (2007) identified three distinct levels of assessment: construct, heuristics, and interaction. Their construct level pertains to how people conceptualize credibility; examples included

truthfulness, believability, trustworthiness, objectivity, and reliability. Credibility studies to date, however, have been conducted primarily in the context of online information seeking mainly from the perspectives of information seekers. Comparatively, for organizational work settings, credibility issues related to the use of organizational information have not been the subject of significant investigation. It is important to expand the scope of research to include issues related to judging the credibility of organizational information, because they are closely related to organizations' decision-making capacities. The present study aims to fill these gaps.

Methods

Online Diary Surveys

In order to capture events surrounding information mediation in situ, we chose to conduct an online diary survey. Diaries not only enable participants to use their own words in recording events and feelings (Poppleton, Briner, & Kiefer, 2008), but also help them recall memories of those details during subsequent interviews. To examine how workers perceive credibility and value during information mediation from the perspectives of both information seeker and mediator, we developed two sets of diaries: (1) advice-receiving diaries for recording activities during which participants get advice from their colleagues in seeking or using information and (2) advice-providing diaries for recording activities during which participants give advice to their colleagues in seeking or using information. Participants were signaled via corporate email twice a day, at noon and 4 PM, for two weeks (excluding weekends). Each participant was asked to record advice-receiving diaries for one week and advice-providing diaries for the other week. In order to control any order effect, it was instructed that half of the participants start with advice-receiving diaries while the other half start with advice-providing diaries.

Participants

This study was conducted in the R&D department of a large Midwestern manufacturing company. The department consists of over 500 employees including scientists, technicians, and engineers. Previous studies have found that scientists and engineers tend to be highly motivated and active consumers of information (Fidel & Green, 2004; Hertzum & Pejtersen, 2000). Most of the company's projects are performed across multiple divisions, bringing together people with diverse backgrounds and expertise. The R&D department was chosen as a research site because, according to an initial interview with a divisional director, information mediation between colleagues is essential and is encouraged to accomplish daily tasks. An email invitation to the study was sent out to the entire R&D department and 86 individuals agreed to participate in the study.

Data Collection

Before collecting the diary data, we administered a background questionnaire that includes basic demographic information, job roles, department, and work tenure. Once participants submitted their background questionnaire, they were entered in the system and received e-mails with links to the online diary survey for the next two weeks.

Both sets of diaries consisted of open-ended, Likert-type, and multiple-choice questions. They first asked participants to think about situations during the past four hours in which they turned to their colleagues (or their colleagues turned to them) for work-related advice or information and to choose the one that took the most time. In the advice-receiving diaries, participants were then asked to report characteristics of the task on which they needed help, urgency and complexity of the task, names of up to five people they turned to, method they used to find and communicate with each person, reason they chose each person, characteristics of the advice received, action taken as a consequence of receiving the advice, credibility of the advice received, and value of the information mediation. In the advice-providing diaries, they were asked to report characteristics of the task on which they provided help, complexity of the task, name of the person they assisted, method used to communicate with the person, reason for why they were chosen, extent of the advice they provided, credibility of the advice they provided, and the value of the information mediation. In both diaries, task complexity was measured by

asking participants to indicate how complicated they felt the task on which they received or provided advice was on a scale of 1-7, with 1 being the least and 7 being the most complicated. Previously, researchers have studied task complexity in relation to uncertainty about or a priori determinability of task outcome and information requirement (Byström & Järvelin, 1995). Task urgency was measured on the 1-7 scale as well, but only in the advice-receiving diaries. This is because the timeframe or priority of a task is known by the person who needs help but not by the one who provides help.

Table 1 shows the measures of advice credibility and the value of information mediation that were used in the diary surveys. In advice-receiving diaries, four measures of advice credibility were developed based on previous credibility literature (Hillgoss & Rieh, 2007; Rieh, Kim, Yang, & St. Jean, 2010) and five measures of the value of information mediation were developed based on Saracevic and Kantor's (1997) taxonomies of values resulting from information services. Those taxonomies were developed in the context of library services, but provide this study with fundamental insights that serve to distinguish between cognitive, affective, accomplishments, and time values. All measures were rated on 1-7 scales.

Table 1
Measures of the Credibility of Advice and Value of Information Mediation

| Advice-receiving diaries | | | Advice-providing diaries | | |
|--------------------------------|--------------------|---|--------------------------------|---------------------------|---|
| Measures | | Description | Measures | | Description |
| Credibility of advice received | Trustworthy | The extent to which they trusted the advice | Credibility of advice provided | Expert | Self-rating of their expertise in the topic on which they provided help |
| | Reliable | The extent to which they relied on the advice | | Trustworthy | The extent to which they trusted the advice they provided |
| | Valuable | The extent to which they found the advice valuable | | Confident | The extent to which they felt confident that their advice would be helpful |
| | Agreeable | The extent to which they agreed with the advice | | Satisfied | The extent to which they felt satisfied with the advice they provided |
| | | | | Accepted | The extent to which they think their advice was accepted |
| Value of information mediation | Time well-spent | Level of the feeling of time well-spent after consulting the person | Value of information mediation | Time well-spent | Level of the feeling of time well-spent after the conversation |
| | Certain | Level of the feeling of certain after consulting the person | | Certain about what I knew | Level of the feeling of certain about what they knew after the conversation |
| | Satisfied | Level of the feeling of satisfied after consulting the person | | Learned new things | Level of the feeling of learned something new after the conversation |
| | Problem-solved | Level of the feeling of problem-solved after consulting the person | | Opinion changed | Level of the feeling of opinion changed after the conversation |
| | Learned new things | Level of the feeling of learned something new after consulting the person | | | |

Data Analysis

After removing incomplete and inappropriate records, the data set consists of a total of 450 diaries, 206 advice-receiving and 244 advice-providing, submitted by 75 participants. About half of the participants started with advice-receiving diaries ($N=35$), while the rest started with advice-providing diaries ($N=40$). On average, each participant submitted 2.8 advice-receiving ($SD=1.8$) and 3.3 advice-providing ($SD=2.1$) diaries.

The first step of data analysis was to develop a coding scheme to systematically analyze the two open-ended questions: (1) tasks on which the participants needed or provided advice; (2) advice they received or provided. Table 2 shows main and sub-categories of task types used for content analysis, with examples. The tasks were first categorized into five main types: (1) *increase descriptive knowledge*; (2) *increase procedural knowledge*; (3) *assess value*; (4) *determine actions*; and (5) *obtain data*.

Descriptive and procedural knowledge were further categorized into technical and non-technical knowledge. Technical knowledge refers to the knowledge of mechanical or scientific issues; non-technical knowledge includes knowledge of business, cultural, or managerial issues. This categorization is relevant to Taylor's (1991) categorization of information use situations in that both distinguish between factual, instrumental, and personal or political information. Table 3 shows the main and sub-categories of advice types with examples. Advice was categorized into three main types: (1) *knowledge addition*; (2) *value addition*; and (3) *alternatives suggestion*. Compared to the other advice types, value addition involves information mediators' judgments and personal opinions to a greater degree with an intention of influencing recipients.

Table 2
Coding Categories for Task Types

| Task type | | Example |
|--------------------------------|------------------------------|--|
| Increase descriptive knowledge | Gain technical know-what | Understand the functionality of an ingredient |
| | Gain non-technical know-what | Enhance knowledge on the business part of the company |
| Increase procedural knowledge | Gain technical know-how | Develop a matrix of tests for a project |
| | Gain non-technical know-how | Understand how to build trust within a team |
| Assess value | Evaluate | Determine whether a presentation covered the right information |
| | Verify | Double check a test procedure the company uses |
| Determine actions | Decide | Select which sampling plan is best |
| | Solve | Encounter a problem with a piece of equipment during a test |
| | Plan | Set goals around a future team-building event |
| Obtain data | | Need a statistical summary of data for a project |

Table 3
Coding Categories for Advice Types

| Advice type | | Example |
|-------------------------|-----------------------------|---|
| Knowledge addition | Aggregation | Collect raw data and summarize it |
| | Background knowledge | Go through the background of a previous testing |
| | Experience sharing | Share one's approach to a similar problem reflecting on past situations |
| | Explanation/demonstration | Walk through an example of building a new report |
| Value addition | Idea/opinion | Review and provide comments on a test analysis |
| | Suggestion | Provide a direction based on original scope of work |
| | Validation | Confirm the agenda for an upcoming meeting |
| | Solution | Identify options to prevent incident from occurring |
| Alternatives suggestion | Referral to documents/files | Supply documentation of a team's future plan |
| | Referral to other people | Provide the name of a person and coach on how to bring up an issue |

In the remainder of this paper, we report our findings from analysis of the diary data, focusing on how different factors, including characteristics of individuals, tasks, and advice, affect the perceived credibility of advice and the perceived value of information mediation, and how credibility and value perceptions are related to each other.

Findings

Characteristics of the Participants

As shown in Table 4, among 75 participants, 37 were male and 38 were female. They were distributed across age groups, with the highest concentration (31%) between 45 and 54. The mean duration of work tenure at the company was 10.9 years ($SD=9.28$). Job roles were diverse, including scientists, technicians, managers, and project managers. More than half of the participants were scientists, including product developers, sensory scientists, and chemists.

Factors Affecting Perceived Credibility of Advice and Value of Information Mediation

To examine which factors affect the perceived credibility of advice and the perceived value of information mediation in both advice-receiving and advice-providing situations, we analyzed the diary data with a linear mixed model followed by Bonferroni post hoc tests (the results from the post hoc tests are not included in the tables). As the diaries were collected multiple times from the same individuals, the responses are nested within individual participants in both sets of diaries. In advice-receiving diaries, the responses were not only nested within the participants but also within the tasks because participants were asked to report up to five people they turned to for a single task and answered the same set of questions for each person. To account for the possible dependencies of the responses, we used linear mixed model analyses with individual participants as a random effect for the advice-providing diaries and with individual participants and tasks as a random effect for the advice-receiving diaries.

For the advice-receiving diaries, we analyzed the effect of seven different factors on the workers' credibility and value perceptions. The factors included individual characteristics such as gender and tenure (see Table 4); task characteristics such as task type (see Table 2), task urgency, and task complexity; advice type (see Table 3); and for cases with multiple sources of advice, the order in which advice was received. Table 5 shows the F statistics of the effects for each of those factors on nine credibility and value measures, controlling for the other covariates in the model.

Table 4
Demographics of the Participants

| Demographics | Category | Frequency (n=75) | % |
|--------------|------------------|---------------------|----|
| Age | 18-24 | 3 | 4 |
| | 25-34 | 12 | 16 |
| | 35-44 | 19 | 25 |
| | 45-54 | 23 | 31 |
| | 55-64 | 17 | 23 |
| | 65+ | 1 | 1 |
| Gender | Female | 38 | 51 |
| | Male | 37 | 49 |
| Job title | Scientist | 38 | 51 |
| | Technician | 8 | 11 |
| | Manager | 7 | 9 |
| | Project Manager | 7 | 9 |
| | Regulatory/legal | 6 | 8 |
| | Administrative | 5 | 7 |
| | Engineer | 4 | 5 |
| Job tenure | <1year | 6 | 8 |
| | 1~5 years | 15 | 20 |
| | 5~10 years | 20 | 27 |
| | 10~20 years | 22 | 29 |
| | 20~30 years | 8 | 11 |
| | >30 years | 4 | 5 |

Table 5
Advice-receiving Episodes: F Statistics of the Effects for Factors on Credibility and Value Measures

| | | Gender | Tenure | Task type | Task urgency | Task complexity | Advice type | Order |
|--------------------------------|--------------------|--------|--------------|---------------|----------------|-----------------|-------------|-------|
| Credibility of advice received | Trustworthy | 1.74 | 1.26 | 2.79** | 5.00* | 0.37 | 0.94 | 3.21 |
| | Reliable | 0.52 | 0.87 | 1.49 | 6.78* | 1.57 | 0.62 | 2.60 |
| | Valuable | 3.17 | 0.82 | 2.62** | 4.13* | 1.21 | 0.72 | 1.17 |
| | Agreeable | 0.92 | 2.08 | 2.88** | 4.93* | 4.30* | 1.31 | 2.74 |
| Value of information mediation | Time well-spent | 0.04 | 0.97 | 2.94** | 3.92* | 1.78 | 1.91 | 2.01 |
| | Certain | 0.02 | 0.24 | 3.06** | 7.29* | 9.09* | 1.91 | 0.53 |
| | Satisfied | 0.04 | 1.12 | 2.99** | 3.59 | 8.59** | 1.26 | 3.40 |
| | Problem-solved | 0.02 | 2.27 | 2.04* | 11.53** | 33.94** | 1.49 | 0.39 |
| | Learned new things | 0.85 | 2.47* | 1.27 | 1.26 | 0.35 | 1.08 | 0.02 |

Note: * $p < .05$, ** $p < .01$

Overall, the perceived credibility of the advice received and the perceived value of information mediation were influenced almost exclusively by the nature of tasks - task type, task urgency, and task complexity. On the other hand, individual characteristics such as gender and tenure had no significant effect on credibility and value perceptions, excepting a slight difference in perception of *learned new things* depending on tenure. The lowest Bonferroni adjusted p-value ($p=0.11$) was found between those who worked less than a year (estimated marginal mean=6.32, $SE=0.42$) and those who worked more than 20 years and less than 30 years (estimated marginal mean=4.68, $SE=0.42$). Advice type, such as whether the advice added knowledge, added value, or suggested alternatives, as well as the order that the advice was received had no significant effect on credibility and value perceptions.

We now look more closely at the effect of the nature of the task on credibility and value perceptions. First, task type was a significant predictor of several perceptions, including *trustworthy* ($p=0.01$), *valuable* ($p=0.01$), *agreeable* ($p=0.00$), *time well-spent* ($p=0.00$), *certain* ($p=0.00$), *satisfied* ($p=0.00$), and *problem-solved* ($p=0.04$). We performed post-hoc tests to determine for which task types the workers found advice less credible or information mediation less valuable. Across all measures except *problem-solved*, *verify* was the only task type that was significantly different from at least one other task type on the 0.05 level. This indicates that, when advice was received on the task of verifying, the workers tended to find the advice less trustworthy, valuable, and agreeable, and felt the time less well-spent, less certain, and less satisfied compared to when advice was received on other tasks. For *problem-solved*, there were no significant differences found among different task types after adjusting for multiple comparisons. The lowest Bonferroni adjusted p-value ($p=0.29$) was found between *gain non-technical know-what* (estimated marginal mean=6.02, $SE=0.40$) and *solve* (estimated marginal mean=4.61, $SE=0.32$).

Second, analysis reveals that task urgency had a significant effect on *trustworthy* ($p=0.03$), *reliable* ($p=0.01$), *valuable* ($p=0.04$), *agreeable* ($p=0.03$), *time well-spent* ($p=0.05$), *certain* ($p=0.01$), and *problem-solved* ($p=0.00$). The coefficient estimates show the positive association between task urgency and these six credibility and value measures. The largest coefficient estimate (0.27) was observed in the effect on *problem-solved*, which indicates that the perceived level of task urgency led to the greatest positive change in the average for the feeling of problem-solved after receiving advice.

Lastly, task complexity had a significant effect on *agreeable* ($p=0.04$), *certain* ($p=0.00$), *satisfied* ($p=0.00$), and *problem-solved* ($p=0.00$). The coefficient estimates show a negative association between the task complexity and these four credibility and value measures. The largest coefficient estimate (0.46) was observed in the effect on *problem-solved*, which indicates that the perceived level of task complexity leads to the greatest negative change in the average for the feeling of problem-solved after receiving advice.

For the advice-providing diaries, we analyzed the effect of five different factors on the workers' credibility and value perceptions. The factors included individual characteristics such as gender and tenure (see Table 4); task characteristics such as task type (see Table 2) and task complexity; and advice

type (see Table 3). Table 6 shows the F statistics of the effects for each of those factors on nine credibility and value measures, controlling for the other covariates in the model.

Table 6
Advice-providing Episodes: F Statistics of the Effects for Factors on Credibility and Value Measures

| | | Gender | Tenure | Task type | Task complexity | Advice type |
|--------------------------------|---------------------------|--------|---------------|---------------|-----------------|--------------|
| Credibility of advice provided | Expert | 2.45 | 4.27** | 1.73 | 1.58 | 1.44 |
| | Trustworthy | 2.86 | 2.63* | 1.51 | 2.09 | 1.35 |
| | Confident | 1.54 | 1.31 | 1.62 | 5.90* | 2.11* |
| | Satisfied | 0.35 | 2.40 | 2.53** | 7.07** | 1.69 |
| | Accepted | 2.41 | 1.86 | 0.83 | 9.35** | 0.93 |
| Value of information mediation | Time well-spent | 0.13 | 0.42 | 2.53** | 0.70 | 1.31 |
| | Certain about what I knew | 2.68 | 1.35 | 1.38 | 2.38 | 1.93 |
| | Learned new things | 1.89 | 1.52 | 0.82 | 29.47** | 1.22 |
| | Opinion changed | 0.14 | 0.82 | 0.93 | 4.18* | 1.59 |

Note: * $p < .05$, ** $p < .01$

When providing advice, the workers' perceived credibility of their advice and their perceived value of information mediation were influenced by more diverse factors such as tenure, nature of task, and advice type, compared to when receiving advice.

We now look more closely at the effect of each of those factors. First, job tenure was a significant predictor of the perception of *expert* ($p=0.02$) and *trustworthy* ($p=0.03$). For the perception of *expert*, post-hoc tests revealed that those who worked less than a year rated their expertise in the topic on which they provided advice significantly lower (estimated marginal mean=4.79, $SE=0.39$) than those who worked more than 10 but less than 20 years (estimated marginal mean=6.02, $SE=0.18$), those who worked more than 20 but less than 30 years (estimated marginal mean=6.49, $SE=0.25$), and those who worked more than 30 years (estimated marginal mean=6.47, $SE=0.38$) on the 0.05 level. For the perception of *trustworthy*, post-hoc tests revealed that those who worked less than a year trust the advice they provided significantly less (estimated marginal mean=5.44, $SE=0.31$) than those who worked more than 30 years (estimated marginal mean=6.75, $SE=0.33$) on the 0.05 level.

Second, task type was another significant predictor of the perception of *satisfied* ($p=0.01$) and *time well-spent* ($p=0.01$). We performed post-hoc tests to examine for which task types the workers found their advice less satisfied and the information mediation less time well spent. Interestingly, for both measures, *evaluate* was the only task type that was significantly different from at least one other task type on the 0.05 level. This indicates that the workers tended to be less satisfied with the advice they provided and found the time less well spent when they provided advice on the task of evaluating than when they provided advice on other tasks.

Third, task complexity had a significant effect on *confident* ($p=0.02$), *satisfied* ($p=0.01$), *accepted* ($p=0.00$), *learned new things* ($p=0.00$), and *opinion changed* ($p=0.04$). Coefficient estimates show a mix of positive and negative association between task complexity and those credibility and value measures. Task complexity was positively related to *learned new things* (0.45) and *opinion changed* (0.15), but was negatively related to *confident* (-0.09), *satisfied* (-0.09), and *accepted* (-0.13). This indicates that perceived task complexity led to the greatest positive change in the average for the feeling of learned new things after providing advice, while it led to the greatest negative change in the average for the perception of how well their advice was accepted.

Lastly, advice type had a significant effect on the perception of *confident* ($p=0.03$). Post-hoc testing, however, showed that there are no significant differences between different advice types on the 0.05 level, after adjusting for multiple comparisons. The lowest Bonferroni adjusted p-value ($p=0.14$) was found between *explanation/demonstration* (estimated marginal mean=6.47, $SE=0.17$) and *experience sharing* (estimated marginal mean=5.64, $SE=0.27$).

Relationship between Perceptions of the Credibility of Advice and the Value of Information Mediation

To examine how perception of the credibility of advice influences perception of the value of information mediation, we analyzed the relationship between individual credibility and value measures in both sets of the diaries. We used the same linear mixed model as in the previous section to control for the possible dependencies of repeated measures data. Prior to analysis, all ratings were standardized to aid in interpretation. Table 7 shows the standardized coefficient estimates between credibility and value measures in advice-receiving diaries.

Table 7
Advice-receiving Episodes: Standardized Coefficient Estimates between Credibility and Value Measures

| | | Credibility of advice received | | | |
|--------------------------------|--------------------|--------------------------------|---------------|---------------|---------------|
| | | Trustworthy | Reliable | Valuable | Agreeable |
| Value of information mediation | Time well-spent | 0.61** | 0.50** | 0.62** | 0.56** |
| | Certain | 0.46** | 0.45** | 0.50** | 0.45** |
| | Satisfied | 0.55** | 0.48** | 0.57** | 0.58** |
| | Problem-solved | 0.28** | 0.22** | 0.32** | 0.30** |
| | Learned new things | 0.36** | 0.30** | 0.46** | 0.37** |

Note: * $p < .05$, ** $p < .01$

Looking at the impact of credibility perception on value perception, all four credibility measures significantly impacted all five value measures. When we compared the magnitude of those standardized coefficient estimates, credibility measures had a slightly bigger impact on *time well-spent* and *satisfied* than on the rest of the value measures. Among the credibility measures, *agreeable* had the greatest impact on *satisfied* (standardized coefficient estimates: 0.58, $p=0.00$). This suggests that when the workers receive advice, their feeling of satisfaction is more strongly influenced by how much they agreed with the advice than by how much they trust, rely on, or value the advice.

Table 8 shows the standardized coefficient estimates between credibility and value measures in advice-providing diaries.

Table 8
Advice-providing Episodes: Standardized Coefficient Estimates between Credibility and Value Measures

| | | Credibility of advice provided | | | | |
|--------------------------------|---------------------------|--------------------------------|---------------|---------------|---------------|---------------|
| | | Expert | Trustworthy | Confident | Satisfied | Accepted |
| Value of information mediation | Time well-spent | 0.12 | 0.32** | 0.34** | 0.31** | 0.54** |
| | Certain about what I knew | 0.47** | 0.47** | 0.44** | 0.50** | 0.28** |
| | Learned new things | -0.04 | -0.02 | 0.05 | 0.03 | 0.13 |
| | Opinion changed | -0.1 | -0.06 | 0.02 | -0.02 | 0.00 |

Note: * $p < .05$, ** $p < .01$

Looking at the impact of credibility perception on value perception, none of the credibility measures significantly impacted *learned new things* and *opinion changed*. However, the credibility measures had a significant impact on *time well-spent* and *certain about what I knew*, except that self-perceived *expertise* had no significant impact on the feeling of *time well-spent* after providing the advice. Among the credibility measures, *accepted* had the greatest impact on *time well-spent* (standardized coefficient estimates: 0.54, $p=0.00$). This finding indicates that after the workers provide advice, their feeling of time well-spent is most strongly influenced by their perception of how well their advice was accepted than how much they trusted, felt confident about, or were satisfied with their advice.

Discussion

The results of this study indicate that the workers perceive the credibility of advice shared in the process of information mediation and the value of the process differently depending on whether they receive or provide advice. When receiving advice, the workers' credibility and value perceptions were mainly influenced by the nature of tasks such as task type, task urgency, and task complexity. When providing advice, their credibility and value perceptions were influenced less by task characteristics than when receiving advice. Rather, more diverse factors including tenure and advice type affected their credibility perceptions. Previous research has focused primarily on the perspectives of information seekers while neglecting the dyadic relationship between those seeking and those providing information. The findings of this study suggest the importance of exploring more factors related to individual characteristics and the nature of advice in understanding the perspectives of mediators who provide information.

A particularly interesting finding was for which task type the workers tended to perceive advice as less credible or place a lower value on the information mediation. When receiving advice, the workers found advice related to the task of verifying significantly less trustworthy, valuable, and agreeable, and felt less certain, less satisfied, and that the time was less well-spent. A possible explanation is that the need for verification arises from discrepancies between their previously existing knowledge and information at hand. Consequently, even after consulting colleagues for advice, they may have lingering uncertainty which makes them trust the advice less and find the process less beneficial. On the other hand, when providing advice, the workers found advice on the task of evaluating significantly less satisfying and felt the time was less well-spent. A previous analysis on task complexity (Yang & Rieh, 2012) showed that the workers perceived the task of evaluation as most complicated when providing advice, but as least complicated when receiving advice. This indicates that the complexity of value judgment has a negative effect on self-perception of success in assisting colleagues.

Another interesting finding was that perceived task complexity produced some positive values when advice was being provided. That is, the more complicated the workers perceived a task to be, the more likely they felt that they learned new things after providing advice. This is contradictory to advice-receiving situations, in which perceived task complexity was negatively associated with the feeling that the problem had been solved. This resonates with previous research demonstrating that task complexity increases information seekers' needs for problem-solving information such as the methods of problem treatment (Byström & Järvelin, 1995). Interestingly, the perceived level of task urgency was positively associated with the feeling of problem-solved, which indicates the significant effect of time pressure on judgment of the advice-receiving experience.

This study also attempts to identify how credibility perception of advice affects value perception of information mediation from the perspectives of both those receiving advice and those providing advice. When receiving advice, the workers' satisfaction with information mediation was most strongly dependent on how much they agreed with the advice rather than on how much they trusted, valued, or relied on the advice. This reflects people's preference for hearing points of view in agreement with what they already understand or believe. When providing advice, the workers' perception of time well-spent was most strongly dependent on how well their advice was accepted. This indicates that information mediators find the advice-providing experience more rewarding in the presence of positive feedback or reaction to their advice, and supports Lin's (2007) research about motivational forces in organizational knowledge sharing. According to Lin, intrinsic motivation such as reciprocal benefits, self-efficacy, and enjoyment in helping others is more crucial in sharing information than external organizational rewards. As organizations implement social software to increase inter-organizational knowledge sharing, it is essential to provide recipients of advice with effective ways to explicitly show their appreciation for the advice provided.

Conclusion

Based on the diary survey collected for two weeks, this study investigated information mediation in the workplace from both information seekers' and information mediators' perspectives. Our results revealed the complexity and dynamics of seeking and providing advice in organizational work settings. In terms of theoretical contributions, the findings indicate that it is important to investigate the judgment of credibility and evaluation of value based on both information seekers' and information mediators' daily work practices, because they could report different experiences of information mediation. By analyzing the data captured in-situ in various information mediation contexts, we were able to identify that the seekers' credibility and value perceptions were mainly influenced by the task characteristics, while the mediators' perceptions were affected by more diverse factors, such as advice type and work tenure. The findings of this study have practical implications for designing and implementing social media and other knowledge management tools in the workplace. To facilitate the process of information mediation, the system needs to support information activities and to keep tracking information mediation experiences not only for seeking advice but also for providing advice. In addition, the categories of task and advice type should be incorporated into the system design as those factors influence the credibility and value perceptions. For example, for the task types, such as evaluating, for which the mediators feel less satisfied with their own advice, the system must ensure that they can efficiently and securely refer the seekers to other people with relevant expertise for further guidance.

More research is needed to better understand the outcome and implications of information mediation in the workplace. As a follow-up study, we conducted in-depth interviews with 45 diary survey participants to further investigate how the workers enter into the information mediation process and how they influence one another's subsequent information behavior and decision-making. The interviews elicited rich descriptions of interpersonal trust between information seekers and mediators, assessments of trust in the advice shared, and the effect of the mediation process on subsequent behaviors. The future analysis of interview data should be able to provide deeper insights into the trust and influence between information seekers and mediators.

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