

# Judgment of Information Quality during Information Seeking and Use in the Workplace: A Case Study of Marketing Professional

(Research-in-Progress)

**Jia Tina Du**

University of South Australia

[tina.du@unisa.edu.au](mailto:tina.du@unisa.edu.au)

**Abu Shamim Mohammad Arif**

University of South Australia

[mohas005@mymail.unisa.edu.au](mailto:mohas005@mymail.unisa.edu.au)

**Abstract:** This continuing research looks into how professionals search, judge, utilise, and communicate information in order to complete work-related tasks and smooth collaborative information behaviour in the workplace. Specifically, this paper reports results from a case study of judgment of information quality behaviour of a marketing professional during information seeking and use at workplace. The preliminary findings include: the marketing professional sought information from internal document, people and email sources as well as external educational, general and research sources to complete 16 work tasks during five working days. The work tasks served as a contextual factor affecting the marketing professional's selections of information sources and his criteria in the decision making with respect to information quality. Beyond relevance assessment, coverage, accuracy, recommended by supervisor/colleague at work and reliability were important criteria for information source quality. For another, comprehensiveness, accuracy, and credibility were considered as three most important criteria for judging information content quality. Implications for future research are also discussed.

**Key Words:** Information Quality, Information Seeking and Use, Marketing Professional, Workplace

## INTRODUCTION AND RELATED WORK

In the field of interactive information retrieval, *information quality* is considered as a user criterion concerning excellence or truthfulness of information [10]. Individuals make judgment of information quality during information seeking and use concerning credibility or truthfulness of information sources and information objects, including attributes of usefulness, goodness, reliability, currency, and accuracy [10, 11].

During the processes of information seeking and use, users constantly evaluate various attributes of information resources with respect to their current tasks. They make such judgments and decisions as: 1) where to start information seeking, 2) which search strategies to be applied, 3) when to terminate the search and 4) whether the information is enough [2, 4, 18]. Research has shown that judgments of information quality impact information search behaviour [5]. On the other hand, judging information quality depends greatly on the producers and sources of information, characteristics of information objects, the context of use, and the users of information [7, 19].

Prior work on information quality sheds more light on information seeking phase (e.g. [5]). There have been, however, few examinations on how the retrieved information impacts its subsequent use. As quality of information is defined to be fitness for use [20], it is important to understand to what extent different kinds of users and their contexts of information seeking have contributed to users' perceptions of information quality. Information quality needs to be evaluated within the context of its intended use [6].

Taylor [17] described information use in professional settings as motivated by the goal of solving work-related tasks and as more critical and conscious than general information use. The majority of previous information quality studies are conducted in the laboratory and academic environment [7, 10], lacking of significant consequences of the actual use of the information in the workplace. The experimental findings are difficult to generalise to professional contexts or real use [5] partly because teamwork has been common in the workplace which introduces complex social and contextual factors into the process of seeking and use of information.

For institutional and individual processes that depend on information, the quality of information is one of the key determinants of the quality of their decisions and actions [15]. Recognised as knowledge workers, marketing professionals are required to access, use, and evaluate large volumes of information at work in order to generate strategic communications and marketing planning, and provide creative marketing strategies which are highlighted by job descriptions [12]. Businesses are found to be very active in seeking information to increase their competitiveness [9, 16]. Information that is pertinent must be obtained quickly and utilised effectively in order to maintain a leading position in domestic and international markets [3].

Marketing professionals' judgments of information quality enable to provide a rich research setting as there are stakes or risks for information seeking and use. Despite the acknowledged impact of information quality in corporate business, there is little empirical research on the specifics of the information quality judgment behaviour of marketing professionals. Our study aims to explore how marketing professionals seek, judge, utilise, and communicate information in order to complete work-related tasks in the workplace. The findings are significant to enhance the understanding of judgment of information quality behaviour while seeking and using information in professional settings.

## **EXPLORATORY CASE STUDY**

The next section of the paper outlines results from a case study of judgment of information quality behaviour of a marketing professional during information seeking and use in the workplace. The goal of the exploratory case study is to examine how a marketing professional judges quality of information sources and objects while seeking and using information.

A case study approach was employed to understand how a marketing practitioner with a set of real work-related tasks and constructed an information quality judging process while searching for information from sorts of information sources. A case study approach allowed the researcher to focus on an intensive description and characterisation of a single phenomenon [8]. The case study approach also allowed the researcher to use a mix of questionnaire, diary and interview data collection techniques to provide a baseline for further research using a larger sample of marketing professionals. This approach has been used by other researchers to study information behaviour [13, 14] of a single individual.

### ***Study Participant***

Data were collected from a volunteer male coordinator for international recruitment and marketing who was working full time in a university marketing unit in the city of Adelaide, Australia. The marketing professional has an education of Master of Arts. He has 12 years working experience in the marketing profession - 6 years at the university (hereinafter, the Uni), previous 3 years in media sector and prior to those 3 years in a private commercial company. At the current position, he is responsible for marketing and relationship building activity for the purposes of international student recruitment and internationalisation.

### ***Data Collection***

The researcher used a combination of data collection techniques during the case study, including a questionnaire, a diary compiled by the marketing professional, and an interview. The participant was asked to keep a diary of information seeking and use activities on work-related tasks for five working days (i.e. 19, 20, 21, 24 and 25 January 2011), including the information objects searched for, information sources and tactics, evaluation of quality of information obtained, and information use and communication. This data collection technique was used successfully by Spink et al. [14] with a business consultant. A major part of the data collection was the diary of actions and thoughts compiled by the participant during his work days. This qualitative data collection technique allowed the researcher to gain insights into the participant's actions and thoughts as he worked.

After completing the diary, the marketing professional was interviewed for thirty-five minutes by the researcher about his information quality judgment behaviours. The goal of the semi-structured interview technique was to discuss in detail the participant's diary notes, tasks and processes. The researcher recorded the interview conversation and created notes during the interview.

### ***Data Analysis***

The marketing professional's diary, interview transcripts and the interview notes were qualitatively analysed to identify aspects of information quality judgment behaviours. The goal of the analysis was to produce the marketing professional's criteria for judgment of information quality at workplace. The types of work tasks, the duration taken for each task, information sources, judgment of information source quality and content quality are discussed below.

### ***Types of Work Tasks and Duration***

The nature of the tasks that people are engaged in will often determine the criteria that they use in their decision making with respect to information quality [10]. The marketing professional kept a record of 16 work-related information tasks during five work days (Table 1).

No.	Work tasks (WT)	Duration
WT1	Analysing data on X country <sup>1</sup> students at the Uni in order to form strategy and approach for improvement of student recruitment in future.	2 hours
WT2	Find out why numbers of X country students in VIC and NSW were much higher than other states in certain study areas.	2 hours
WT3	Identifying priority agents in X country for recruitment purposes.	1.5 hours
WT4	Keeping up to date on industry developments.	2.5 hours
WT5	Looking for links between universities in Australia and AA University in Y country.	1 hour
WT6	Looking for links between universities in Australia and BB University and institutions in Y country in general.	1.5 hours
WT7	Checking information on CC University (Y country)'s links with Australian universities and memberships of university alliances.	15 minutes
WT8	Reading research on international higher education for own background knowledge.	1 hour
WT9	Getting an email from boss requesting to update a report I had written two months prior about DD University in Z country and sending it to PVC.	2.5 hours
WT10	Writing an invitation letter for delegation from EE University in X country.	1 hour
WT11	Reading through X country market strategy in order to update or add details to a paper on relationships in X country for PVC.	1.5 hours
WT12	Reading emails about upcoming events in W country and V country.	30 minutes
WT13	Researching news items on X country and S country education system and policies.	2 hours
WT14	Sending an email to a colleague to ask about dates for IDP exhibition in X country and other agent events in March.	15 minutes
WT15	Doing some quick search for latest enrolment numbers for students from X country in response to a phone call.	30 minutes
WT16	Researching information on selected universities in X country and S country to establish the best ones for the Uni to approach for collaboration.	2 hours

Table 1. Work Tasks and Duration (Note: 1.This name and all other names are pseudonyms.)

The marketing professional's 16 work tasks (WT) were clustered into the following six task types, including

- data analysis (e.g. WT1),
- market analysis (e.g. WT2 and WT3),
- marketing information obtainment (e.g. WT4, WT5, WT6, WT7, WT12, and WT14),
- training and professional development (e.g. WT8),
- report/letter/paper writing (e.g. WT9, WT10, and WT11), and
- research (e.g. WT13, WT15, and WT16).

Of these task types, marketing information obtainment was the most frequent task in his daily work, followed by report/letter/paper writing and research. Average duration per WT was 1.375 hours, ranged from 15 minutes to 2.5 hours.

### ***Information Sources***

For solving 16 WTs, the marketing professional used 35 information sources (including repetitions) that could be reduced to 18 different information sources. These information sources were grouped into six categories of major sources that are defined below (Table 2).

Categories of information sources	Description	Frequency	%
External educational (institutional) websites	The information sources include Australian Government Education Department website, World University newsletter, other Australian universities websites, target country universities websites, target country Province Education Department website, Association of Pacific Rim universities websites, and target country education agencies websites.	15	42.9
Internal document sources	The information sources are the Uni reports, statistics, standards, documents and internal database.	7	20
External general websites and search engines	The information sources include Wikipedia, think tank (in Chinese), Sohu blogs (in Chinese), search engines (e.g. Baidu in Chinese)	5	14.3
Internal people sources	The information sources are the Uni specific colleagues' reports, strategy papers and recommendations, and information directly from talks with the Uni colleagues.	4	11.4
Internal email sources	The information sources are the Uni emails (from personal archive)	3	8.6
External academic/research sources	The information sources include Journal of International Higher Education.	1	2.9

Table 2. Categories of major information sources

The marketing professional utilised *External educational (institutional) websites* (42.9%) mostly for seeking information on WTs. The second most employed information sources were *Internal document* (20%). Followed by *External general websites and search engines* (14.3%), *Internal people sources* (11.4%), and *Internal email sources* (8.6%). *External academic/research sources* were used only once. Interestingly, the marketing professional sought more external information sources (60%) than internal sources (40%). The selection of information sources may relate to the nature of WTs – most of them were obtaining external marketing information.

It is worth noting that the marketing professional tended to adopt multiple information sources to solve a single WT. Over 56% of the WTs relied on two and more information sources. It might be due to the complexity of WTs or the information content needs to be cross-checked from multiple sources. For example, when working on the task “Trying to find out why numbers of X country students in VIC and NSW were much higher than other states in certain study areas” (WT2), the marketing professional searched information from the Uni credit assessor, other Australian universities websites, X country universities websites, and Wikipedia.

**Criteria for Judgment of Information Quality at Workplace**

The marketing professional was asked to keep records of his thoughts/reasons for choosing certain information sources as well as his evaluations of the obtained information content. These diary records were cross-checked with the interview afterwards. Table 3 summarises the criteria for judging quality of information source and information content.

No.	Criteria for judgment of information source quality	Frequency	%	Criteria for judgment of information content quality	Frequency	%
1	Relevance	8	50	Comprehensiveness	6	37.5
2	Coverage	6	37.5	Accuracy	5	31.25
3	Accuracy	4	25	Credibility	5	31.25
4	Recommended by supervisor/colleague at work	4	25	Objectivity	4	25
5	Reliability	4	25	Reliability	4	25
6	Accessibility	3	18.75	Usefulness	4	25
7	Authority	3	18.75	Briefness/shortness/Simplicity	3	18.75
8	Credibility	3	18.75	How specific it is	3	18.75
9	Currency	3	18.75	Relevance	3	18.75
10	How official it is	3	18.75	Authority	2	12.5
11	Known source	3	18.75	Currency	2	12.5
12	Objectivity	3	18.75	Coverage	1	6.25
13	Recommended by email newsletter	2	12.5	Effectiveness	1	6.25
14	Ease of use	1	6.25	Format	1	6.25
15	Effectiveness	1	6.25	How good it is	1	6.25
16	How specific it is	1	6.25	How informative it is	1	6.25
17	Importance	1	6.25	How secure it is	1	6.25
18	Quickness of accessing information	1	6.25	Trustworthiness	1	6.25
19	Usefulness	1	6.25			
20	Trustworthiness	1	6.25			

Table 3.Criteria for judging quality of information source and information content

Information quality is critical to the success of marketing [1]. Our results show that the marketing professional made judgment of information quality regarding both information source and information content (i.e. obtained information). And the judging criteria were beyond relevance assessment.

Table 3 indicates that the reflective marketing professional chose information sources and evaluated their quality carefully based on 20 judgment criteria. Relevance (50%) was considered as the most important criterion for judging the quality of information sources, followed by Coverage (37.5%), Accuracy (25%), Recommended by supervisor/colleague at work (25%), and Reliability (25%). With respect to judgment of obtained information content quality, Comprehensiveness (37.5%) was viewed as the most important criterion among the 18 criteria. Accuracy (31.5%) and Credibility (31.5%) were considered as the second important criteria, followed by Objectivity (25%) and Reliability (25%).

Furthermore, the marketing professional explained his utilisation of the obtained information. It shows that the evaluation of information quality was closely linked to the context of its intended use (either immediate use or delayed use). Some instances from the diary are listed below:

- “I am using the data to write a short analysis paper which will be shared with colleagues for feedback and discussion in order to guide future actions.” (for WT1)
- “Some of the information will be written into a report and shared with colleagues to help guide this year’s marketing activities in X country.” (for WT2)
- “I wrote out the letters and forwarded to manager for approval.” (for WT10)
- “Not really, I checked it against the information I had already collected and put into the paper and there was nothing substantially new.” (for WT11)
- “Information will be added to scanning list of institutions in X country and S country which will be used at a meeting with Pro Vice Chancellor to select institutions to focus on.” (for WT16)

## CONCLUSION AND FURTHER RESEARCH

In the present paper, a single participant’s information quality judging behaviour during the process of seeking the information needed for completing his work tasks was explored and analysed. The work-related information tasks provide a contextual factor affecting the marketing professional’s selections of various information sources and his criteria adopted in the decision making with respect to information quality. More than 50% (12 in number) criteria for judging quality of marketing information source and information content were overlapping but their order of importance were found to be different. A large number of marketing professionals who regularly search for high-quality information related to their work will be invited to participate in the study for further analysis.

## REFERENCES

- [1] Bennett, R., Sources and Use of Marketing Information by Marketing Managers. *Journal of Documentation*, 63 (5) 2007, pp. 702-726.
- [2] Berryman, J. M., Influences on the Judgment of Enough Information: An Analysis Using the Information Use Environment as a Framework. *Information Research*, 13 (4) 2008, available from <http://informationr.net/ir/13-4/paper356.html>.
- [3] Bouthillier, F., Access to Information for Small Business Managers: Examination of Some Strategies and Values. *Canadian Journal of Information and Library Science*, 27 (3) 2003, pp. 125-138.
- [4] Browne, G., Pitts, M., and Wetherbe, J., Cognitive Stopping Rules for Terminating Information Search in Online Tasks. *MIS Quarterly*, 31(1) 2007, pp. 89–104.
- [5] Hughes, B. Wareham, J., and Joshi, I., Doctors’ Online Information Needs, Cognitive Search Strategies, and Judgments of Information Quality and Cognitive Authority: How Predictive Judgments Introduce Bias into Cognitive Search Models. *Journal of the American Society for Information Science and Technology*, 61 (3) 2010, pp. 433-452.
- [6] Katerattanakul, P. and Siau, K., Measuring Information Quality of Web Sites: Development of an Instrument. In *Proceedings of the 20th International Conference on Information Systems*, 1999, pp. 279-285.
- [7] Knight, S. A. and Burn, J., Developing a Framework for Assessing Information Quality on the World Wide Web. *Journal of Informing Science*, 8, 2005, pp. 159-172.
- [8] Merriam, S. B., *Case Study Research in Education: A Qualitative Approach*. San Francisco: Jossey-Bass Publishers, 1988.
- [9] Porter, M. E. and Millar, V. E., How Information Gives You Competitive Advantage. *Harvard Business Review*, July-August, 1985, pp. 149-460.
- [10] Rieh, S.Y., Judgement of Information Quality and Cognitive Authority in the Web. *Journal of the American Society for Information Science and Technology*, 53(2) 2002, pp. 145–161.
- [11] Savolainen, R., Judging the Quality and Credibility of Information in Internet Discussion Forums. *Journal of the American Society for Information Science and Technology*, 62(7) 2011, pp. 1243–1256.
- [12] SEEK. <http://www.seek.com.au/>.

- [13] Spink, A., Multitasking Information Behavior and Information Task Switching: An Exploratory Study. *Journal of Documentation*, 60(4) 2004, pp. 336-351.
- [14] Spink, A., Park, M., and Cole, C., Multitasking and Coordinating Framework for Human Information Behavior. In A. Spink & C. Cole (Eds.), *New Directions in Human Information Behavior* (pp. 137-154). Dordrecht: Springer, 2006.
- [15] Stvilia, B., Gasser, L., Twidale, M. B., and Smith, L., C.A Framework for Information Quality Assessment. *Journal of the American Society for Information Science and Technology*, 58 (12) 2007, pp. 1720-1733.
- [16] Tapscott, D., Ticoll, D.D., and Lowy, A., *Digital Capital: Harnessing the Power of Business Webs*. Cambridge, Mass: Harvard Business School Press, 2000.
- [17] Taylor, R. S., Information Use Environments. *Progress in Communication Sciences*, 10, 1991, pp. 217-255.
- [18] Thatcher, A. Web Search Strategies: The Influence of Web Experience and Task Type. *Information Processing & Management*, 44(3) 2008, pp. 1308–1329.
- [19] Thivant, E. and Bouzidi, L. Analysis of Information Sources Representation for Financial Product Design: New Perspectives for Information Seeking and Use Behaviour. *Information Research*, 13 (4) 2008, available from <http://informationr.net/ir/13-4/paper367.html>.
- [20] Wang, R. Y. and Strong, D. M. Beyond Accuracy: What Data Quality Means to Data Consumers. *The Journal of Management Information Systems*, 12(4) 1996, pp. 5-33.