Need for Cognition: Does It Influence Professional Judgment?

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ABSTRACT

Need for cognition is an important element of individual decision-making that has been mostly examined in social psychology studies and yet largely overlooked by behavioural accounting research. The current study aims to find evidence that need for cognition influences professional judgment. Applying dual process theories, it is suggested that some judgments are exercised by auditors after a careful consideration of all pertinent information, whereas some others are based on less thoughtful cognition. The results of linear regression analysis show that need for cognition significantly affects professional judgment.

Keywords: need for cognition, professional judgment, auditor

1. INTRODUCTION

Originally conceptualized by Cohen, Stotland, and Wolfe (1955), need for cognition has been the subject of much research. Need for cognition, which is defined by Cacioppo and Petty (1982, p.116) as "the tendency for an individual to engage in and enjoy thinking", has proven useful for understanding how individuals form judgments and make decisions. Previous studies (e.g. Carter et al., 2006; Haugtvedt, Petty, & Cacioppo, 1992) have shown that individuals high in need for cognition tend to consider all pertinent information when making judgments, whereas those low in need for cognition are more likely to place reliance on simple cues and stereotypes. Nevertheless, despite its popularity, need for cognition has been mostly examined in social psychology studies, and yet has been largely overlooked by behavioural accounting studies, especially those examining factors affecting auditors' professional judgment. For decades, accounting researchers studying the influence of personality traits and individual differences on auditors' professional judgment have tended to focus on the effects of knowledge, expertise, information-processing abilities, use of decision aids, and prior beliefs on various auditor judgments (Mala and Chand, 2015). And more recently, researchers also have investigated the effects of other variables such as job cognition and personality type on auditors' judgments (e.g. Setiawan and Iswari, 2016).

This considerable amount of research, however, has largely ignored the need for cognition variable, which, as shown by a large number of social psychology studies, plays an important role in decision-making processes. A psychology study by Cohen, Stotland, and Wolfe (1955), for example, finds that high need for cognition individuals tend to prefer structured situations rather than ambiguous and unstructured situations. This result is supported by the findings of another study by Cohen (1957) that high need for cognition is associated with higher levels of organisation, elaboration, and

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evaluation of information. According to Cacioppo et al. (1996, p.198), those high in need for cognition are more likely "to have more positive attitudes toward stimuli or tasks that require reasoning or problem solving". Not only do these individuals show a greater amount of thinking, they are also more likely to evaluate and correct their own judgments (DeSteno et al., 2000; Petty, Briñol, & Tormala, 2002; Petty et al., 2007).

Therefore, the findings of these social psychological studies coupled with the lack of behavioural accounting research on need for cognition have motivated the present study to investigate whether need for cognition influences professional judgment. The remainder of this paper is organised as follows. In section 2, prior studies and theoretical foundation are reviewed, followed by the proposed research hypothesis. Section 3 discusses the research method. The results and discussion are presented in section 4. The last section concludes with discussions of study limitations, implications, and directions for future research.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1. Need for Cognition

Need for cognition is defined by Cacioppo and Petty (1982, p.116) as "the tendency for an individual to engage in and enjoy thinking". Individuals with high need for cognition are described as having a tendency to enjoy cognitively challenging tasks without external incentives, whereas those low in need for cognition have relatively low motivation for effortful thinking. Prior research has suggested that, when making judgments, those high in need for cognition are more likely to consider all relevant and important information, whereas individuals with low need for cognition tend to rely on simple cues and stereotypes (e.g. Carter et al., 2006; Haugtvedt, Petty, & Cacioppo, 1992).

The need for cognition was first conceptualized by Cohen, Stotland, and Wolfe (1955). In their experimental study, which involved fifty-seven undergraduates of the University of Michigan as the research subjects, the need for cognition was described as "a need to structure relevant situations in meaningful, integrated ways. It is a need to understand and make reasonable the experiential world" (Cohen, Stotland & Wolfe, 1955, p.291). During the experiment, the participants were given one of two forms of a story about a student's interview with a potential employer: either an ambiguous or structured story. The ambiguous story contained unconnected events, irrational behaviours, and an inconclusive outcome, whereas the structured one contained clear descriptions of people and events and connected ideas. After reading the story, they were asked to rate several reactions to the story (e.g. the participant's interest in the story, the difficulty in understanding the story, the perceived degree of structure of the story, and the level of clarity of the story) on eight-point scales. The results revealed that individuals possessing high need for cognition were significantly more negatively affected by ambiguous situations, indicating the importance of the degree of structure to the people with high need for cognition. However, the results found no differences in the effort to understand the story between the high and low need for cognition groups, which Cohen, Stotland, and Wolfe (1955) attributed to the paucity of measurement.

Another study by Cohen (1957) found that people with high need for cognition tend to have higher levels of organisation, elaboration, and evaluation of information

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compared to those with low need for cognition. In the research involving thirty-five undergraduates of Yale University, approximately half of the participants were asked to hear a communicator explain certain grading problems facing the university and the adoption of grading on the curve as a possible solution to the problems. Meanwhile, the others listened to the same information but in reverse order, that is, the problems were presented after the possible solution. Two conclusions were derived from the psychological experiment. First, attitude change would be more likely to occur by presenting the problem prior to its possible solution rather than the reverse order of communication. Second, this order effect would be weaker on people possessing high need for cognition, probably due to their high motivation to think about the communication.

Although the construct was initially conceptualized by Cohen, Stotland, and Wolfe (1955), there was no instrument available for assessing one's need for cognition. Two measures, namely, the Situations Checklist and the Hierarchy of Needs Measure were employed by Cohen, Stotland, and Wolfe (1955), while Cohen (1957) used the Situations Checklist. About two and a half decades after the first empirical study of need for cognition, Cacioppo and Petty (1982) developed the Need for Cognition Scale, which contained 34 items. In developing the scale, the need for cognition was seen by Cacioppo and Petty (1982) as a tendency rather than a biological need. The scale was later revised by Cacioppo, Petty, and Kao (1984) to enhance its efficiency and 18 items from the original scale were retained. Some examples of the scale items are "I find satisfaction in deliberating hard and for long hours" and "I only think as hard as I have to" (reverse scored). This 18-item Need for Cognition Scale has been commonly used in later social and psychological studies.

2.2. Need for Cognition and Professional Judgment

The main responsibility of an auditor is to form and express an opinion on financial statements on "whether the financial statements are prepared, in all material respects, in accordance with an applicable financial accounting framework" (International Auditing and Assurance Standards Board, 2015, p.79). The opinion expressed by auditors is used to improve the confidence level of financial statement users that the financial statements are free from material misstatements. This opinion must be based on an audit that is conducted in accordance with generally accepted auditing standards to obtain audit evidence. More specifically, in Indonesia, auditors are required to comply with the auditing standards set by the Indonesian Institute of Certified Public Accountants.

In selecting and performing procedures to obtain audit evidence, auditors use their professional judgment, which is "the application of relevant training, knowledge and experience, within the context provided by auditing, accounting and ethical standards, in making informed decisions about the courses of action that are appropriate in the circumstances of the audit engagement" (International Auditing and Assurance Standards Board, 2015, p.84). Auditors apply their professional judgment when they make decisions, such as "(1) the assessment of the risks of material misstatements of financial statements, including the potential effects of fraud, bias and business risk; (2) the identification, performance and assessment of audit procedures to address those risks; (3) the evaluation of audit evidence to determine the quality and meaning of that evidence and to assess the need for additional evidence based on the process; and (4) the

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formation of an opinion on the financial statements and the decision whether or not to express that opinion" (Wedemeyer, 2010, p.321).

Dual-process theories, which have been popular in social psychology for the last three decades, propose that some judgments are made after a careful consideration of all pertinent information, whereas some others are based on less thoughtful cognition (Petty et al., 2009). From the point of view of these theories, need for cognition is seen as "a way to determine the mechanism by which individuals' judgments would be formed or changed" (Petty et al., 2009, p.319). It has been suggested that individuals possessing high need for cognition are more likely to use more cognitive effort in analysing information and forming judgments, whereas those low in need for cognition tend to simply conduct a cursory assessment. In the present study, need for cognition is hypothesized to influence auditor judgment for the following reasons.

First, with respect to decision-making processes, Carter et al. (2006) found evidence of a significant relationship between lower need for cognition and greater acceptance of stereotyping. In the research, a 12-item scale called the Acceptance of Stereotyping Questionnaire was used to measure the acceptance of stereotyping construct, while the 18 items from the Need for Cognition Scale developed by Cacioppo and Petty (1982) were used to assess the cognitive style of the participants who were recruited from introductory psychology classes at Northeastern University. The findings indicated that people with a more simplistic cognitive processing style (i.e. lower need for cognition) would be more prone to using stereotypes in decision-making processes.

Second, in the study examining the role of need for cognition on attitudes, Haugtvedt, Petty, and Cacioppo (1992) found that the process of attitude change was influenced by need for cognition. In persuasion situations, the attitudes of individuals scoring high on the Need for Cognition Scale were based on a thoughtful evaluation of messages or arguments presented, whereas low need for cognition persons were more likely to rely on simple cues. This is consistent with the findings of Stayman and Kardes (1992) that those high in need for cognition are more likely to generate inferences about information spontaneously than are those low in need for cognition. Petty et al. (2009, p.319) explain that "if cues and stereotypes have any impact on individuals high in need for cognition, it is more likely to be an indirect effect and to occur by a mechanism that requires some cognitive effort."

Third, research has also suggested that individuals with high need for cognition not only tend to engage in and enjoy thinking, but they also have a tendency to think about their own thoughts. For example, Petty et al. (2007) have found that those high in need for cognition are more likely to engage in metacognition. Metacognition is described as "second order thoughts, or our thoughts about our thoughts or thought processes" (Petty et al., 2007, p.254). In this context, high need for cognition individuals are more likely to think about their own need for cognition. This means that they evaluate how much they tend to think and how much they enjoy thinking. In another research examining individuals' confidence levels in their own thoughts, Petty, Briñol, and Tormala (2002) have found that those high in need for cognition are also more likely to engage in the self-validation process, which is the evaluation of one's thoughts for validity. The thoughts that they believe to be valid would then be used in making judgments.

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Fourth, the tendency of individuals possessing high need for cognition to engage in thinking and evaluate their own judgments and their validity makes them more likely to correct their judgments for any perceived biases, as evidenced by the findings of a study by DeSteno et al. (2000). With one hundred and fifty-three undergraduate psychology students participating in the experiment, the study investigated the influence of the existence of specific emotions, such as happiness, sadness and anger, on decision-making processes, and how individuals overcame judgmental biases resulting from these emotions. The results demonstrated that, due to their greater cognitive effort, high need for cognition individuals engaged in a correction process when they were aware that an emotional state (i.e. happiness, sadness, or anger) might exist and bias their judgments. On the other hand, those low in need for cognition showed congruency bias in the decision-making process.

Based on dual-process theories and the results of previous studies on need for cognition, as discussed above, the research hypothesis is formulated as follows:

H1: Need for cognition influences professional judgment.

3. METHOD

3.1. Participants

A mail-based survey was used to collect data from a sample of auditors. The sample was restricted to auditors working at public accounting firms in Jakarta and Surabaya and included a total of forty-six auditors. The sample was primarily males (59%), between the ages of 25 and 30 (37%), possessed undergraduate degrees (76%), and worked as Junior Auditors (50%). The demographic profile of the respondents is provided in Table 1.

Table 1: Profile of Respondents

Demographic Profile		Number of respondents	Percentage
Sex	Male	27	59%
	Female	19	41%
	Total	46	100%
Age (years)	<25	16	35%
	25 - 30	17	37%
	>30 - 35	6	13%
	>35 - 40	3	7%
	>41 - 45	3	7%
	>45	1	2%
	Total	46	100%
Education	Diploma	2	4%
	Undergraduate	35	76%
	Master	7	15%
	Doctorate	2	4%

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	Total	46	100%
Position	Junior Auditor	23	50%
	Senior Auditor	18	39%
	Assistant Manager	2	4%
	Senior Manager	2	4%
	Director	1	2%
	Total	46	100%

3.2. Research Instrument

In this study, structured questionnaires consisting of three parts were used as the research instrument to collect data from auditors. The first part contains personal information of respondents, including sex, age, educational background and their position at the public accounting firm. The second part measures the auditors' need for cognition by using the Need for Cognition Scale developed by Cacioppo and Petty (1982). Respondents were asked to indicate their levels of agreement or disagreement for 18 statements on a scale of 1 (strongly disagree) to 7 (strongly agree). Item responses were then summed to create a total score for the need for cognition variable, with a high score indicating greater need for cognition.

Finally, the third part measures auditors' professional judgment. Employing the instrument used by Jamilah, Fanani, and Chandrarin (2007), the participants were required to indicate their responses on a scale of 1 (very unlikely) to 7 (very likely) for five case scenarios, with one question for each case scenario. A total score for the professional judgment variable was acquired by summing the item responses. A high total score suggests a high degree of professional judgment.

4. RESULTS

In order to ensure the quality of the research findings, the validity and reliability of research instrument are examined prior to hypothesis testing. This involves two steps. First, the Pearson product-moment correlation coefficient is used to test the validity of the research instrument. Generally, a research instrument will be considered valid if the value of the Pearson Correlation is greater than 0.3 (see, for example, Setiawan & Iswari, 2016). The test results show that the Pearson Correlation values for both need for cognition and professional judgment variables are greater than 0.3, proving the validity of the intrument used in this study. Second, the reliability of the research instrument is tested by using Cronbach's Alpha, where it will be considered reliable if Cronbach's Alpha is greater than 0.6 (e.g. Setiawan & Iswari, 2016). The reliability test shows that the values of Cronbach's Alpha for need for cognition and professional judgment variables are 0.914 and 0,609, respectively, thus proving to be reliable. The results of validity and reliability tests are presented in Table 2.

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Table 2: Validity and Reliability

Validity						Reliability	
Need for Cognition			Professional Judgment				
Item	Pearson Correlation	Result	Item	Pearson Correlation	Result	Item	Cronbach's Alpha
NC1	0.614	Valid	PJ1	0.646	Valid	NC	0.914
NC2	0.736	Valid	PJ2	0.449	Valid	PJ	0.609
NC3	0.721	Valid	PJ3	0.788	Valid		
NC4	0.659	Valid	PJ4	0.508	Valid		
NC5	0.745	Valid	PJ5	0.710	Valid		
NC6	0.735	Valid					
NC7	0.607	Valid					
NC8	0.508	Valid					
NC9	0.373	Valid					
NC10	0.670	Valid					
NC11	0.563	Valid					
NC12	0.636	Valid					
NC13	0.581	Valid					
NC14	0.575	Valid					
NC15	0.855	Valid					
NC16	0.571	Valid					
NC17	0.760	Valid					
NC18	0.622	Valid					

After ensuring the validity and reliability of research instrument, the hypothesis of this study that need for cognition influences professional judgment is then tested by using a linear regression, where it will be accepted if the *p*-value is less than 0.05, and rejected if the *p*-value is greater than 0.05. The result of the linear regression is presented in Table 3. Since the *p*-value for need for cognition is 0.004, which is less than 0.05, the hypothesis of this study is accepted, meaning that need for cognition significantly influences professional judgment. This result suggests that, from the point of view of dual-process theories, some judgments are made by auditors after a careful consideration of all pertinent information, whereas some others are based on less thoughtful cognition. This influence of need for cognition on professional judgment, as discussed earlier in the literature review section, can be attributed to four reasons. First, there is a significant relationship between lower need for cognition and greater acceptance of stereotyping (Carter et al., 2006). Second, the process of attitude change is influenced by need for cognition (Haugtvedt, Petty, and Cacioppo, 1992). Third, individuals with high need for cognition not only tend to engage in and enjoy thinking, but they also have a tendency to think about their own thoughts (Petty et al., 2007; Petty, Briñol, and Tormala, 2002). Fourth, the tendency of individuals possessing high need for cognition to engage in thinking and evaluate their own judgments and their

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validity makes them more likely to correct their judgments for any perceived biases (DeSteno et al., 2000).

Table 3: Hypothesis Testing Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	52.287	3.567		14.659	.000	45.099	59.476
	NC	-.129	.043	-.416	-3.037	.004	-.215	-.044

a. Dependent Variable: PJ

5. CONCLUSIONS, IMPLICATIONS, AND FUTURE RESEARCH

The present study seeks to find evidence that need for cognition influences professional judgment. The linear regression performed to test the research hypothesis reveals that need for cognition significantly influences professional judgment. This result offers a new insight into the behavioural accounting field, because, despite its popularity, need for cognition has been mostly examined in social psychology studies, and yet has been largely overlooked by behavioural accounting studies. The practical implication of this finding is that accounting firms may use the Need for Cognition Scale in the recruitment and selection process to assess the level of need for cognition of each candidate.

The limitations of the current study include the small sample size and the susceptibility of the mail questionnaires used for collecting data to errors and manipulation. Therefore, the use of larger sample sizes and additional data collection instruments such as interviews in future studies is strongly recommended.

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