An Empirical Study on the Competence of Consultants Affecting Quality of Consulting Service: Focused on the moderating effect of problem solving ability

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Abstract

Background/Objectives: This study investigates how the level of problem solving ability of consultants, one of the most important competencies of management consultants, has moderating effects on the quality of consulting services.

Methods/Statistical Analysis: The subjects of the study were individuals with the relevant work experience who have experienced consulting at least once. The questionnaire consisted of 36 items including 5 items of demo-
graphics, and the Likert’s 5 points scale was used for the measurement. In the empirical analysis, the validity analysis, the reliability analysis, and the correlation analysis were performed using SPSS 23.0. Regression analysis was performed to check the moderating effect.

Findings: The total variances explained for consultant competence and quality of consulting service metrics were 84.39% and 87.60%, respectively. With the eigenvalues of 3 extracted factors above 1.0 and factor loadings above 0.5, validity has been verified. As a result of the regression analysis, the quality of consulting services was significantly influenced by the capability, knowledge and attitude of the consultant (t = 3.139, 8.282, 9.628) as in precedent studies. As a result of analyzing the moderating effect of problem solving ability between consultants’ competence and quality of consulting service, R2 value of 1, 2, 3 step model continuously increased in capability and knowledge except attitude, and the significance F variations were 0.031, 0.016.

In other words, the problem solving ability of the consultant has a significant influence on the relationship between the competence of the management consultant and the quality of consulting services. Therefore, management consultants should try to improve their problem solving abilities by improving the quality of consulting services. In order to do this, consultants should actively participate in education programs and try to acquire problem solving skills and tools.

Improvements/Applications: It will be required to develop a measurement tool that can objectively and accurately represent the problem solving ability of the consultant.

Key Words : Management Consulting, Consultant Capability, Problem Solving Ability, Consulting Services, Service Quality, Consulting Service Quality.

1 Introduction

A key factor in enabling customers to determine the relevance and reliability of their consulting outcomes is the consultant’s expertise,
which is their ability to solve problems. As such, problem solving ability is very important for management consultants, but in most previous studies on the competency of consultant is generally divided into three categories: capability, knowledge and attitude. Problem solving ability wasn’t studied and categorized separately but understood as part of consultant’s capability. In other words, it was difficult to find out how the problem-solving ability was defined as one of the competencies of the consultant and how such problem-solving ability affected the quality of the consulting services.

Therefore, in this study, the existing research model about the impact of the consultant’s competence on the quality of consulting services is applied, but the independent variables were capability excluding problem solving ability, knowledge and attitude. The problem solving ability is defined as a moderator variable that is extended as a separate item that can be measured and the intent of the study was to prove that the quality of the consulting services is lowered when the problem solving ability is low even though the three competencies of the consultant are high.

2 Materials and Methods

2.1 Concept of management consulting

A management consultant is a specialist who has expert knowledge and insight. It provides advisory services such as diagnosing problems of company management and recommending solutions to achieve them for management purposes. It can be defined as a person who provides services such as management consulting and guidance through more advanced planning, organization, motivation, communication, or resource utilization. The job information of Career-net run by Korea Research Institute for Vocational Education & Training (KRIVET) defines the business consultant as a job that analyzes the problems related to the management of the company, studies the countermeasures, and provides counseling and advice on business promotion.
2.2 Management consultants’ competence and components of the competence

To be successful as a management consultant, a consultant must maintain a balance of capability, attitude and consulting knowledge related to consulting. In the domestic and international literature, the consultant’s competence is used in this context, such as consulting capability, consulting ability or consultant’s ability, and consultant’s competency.3.4

Ji Eun Lee et al. (2011) defined the consultant’s capabilities as the behaviors and intrinsic characteristics required for consultants to perform consulting effectively and effectively, and the ability of consultants to extract consultants using expert interviews and AHP (Analytic Hierarchy Process). The three major competencies that they presented were job competence (communication, strategic thinking, analysis/alternative presentation, expertise), management competence (leadership, teamwork, propulsion), common competence (job ethics, achievement orientation, self-control).5 In the previous study that explored the management consulting competency model, the three core competencies of the management consultant were called executive competence, knowledge competency, and organizational competency. The detailed factors that constitute these competencies are suggested to be consulting management, consulting ability, consulting process, objective of consulting, consultant attitude, and consultant ability, etc.6 Yong-Sup Bae (2013) presented that three competencies required of consultants are behavioral intelligence, knowledge, and attitude.7

In this study, the competencies of management consultants are divided into three categories such as capability (ability to collect and analyze information needed to conduct consulting work, diagnosis of clients’ problems, ability to present alternatives), knowledge (knowledge on management needed for consulting, subject matter expertise, and knowledge needed for analyses), and 3) attitude (ethical behavior and responsibility that consultants should observe when consulting). In addition, we have defined measurement categories for assessing each competency.8
2.3 Quality of management consulting services

2.3.1 Key characteristics of consulting services

In general, services have characteristics such as Intangibility, Heterogeneity, Inseparability, and Perishability. Intangibility is not visible and is not touched. Heterogeneity means that it is difficult to standardize, so services for the same customer may be different depending on the provider, and the service of the same provider may be different due to the diversity of customers. Inseparability means that production and consumption occur at the same time, the customer participates in the production process, and most of the service is made by the contact between the customer and the provider. Perishability is the characteristic that the service which is not sold disappears and the demand and supply are not timely. As the management consulting service also has the characteristics of a typical service business providing intangible contents required by customers, it can be concluded that management consultant also has the four aforementioned characteristics.

2.3.2 Measurement method of service quality of management consulting services

The quality of service is measured by PZB, SERVQUAL (22 items in 5 criteria), KS-SQI model (34 items in 8 criteria + overall satisfaction), Gronroos’ quality improvement criteria (6 criteria), Ministry of Knowledge Economy’s excellent enterprise certification for service quality (6 criteria). In the PZB and SERVQUAL models, which are often used in previous studies or service quality evaluations, there are five measurement dimensions for evaluating service quality: 1) Tangible (physical facilities, equipment, employee clothing, method of communication, etc.), 2) Reliability (ability to deliver fast and accurately), 3) Responsiveness (providing instantaneous response), 4) Assurance (employees’ etiquette, ability to provide trust and confidence, 5) Empathy (ability to show individual interest and affection to the customer).
2.4 Problem solving ability

2.4.1 Concept and tools of problem solving ability

A problem is a question that requires an answer, which is the object of debate, discussion, and research, and can be defined as the difference between the current level and the desired level. The problem solving ability is mixed with problem solving, problem solving skills, and social problem solving ability, but So Young Oh (2009) defined the cognitive processing ability to reach the target state in a given state. Tae-young Chung (2011) analyzed the characteristics of typical problem solving abilities suggested by scholars in past studies, naming the components of problem solving abilities as horizontal thinking, problem recognition and judgment, alternative evaluation, solution implementation and performance evaluation. The three components of horizontal thinking, recognition and judgment, and alternative evaluation and decision appear to give a direct effect of 0.758 on interpersonal abilities, so the relationship between these problem solving abilities and interpersonal abilities have the strongest influential relationship.

2.4.2 Importance of problem solving abilities

In past studies on the competencies that firms demand for their employees in the workplace such as a company or a specific organization, problem solving abilities are most frequently presented as representative abilities of common job competencies. In addition, Korea’s online recruiting company, JobKorea, conducted a survey on 382 small to medium enterprises (SMEs) with over 100 employees and fewer than 300 employees, and found that the ability to deal with problems was a top priority among the most highly regarded talents of the company. Therefore, in any organization, problem solving ability is a very important competence in the performance of the members of the organization.

2.5 Research model and hypothesis

2.5.1 Research model

As shown in Figure 1, the dependent variable is the quality of consulting service represented by tangible, reliability, responsiveness,
assurance, and empathy, etc. and the independent variable is the competence of a consultant composed of capability, knowledge and attitude. The moderator variable is the management consultants’ problem solving ability.

The reason for setting the problem solving ability as a moderator variable in this research model is as follows. The problem solving ability is also an important factor for the management consultant as it is the most important and core competence required for companies or members of specific organizations. However, in previous studies on consultant competencies, the management consultants’ problem solving ability has only been included within the consultant’s "capability" category, and there has not been any studies that defined the problem solving ability as separate independent competence. Therefore, this research model, which defines problem solving ability as a moderator variable, is very different from the research models of previous studies.

2.5.2 Hypothesis

Hypothesis 1 (H1): The consultant competence has a positive effect on the quality of consulting service.

H1a: Capability in consultant’ competence has a positive effect on consulting service quality.

H1b: Knowledge in consultant’ competence has a positive effect on the quality of consulting services.

H1c: Attitude in consultant’ competence has a positive effect on consulting service quality.

Hypothesis 2 (H2): The problem solving ability of a consultant has a moderating influence on the relationship between consultant
2.5.3 Survey tools and Operational definition of variables

Several methods such as interviewing technique, participation observation technique, and questionnaire technique were used for data collection for empirical analysis, but questionnaire technique was used in this study. It is important to select the appropriate number of subjects to ensure statistical and practical significance of the study. Therefore, the survey was targeted for those SME employees in the management consulting departments that have experience in consulting at least once. About 500 surveys were distributed and collected 298. Excluding 15 for reasons such as missing persons, such as missing data, the final data size was 283 with the recovery rate of about 56.6%.

The research variables were consultant competence, service quality, problem solving ability, and the survey tool was used as it was or was supplemented by Dong-ju Shin et al. (2012) 10. The questionnaire consisted of 36 items including 5 items of demographics, 10 items of consultant competence (3 items of capability, 3 items of knowledge, 4 items of attitude), 4 items of problem solving ability and 17 items of service quality and the Likert 5 points scale was used for the measurement. The questionnaire for problem solving ability consisted of 4 questions that consisted of 2 items that were judged to be the problem solving ability among the questionnaire items related to the consultant ability of the preceding study and 2 items which were analyzed in the 'consulting company general' analysis item.
3 Results and Discussion

3.1 Empirical results

3.1.1 Demographics characteristics analysis

Of the total 283 firms, only 14 were listed companies, and the proportion of companies with a business performance of less than 5 years, 5 to 10 years, and 10 years to less than 20 years was all similarly 26.9% 27.2%. In addition, the head office is located in the Seoul metropolitan area and the non-capital area with 51.6% and 48.4% respectively, and there was the biggest representation from companies with the number of employees as 20-49 at 28.4%. The manufacturing sector was composed of 224 companies (78.4%) and 21.6% of non-manufacturing industries.

3.1.2 Verification of validity and reliability of survey tool

The total variance of the consultants’ competence and consulting service quality metrics was 84.39% and 87.60%, respectively. With the eigenvalues of extracted factors above 1.0 and factor loadings above 0.5, reliability has been verified However, in the reliability analysis, Alpha if Item Deleted of 5 items was higher than the total value, so these items were excluded in the final analysis.

3.1.3 Correlation analysis

As a result of analyzing the correlation in this study, all the correlations are higher than those with the exception of capability and reliability (0.362) and capability and empathy (0.315), Hypothesis H1, which verifies the impact of management consultants’ competence on the quality of consulting services, is well established.

3.1.4 Verification of hypothesis H1

Hypothesis H1a was adopted because the relationship between the capability competence of the management consultant and the quality of consulting service is 3.139, which is more than ± 1.96, and the significance value is 0.02 or less. The hypothesis was adopted because the t value was 8.282, which is more than ± 1.96, and the significance value was less than 0.05, which is the influence of the
knowledge competence of the management consultant on hypothesis H1b on the consulting service quality. Hypothesis H1c was adopted because the t value of 9.628, which is more than ±1.96, and the significance value of 0.05, is less than 0.05, the effect of the attitude competence of the management consultant on consulting service quality. In other words, the higher the competency of the management consultant, the higher the quality of the consulting service is. The regression model shows the F value of p = .000 to 169.556, and the corrected R2 = .064 for the regression equation shows the explanatory power of 64.2%. The results of this test are summarized in Table 1.

### Table 1. Verification of Hypothesis H1

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Independent Variable</th>
<th>Standardized Error</th>
<th>β</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Of Consulting Services</td>
<td>(Constant)</td>
<td>.142</td>
<td></td>
<td>6.022</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Capability</td>
<td>.032</td>
<td>.130</td>
<td>3.139</td>
<td>.002</td>
</tr>
<tr>
<td></td>
<td>Knowledge</td>
<td>.035</td>
<td>.366</td>
<td>8.282</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Attitude</td>
<td>.039</td>
<td>4.54</td>
<td>9.628</td>
<td>.000</td>
</tr>
<tr>
<td>R = .804, R² = .646, Modified R² = .0.642, F = 169.556, p = .000</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

#### 3.1.5 Verification of hypothesis H2

Table 2 shows the results of the hypothesis H2a, “The problem solving ability of the consultant has a moderating effect on the relationship between the competence of the consultant and the quality of the consulting service”. As the R2 of the 1,2,3 step model continuously increases to 0.245, 0.353, and 0.364, and the significance F variation of the third step becomes 0.031, the problem solving ability of the consultant is concluded to have significant influence on the relationship between the consultant’s capability competence and the quality of consulting service.

### Table 2. Verification of Hypothesis H2a

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Model</th>
<th>Variables Entered</th>
<th>R²</th>
<th>Significance F Variation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Of Consulting Services</td>
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<td>Capability</td>
<td>.245</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Problem solving</td>
<td>.353</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Interaction term</td>
<td>.364</td>
<td>.031</td>
</tr>
</tbody>
</table>

Table 3 shows the results of the hypothesis H2b, “The problem solving ability of the consultant has a moderating effect on the relationship between the consultant’s knowledge competence and the
As the R2 of the 1, 2, 3 step model continuously increases to 0.463, 0.515, and 0.525 and the significance F variation of the third step becomes 0.016, the problem solving ability of the consultant is concluded to have significant influence on the relationship between the consultant’s knowledge competence and the quality of consulting service.

Table 4 shows the results of the hypothesis H2c, “The problem solving ability of the consultant has a moderating effect on the relationship between the attitude competence of the consultant and the consulting service quality”. The R2 of the first, second and third stage models continuously increased to 0.536, 0.541 and 0.546, respectively. However, since the significance F variation of the third stage was 0.097, the problem solving ability of the consultant cannot be concluded to have significant influence on the relationship between the consultant’s knowledge competence and the quality of consulting service.

3.2 Discussion

H1a, H1b, and H1c were adopted as the research hypothesis 1 (H1), ‘Consultant competence has a positive effect on consulting service quality’. The research hypothesis 2 that ‘the problem solving ability of the consultant has a significant moderating effect on the relationship between the consultant competence and the quality of the consulting service’ was partially adopted because H2c was rejected.
4 Conclusion

4.1 Results and implications

As a result of this study, the capability, knowledge and attitude of the consultant were found to affect the quality of consulting service as same as the previous study. The level of the consultant’s ability to solve problems is one of the key factors deciding the consultant’s competency, and in order to increase the service quality of the consulting work, the consultant must improve the problem solving skills. Therefore, it is imperative to have education systems and development programs to improve the consultants’ problem solving ability are important. Additionally, the consultants must actively participate in education programs to improve his/her problem solving skills and learn the correct tools.

4.2 Improvement

The items of problem solving ability, which are the core research subjects of this study, are reconstructed according to the purpose of research for items that are judged to be related to ‘problem solving’ in the ‘capability’ competence evaluation item of the previous research. Therefore, it cannot be definitely said that these criteria are objective and an exact representation of the topic. In addition, the questionnaire did not provide a clear explanation of the concept of problem solving ability and various techniques, and it is possible that the respondent could not correctly recognize the problem solving ability. Therefore, it is required to redesign the tools and models that can accurately determine the problem solving ability of the consultant as a follow-up study.

5 Acknowledgment

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References


[12] Young-Soo, An, *The Study on Effective & Creative Problem Solving Process through Analysis on Creativity, Thinking Mechanism and Existing Problem Solving Techniques*, 2015, Graduate School of Kongju National University, Korea, www.riss.kr/search/detail/DetailView.do?p_mat_type=be54d9b8bc7cdb09&control_no=5f3a9b446781bd7ffe0bdc3ef48d419.
[13] So Jeong Yoon, *The Influences of Problem-Solving Ability and Attributional Style on Suicidal Ideation in Adolescent*, 2012, Graduate School of Sookmyung Women’s University, Korea, www.riss.kr/search/detail/DetailView.do?p_nat_type=be54d9b8bc7cdb09&control_no=8531c87ec5a6fdbc0ff0bdc3ef48d419.

[14] So Young Oh, *Design of Evaluation Elements for Improving Problem-Solving Ability in Informatics*, 2009, Graduate School of Korea University, Korea, www.riss.kr/search/detail/DetailView.do?p_nat_type=be54d9b8bc7cdb09&control_no=e0003773f2b41266fe0bdc3ef48d419.
