

THE EFFECT OF DECISION MAKING COMPETENCE ON MANAGERIAL PERFORMANCE

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Abstract:

The performance of the manager, is partly related with decision-making competence. Making decisions properly at the right time and in the best period has the potential to increase the overall success of the manager. Decision-making which means comprehending, thinking, evaluating the alternatives and choosing one of the alternatives is a factor that affects manager's performance directly and provides a competitive advantage for organisations. In this research, the relationships between decision-making competence and managerial performance were discussed. The main thesis of this research is that the managers who have high decision-making competence will have high managerial performance. The research was carried out with a population of 424 managers, subordinates, executives and customers/farmers. The evaluation of managerial performance was conducted by taking the factors of subordinates, executives and customers into consideration. The research scales compiled from the literature review and measurement tools developed by the researcher were used in the research. The test of hypothesis was examined by the method of linear regression analysis. The results of this research provided that there was a statistically significant relationship between the decision-making competence of the managers and managerial performance. However, this preliminary study needs to be tested in other businesses and sectors because the data of this study were gathered from a single institution of business.

Keywords: *Decision-Making Competence, Self-Confidence, Performance, Managerial Performance*

1. Introduction

Decision-making is to be able to choose one of the alternatives. Like interpersonal relationships and information sharing, decision-making is one of the basic functions of a manager. Nowadays in which competition reveals itself evident, decisions given by the managers reflect on both personal performance and the company's outcomes. While the right decisions made by the managers contribute to the value of the company, wrong decisions may lead the company to go down.

Making right decisions is a critical issue for managers and organizations. In the literature about decision-making competence, the factors and the aspects of decision-making competency, interactions between these aspects, the relationships between decision-making competence and demographic factors were examined. It was observed that relatively limited number of studies investigating the relationships between decision-making and performance exist.

2. Literature Review and Hypothesis Development

Decision-making competence is defined as the ability of evaluating, comprehending and expressing a choice (Bavolar, 2013, p. 386). According to Finucane and Lees, decision-making competence is a multidimensional concept that expresses certain abilities needed to make the right decisions. Among the dimensions of decision-making competence; there exist (a) understanding the relevant information regarding to the decision, (b) configuring the decision problem, (c) integrating information and reason, and (d) being aware of the personal significance of information and the limits of one's decision-making skills (Finucane and Lees, 2005, p. 2; Finucane and Gullion, 2010, p. 272). In terms of normative decision-making models, decision-making competence is the ability or set of skills that are needed to make the proper decisions (Appelt, Milch, Handgraaf and Weber, 2011, p. 254).

In the studies about decision-making processes, four fundamental skills are emphasized: (a) evaluating the belief that considers the likelihood of outcomes, (b) assessing the values that review the results, (c) integrating the values and beliefs in order to define the choices for decision-making and (d) metacognition consist of trust, process management and cognitive control (Parker and Fischhoff, 2005, p. 3; Bruine de Bruin, Parker and Fischhoff, 2007, pp. 939-940). Performance for each skill regarding the decision-making competence is measured in terms of accuracy or internal consistency.

Parker and Fischhoff (2005) defined seven dimensions involving decision-making abilities and the standards of accuracy and consistency in order to develop an extensive model of decision-making competence. These are; (a) consistency in risk perception, (b) recognizing social norms, (c) resistance to sunk costs, (d) resistance to framing, (e) applying decision rules, (f) freedom of choice and (g) under/overconfidence. In that research examining the young, the researchers found that causal inferences related to decision-making are valid. They found that there is a relationship between decision-making performance and the measurements of basic cognitive abilities, cognitive manners, conditions of growing and risk-taking behavior (Parker and Fischhoff, 2005, pp. 1-16). The decision-making competency model developed by Parker and Fischhoff is based on the principles of making proper evaluations for the problems by applying decision rules in normative context and showing a consistent approach within the scope of cognitive competence (Parker, Bruine de Bruin and Fischhoff, 2015, p. 2).

In 2007, Parker and Fischhoff with Bruin de Bruin's participation developed Adult Decision-Making Competence Scale (A-DMC). In this study, Young Decision-Making Competence Scale (Y-DMC) which Parker and Fischhoff developed in 2005 was used as a base. Adult Decision-Making Competence was defined in the form of six sub-dimensions: (a) resistance to framing, (b) recognizing social norms, (c) under/overconfidence, (d) applying decision rules, (e) consistency in risk perceptions, and (f) resistance to sunk costs (Del Missier, Mantyla and Bruine de Bruin, 2012, s. 332). With A-DMC Scale, four basic competences including belief assessment, value assessment, integration and metacognition assessed. Belief assessment involves the measurement of the probability of outcomes; value assessment includes the measurement of reviewing the results of a behavior; integration contains the measurement of considering the beliefs and values together; and metacognition involves the measurement of one's potential in coping up with the problems while determining the decision-making competence (Bavolar, 2013, p. 387; Weller, Ceschi and Randolph, 2015, p. 4).

In Adult Decision-Making Competence Scale developed by Bruin de Bruin et. al., resistance to framing, which is one of the six dimensions, measures whether irrelevant variations affect the choice or not in identifying problems. Recognizing social norms deals with the evaluations of participants about basic social norms. The dimension of under/overconfidence discusses to what extent the participants trust their own knowledge. High scores taken in this sub-dimension reflect high performance. In the dimension of applying decision rules, the study made by Payne, Bettman and Johnson (1993) was taken into account and the participants' competences of applying the principles of decision making is measured. The dimension of consistency in risk perception measures the participants' ability to follow the probability rules. Resistance to sunk costs is based on the studies of Arkes and Blumer (1985) and evaluates whether sunk costs of former investments are taken into consideration or not while making a decision (Bruine de Bruin, Parker and Fischhoff, 2007, pp. 941-942; Del Missier et al, 2013, pp. 6-7).

When the researches about managerial performance were examined after those about decision-making competence, it was seen that these researches go back to the period of classical management.

Since Fayol published the study called "General and Industrial Management" in 1916, the concepts of management and performance have continued to arouse the researchers' attention. It was observed that manager's roles are evaluated with regard to function, trait and decision-making. Gullick (1937), Koontz and O'Donnell (1976) and Luthans (1976) who addressed the roles of the manager from functional perspective featured planning, organizing, directing, controlling and educating the employees in their studies (Borman and Brush, 1993, pp. 2-4).

Mahoney et. al. (1965), who viewed managerial performance from the point of function, de-fined eight functions of manager by taking the time that the managers spend in daily works into consideration. These are planning, coordinating, evaluating, investigating, supervising, staffing, negotiating and representing (Lau, 2015, p. 152). Allan researching in the same sub-ject focused on supervision of employees, harmonizing, information handling, analytical-evaluative approach, change-initiating and monitoring among the fundamental functions of managers (Allan, 1981, p. 616).

Researchers also addressed the concept of managerial performance from the perspectives of role, skills and traits. Katz (1974) evaluating from the point of skill asserted that an efficient manager should have technical, human and conceptual skills. Technical skill implies specialized knowledge, analytical ability and proficiency that a manager about the field that she is responsible; human skill means reaching activeness by encouraging collaboration among the group that a manager leads. Conceptual skill is being able to regard the organization as a who-le. A manager should evaluate interrelations of the units in the organization, changes and the effects of internal and external factors as a whole and should make a decision within this framework (Katz, 1974, pp. 94-98). Smit and Kandell (1963) included communication, problem solving, business knowledge, time management, motivation and leadership as the criteria of managerial performance of the manager. Mintzberg (1975) criticizing functional approach looked at managerial performance from role and behavioral perspective. Mintzberg evaluated the roles of a managers in three categories which are interpersonal, information sharing and decision-making (Clement, 1992, p. 440). According to Mintzberg, leadership, figurehead and liaison role take place in the scope of interpersonal; observation, disseminator and spokesperson rest on information sharing roles; entrepreneurship, disturbance handler, resource allocator and negotiator take place in the roles related to decision-making (Hall, 2008, pp. 159-160; Stivers, Adams and Liu, 2007, pp. 78-80).

Borman and Brush (1993) reviewed and categorized the studies about managerial performance and developed their classification on four mega-dimensions. These dimensions are specified as; (a) interpersonal relationships and communication, (b) leadership and supervision, (c) technical activities and management and (d) useful personal behaviors and skills (Borman and Brush, 1993, p. 10). Interpersonal relationships and communication dimension consists of effective communication, representing, maintaining good working relationships and persuading; leadership dimension involves coordinating, directing and training subordinates; in the dimension of technical activities and management there exist planning, technical competence, administration, decision making, staffing, controlling, delegating, analyzing the data; in useful behaviors and skills dimension, being result oriented, handling crisis and organizational commitment exist (Borman and Brush, 1993, p. 10).

While Hall (2008) researching managerial performance paid regard to (a) planning, (b) investigating, (c) coordinating, (d) evaluating, (e) leadership, (f) negotiating, (g) representing and (h) general performance as the criteria of success; Stiver et. al. (2007) discoursed the factors of (a) business knowledge, (b) communication, (c) team work, (d) workplace behaviors, (e) leadership, (f) ethical approach, and (g) creativity in measurement of managerial success (Hall, 2008, pp. 159-160; Stivers, Adams and Liu, 2007, pp. 78-80).

When the studies on managerial performance were conceived, it was understood that the dimensions of communication, business knowledge, leadership, management, problem solving, planning, coordinating, employee training and decision-making come into prominence.

The main objective of the study is to find out that to what extent the decision-making competence of the managers and the results of managerial performance are related. Research question was tried to be answered by using Decision-Making Competence Scale developed by Bruin de Bruin et. al. (2007) and analyzing managers' perceptions about managerial performance.

3. The Methodology and Model

In the descriptive-analytical research, the responses that the participants gave to two conceptual structures were evaluated and the relationships between these structures were tried to be specified. For this purpose, two measure-

ment tools were used in order to reveal conceptual structures and the relationships between conceptual structures were tested with hypothesis testing.

3.1. Population, Sample and Research Application

The research's population consisted of 1623 managers working at Agricultural Cooperative Credit Center Association across Turkey. In every one of these cooperatives, one officer works as a manager. The theoretical population and the practical population of the study were not differentiated and all managers were accepted as practical population.

For the selection of sample, "simple random sampling" method was applied. In simple random sampling method, the risk of bias disappears and sampling error can be predicted. The names of 1623 cooperatives were listed and among them 500 cooperatives were selected randomly. In order that managerial performance evaluations can be implemented within the scope of 360 degrees, 1 executive, 1 subordinate and 1 customer/farmer were selected from again cooperatives randomly to evaluate every manager.

In data collection, questionnaire method was used and it was applied by receiving participants' approvals. Questionnaires were applied with three different methods. In the first method, the questionnaire was conducted by means of that the researcher in person met face to face with the participants. In this way, 102 questionnaires were obtained. In the second method, the questionnaire was distributed to participants via sales representatives working at Fertilizer Factory Trade Inc. District Office and a week time was given to the participants to fill in the questionnaires. 186 questionnaires were gathered with the second application. In the third method, questionnaire forms were sent to people in target group via e-mail and were asked to reply back. 182 questionnaire forms were obtained by the third method. At the end of the survey, 470 questionnaire forms were taken back and the ratio of return was %94. After questionnaire application was completed, 46 questionnaire forms were evaluated as invalid; therefore, the number of testable questionnaire forms reduced to 424.

3.2. Measurement

In the research, a questionnaire including demographic variables and two attitude scales were used. Attitude scales were designed for "revealing the way of perception" of the managers and other evaluators. The first measurement tool was used for measuring decision-making competence. For this, "Decision-Making Competence" scale developed by Bruine de Bruin et. al. (2007) was used. This scale was translated into Turkish by the researcher. This translation was submitted for consideration of experts in their field. The necessary changes made in accordance with the opinions of experts. Items of the scale was adapted to the conditions of country. However, some of items were altered, and the number of items, which is 158 originally, was reduced to 78. There are six dimensions consisting of Resistance to Framing, Recognizing Social Norms, Self-Confidence, Applying Decision Rules, Consistency in Risk Perception and Resistance to Sunk Costs in Decision-Making Competence scale. In addition to these dimensions, a new dimension called "Thinking Right" was added to the scale and thereby Decision-Making Competence was consisted of seven sub-dimensions. In reliability analysis conducted, from the scales Recognizing Social Norms-I and Recognizing Social Norms-II, the first one was left out of assessment because of the low internal consistency and Omega values. Moreover, among the sub-dimensions measuring Decision-Making Competence's conceptual structures, Thinking Right, Applying Decision Rules and Resistance to Sunk Costs scales' internal consistency and Omega values were low. For this reason, these scales were excluded from the analysis and Decision-Making Competence was measured with the dimensions of Resistance to Framing, Recognizing Social Norms-II, Self-Confidence and Consistency in Risk Perception.

The second measurement instrument called "Managerial Performance" scale was formed as eight dimensions by the researcher in accordance with literature review. "The Profile of Management Skills" scale by Sevy et. al. (1985), managerial performance classification by Borman and Brush (1993), "Managerial Success Factors" by Stiver et. al. (2007) and the studies by Hall (2008) and Bucur (2013) were taken into consideration while developing Managerial Performance scale. Different versions of Managerial Performance scale were generated, which allows the evaluations of executive, subordinate and customer. Accordingly, the other versions of managerial performance scale were (a)

Self-evaluation scale, (b) Subordinate Evaluation scale, (c) Executive Evaluation scale and (d) Customer Evaluation scale. There existed 45 items in Self-evaluation scale, Subordinate Evaluation scale and Executive Evaluation scale. In Customer Evaluation scale, there were ten items related to managerial performance. Managerial Performance scale was designed in a form including Leadership, Business Knowledge, Management Success, Communication, Interpersonal Relationships, Being Result Oriented, Taking Initiative and Training Subordinates. All items of the scales were designated on the basis of theoretical information from literature.

Managerial performance was defined as a dependent variable in the research. The scales of Self-evaluation, Subordinate Evaluation, Executive Evaluation and Customer Evaluation were used in measurement of Managerial Performance. The number of items which was 45 for the first three scales was reduced to 20 after exploratory factor analysis; and the number of items for Customer scale was reduced to eight. Due to the low reliability, Customer scale was left out of the analysis and to calculate the scores of managers' managerial performance, the average of self-evaluation, subordinate evaluation and executive evaluation scores were taken into consideration.

Managerial Performance scales are measurement tools of Likert type; and labels used and the corresponding grades were specified as: (1) Strongly Disagree, (2) Partly Disagree, (3) Neutral, (4) Partly Agree, (5) Strongly Agree.

The sub-scales of Decision-making competence were the independent variables of the research. The measurement tool of Decision-Making Competence is a mixed scale and consist of these dimensions: Resistance to Framing, Recognizing Social Norms, Thinking Right, Self-confidence, Applying Decision Rules, Consistency in Risk Perception and Resistance to Sunk Costs. Recognizing Social Norms-I, Thinking Right, Applying Decision Rules and Resistance to Sunk Costs scales were left out of the analysis because of their low reliability scores. In calculating the scores of managers' Decision-Making Competence, the scores from the scales of Resistance to Framing, Recognizing Social Norms-II, Self-confidence, Consistency in Risk Perception were averaged. After factor analysis, the number of items reduced to 5 in Resistance to Framing scale, 12 in Self-confidence scale, 5 in Recognizing Social Norms-II scale and 8 in Consistency in Risk Perception.

Resistance to Framing scale's labels were designed as: (1) Certainly option A should be chosen, (2) Option A should be chosen, (3) Option A can be chosen, (4) Option B can be chosen, (5) Option B should be chosen, (6) Certainly Option B should be chosen.

Resistance to Sunk Costs scale's labels were: (1) 1st option has very high probability to be chosen, (2) 1st option has high probability to be chosen, (3) 1st option can be chosen, (4) 2nd option can be chosen, (5) 2nd option has high probability to be chosen, (6) 2nd option has very high probability to be chosen.

The scales of Recognizing Social Norms-I, Recognizing Social Norms-II, Applying Decision Rules and Consistency in Risk Perception were measurement tools that had two types of answers as "Yes-No or True-False".

3.3. Hypothesis of The Research

In the research, Decision-Making Competence was specified as the predictor variable and Managerial Performance was defined as the outcome variable. The hypothesis of the research determined that the managers having high scores of decision-making competence will have high scores of managerial performance. In scales of Decision-Making Competence and Managerial Performance, scale scores were obtained by calculating arithmetic means of related items.

4. Findings

The findings of the research submitted as demographic findings related to participants, dimensionality, reliability, validity of scales and the results of hypothesis testing.

4.1. Descriptive Statistics

The frequency distributions of demographic data regarding executives, managers, subordinates and customer participants' gender, age, educational status, work experience, period of management and period of recognition were calculated. According to results 89.20% of executives participating the survey were males, 10.80% of them were females. Ages of 90.60% of executives were between 30 and 49. 93.60% of the executives, which was a great majority, had bachelor's degree. Work experience of 50.20% of the executives was 21 years and more. Management period of 88% of the executives was between 0 and 16 years. 70.40% of the executives' recognition period of managers was between 0 and 10 years.

84.90% of the managers participating the survey consisted of males; 15.10% of the managers were females. 81.60% of the managers were between 30 and 49 years old. 48.60% of the managers had bachelor's degree; 34% of them were high-school graduates. Work experience of 59.20% of the managers was between 0 and 20 years. Management period of 74% of them was between 0 and 10 years.

72.60% of subordinates participating the survey were males and 27.40% of them were females. 76.20% of subordinates were between 30 and 49 years old. 54.60% of them had bachelor's degree; 19.80% of them were high-school graduates. Work experience of 79.70% of subordinates was between 0 and 10 years. 91.50% of subordinates' recognition period of managers was between 0 and 5 years.

98.30% of customers participating the survey were males, 1.70% of them were females. 79.90% of the customers were between 30 and 59 years old. 50.20% of the customers were primary school graduates; 27.40% of them were high-school graduates. 62% of the customers' membership period was between 0 and 16 years. 96% of the customers' recognition period of managers was 0 and 10 years.

4.2. Analyses of Dimensionality, Reliability and Validity

Factor analysis is used in order to classify variables that have common relational connections on multi-dimensional variable cluster and so to specify variables' dimensions. In the research, explanatory factor analysis method was used for the items in "Decision-Making Competence" and "Managerial Performance" scales. For Explanatory factor analysis (EFA), "Factor 10.3.01" program was utilized. Within the scope of EFA, inter-items correlation values resulted in between 0.01 and 0.82 in sub-scales of Decision-Making Competence and between 0.04 and 0.79 in scales of Managerial Performance. The items which correlation coefficient with other variables was less than 0.20 were left out of the analysis by removing from the scales. Polychoric and tetrachoric correlation analysis was utilized in order to find factorial structure and to specify the number of factors. Horn's parallel analysis method was used to determine the number of the factors. 0.40 value was defined as cut off line in determining individual factor loading. In result of explanatory factor analysis, it was observed that sub-scales of Decision-Making Competence and scales of Managerial Performance have a single factorial structure and because of this, inter-dimensional correlation coefficients were not calculated. After determining factorial structure, reliability analysis was conducted both for measurement tools and the data.

Reliability analyses were examined under three main titles: Inter-items correlation coefficient values, split half method and internal consistency. In literature it was suggested that inter-item correlation coefficients should be between 0.20 and 0.70; and that averages of correlations should be 0.20 and 0.40; and that items which has negative, low or too high correlation coefficient should be removed from the scale. In measurement tools, the items that had negative values and correlation coefficients were under 0.20 were left out of the analysis by removing them from the scales. As part of reliability analysis, split half method was conducted as a second technic. Because of the fact that one half of the scale's reliability can be measured with split half method, Spearman-Brown formula was applied in order to obtain the reliability of the whole test. It was seen that Spearman-Brown reliability coefficient calculated by split half method was between 0.53 and 0.95 in the scales. According to this values, it was found out that there existed a linear relationship between both parts of the scales apart from Customer scale ($R = 0.53$). This results indicated that the scale reliability was at a good level. Another method conducted for reliability analysis was internal consistency. In order to assess internal consistency reliability, Cronbach alpha reliability is used mostly. Alpha value should be at

least 0.70. However, it was seen in the explanatory-descriptive researches that values up to 0.60 were accepted. General reliability coefficients relating to scales were calculated separately as alpha reliability coefficient, KR-20 and Omega reliability coefficients; and then, the results were gathered in Table 1, Table 2 and Table 3.

Table 1. DMC Scales Internal Consistency Reliability Values

	Number of items	Cronbach alpha	Omega values
Resistance to Framing (RtF)	5	0.64	0.70
Self-confidence (SC)	12	0.74	0.86
Resistance to Sunk Costs (RSC)	5	0.35	0.58

Table 2. DMC Scales Internal Consistency Reliability Values

	Number of items	KR-20 coefficient	Omega values
Recognizing Social Norms-I (RSN1)	3	0.46	0.72
Recognizing Social Norms-II (RSN2)	5	0.67	0.84
Thinking Right (TR)	4	0.26	0.73
Applying Decision Rules (ADR)	3	0.35	0.58
Consistency in Risk Perception (CRP)	8	0.66	0.85

Reliability coefficient of the scale is evaluated as poor if it is > 0.50 ; as questionable if it is > 0.60 ; as acceptable if it is > 0.70 ; as good if it is > 0.80 and as highly reliable if it is > 0.90 (Gliem and Gliem, 2003, p. 87). It was seen that among the scales of Decision-Making Competence RtF, Self-confidence, RSN2 and Consistency in Risk Perception scales' internal consistency reliability values were acceptable and that their Omega values were high. RSC, RSN1, TR and ADR scales' internal consistency and Omega values were low. Because of the poor reliability, RSC, RSN1, TR and ADR scales dropped and were left out of the analysis.

Table 3. Internal Consistency Reliability Values of MP Scales

	Number of items	Cronbach alpha	Omega values
Managers-Self (MPS-MS)	20	0.83	0.96
Subordinates (MPS-S)	20	0.93	0.96
Customers (MPS-C)	8	0.56	0.86
Executives (MPS-E)	20	0.95	0.96

From among Managerial Performance scales, Managerial Performance Scale-Subordinates (MPS-S) and Managerial Performance Scale-Executives (MPS-E) were evaluated as highly reliable; Managerial Performance Scale-Managers-Self (MPS-MS) was evaluated as quite reliable and the reliability of Managerial Performance Scale-Customer (MPS-C) was evaluated as poor. It was resulted that the scales of MPS-S, MPS-E and MPS-MS were sufficiently reliable because of the fact that their Omega values were above 0.80. After reliability analysis, validity analysis was done for measurement tools and the data.

Face validity assessment was carried out for the whole of the scale and on the basis of the items. It was concluded that scales had face validity because of the fact that the opinions of experts and participants were positive. Lawshe's Content Validity Ratio (L-CVR) was utilized to specify content validity of the scales. CVR value of the items and scale scores should be equal to 1 to ensure content validity when the number of panel members are between five and eight (Ayre and Scally, 2014, p. 82). Because Decision-Making Competence and Managerial Performance scales' L-CVR value was equal to 1, it was concluded that these scales had content validity.

Construct validity analyses were examined as part of nomological network and confirmatory factor analysis. In order to provide evidence for a measurement tool measures the conceptual structure, nomological network should cover related structure. It was concluded that Decision-Making Competence and Managerial Performance scales that were used in the research had nomological validity as these scales were constructed on the basis of conceptual framework. Confirmatory Factor Analysis (CFA) is a frequently used method in search of construct validity. In this study, fit indices were used for construct validity analysis conducted with confirmatory factor analysis method. All fit index values of scales indicated good fit.

4.3. Hypothesis Testing Results

The hypothesis of the research was tested with linear regression analysis. Before the analysis, it was examined whether the data met prior conditions of linear regression analysis or not. Prior conditions of linear regression analysis were examined in four basic titles as linearity, normality, independence of errors and homoscedasticity and it was seen that the assumptions were satisfied. As a result, it was evaluated that the results from regression analysis were "objective" and "fair" because of the fact that four prior conditions were fulfilled totally.

Linear regression analysis was used in order to explore whether the markings of the participants in Decision-Making Competence scale provides the opportunity to estimate Managerial Performance significantly or not and it was seen that predictor variable explained 5.8% of the variance ($R^2 = 0.058$; $F = 25.942$; $p = 0.000$) and it was understood that Decision-Making Competence factor provided the opportunity to explain Managerial Performance significantly ($\beta = 0.149$, $p = 0.000$). Therefore, alternative hypothesis was approved by succeeding in reject of null hypothesis.

When submitting the research results, in addition to p value, index values that indicate the strength of the relationship among variables or effect size should be included. Effect size is a statistical value that quantifies the degree to which sample results diverge from the expectations specified in H_0 (Vacha-Haase and Thompson, 2004, p. 473). Effect size value which is an indicator of practical significance enables more reliable evaluation by removing misjudgment that can be resulted from sample size. Effect size can also be interpreted with "partial eta value" calculated. That partial eta value is 0.01 refers to poor effect size, that it is 0.06 refers to reasonably low effect size, and that it is 0.14 refers to high effect size (Şencan, 2016, p. 88). Although the fact that p value resulted as statistically significant (that it is lower than 0.05) in result of calculation showed that there was an "effect" which was that Decision-Making Competence variable affected Managerial Performance variable, this fact did not give an idea about the strength and level of this effect. In the calculation made via SPSS, partial eta value ensued as 0.176 and this indicated high effect size in the relationship between Decision-Making Competence and Managerial Performance.

5. Conclusion and Recommendation

As a result of statistical analysis, it was seen that there was a significant relationship between managers' decision-making competence and evaluators' managerial performance perceptions. As there was not any study focusing directly on decision-making competence and managerial performance in body of literature, discussions were approached within the frame of related concepts.

In their study, Peters et. al. (2006) explained competence as being acquainted with numbers and asserted that the individuals who were highly numerate were more successful than less numerate individuals. It was concluded that highly numerate individuals in comparison to less numerate individuals applied numerical principles, tended to draw affective meaning from numbers, were less susceptible to framing effect and they gave precise response. Less numerate individuals were influenced by irrelevant information and drew poor precise meaning from relevant numbers.

Analyses indicated that the effect of numeracy was not a result of general intelligence (Peters et. al., 2006, pp. 412-413). It was understood that being acquainted with the numbers contributed to decision-making competence by way of analytical skills.

Another concept related to decision-making competence is critical thinking According to Bensley et. al. (2010), critical thinking is to analyze the evidence comprehensively and totally in order to draw sound conclusions from evidence relevant to a claim (Bensley, Crowe, Bernhardt, Buckner and Allman, 2010, p. 91). It is seen that critical thinking is closely related to creative approach, problem solving and decision-making. Naktiyok and Çiçek (2014) found that there were positive and significant relationships between strategic insight and critical thinking (Naktiyok and Çiçek, 2014, p. 175).

Resistance to framing and sunk cost fallacy are factors effecting decision-making competency. In the study conducted by Carnevale et. al. (2011), it was seen that managers those high in need for cognition were less affected by resistance to framing and sunk costs than those low in need for cognition and these managers performed better than control group in the dimensions of resistance to framing, consistency in risk perceptions and resistance to sunk costs of decision-making competence (Carnevale, Inbar and Lerner, 2011, p. 277). This study shows that cognitive enhancement affects decision-making competence positively. Roth et. al. (2015) also stated that sunk costs effect is attenuated by time and older adults had a better performance in resistance to sunk costs than younger adults (Roth, Robbert and Straus, 2015, p. 123).

Leadership style and decision-making are the influential factors in managers' managerial performance. In Flood et. al.'s study, it was seen that while authoritarian, laissez faire and transactional leadership styles related negatively with shared decision-making and team effectiveness, transformational leadership style had statistically significant and positive effects with shared decision-making and team effectiveness (Flood, Hannan, Smith, Turner, West and Dawson, 2000, s. 414). Dries and Pepermans (2012) stated that analytical skills containing decision-making, problem solving, strategic insight and intellectual curiosity are best predictors of a future performance for a leader (Dries ve Pepermans, 2012, pp. 372-373). Studies supported that leadership and decision-making are interrelated concepts.

Self-confidence is an important factor of decision-making competence and our study it also supports that it is required for a manager to be successful; however, overconfidence can lead to undesirable results. Shipman and Mumford (2011) found that confidence positively influenced leader performance interpersonally, overconfidence contributed to positive results and vision sharing, but that overconfidence had detrimental effects in cognitive activities like planning (Shipman and Mumford, 2011, pp. 661-662). It was seen in the study of Doukas and Petmezas (2007) that overconfident managers contributed to their institutions less than rational managers did and self-attribution bias induced managerial overconfidence (Doukas and Petmezas, 2007, p. 574). Fabricius and Büttgen (2015) pointed it out that overconfidence reduced risk awareness of project managers and therefore overconfidence caused managers to assess risks in a more optimistic framework (Fabricius and Büttgen, 2015, p. 258).

The relationship between decision-making competence and managerial performance in this study shows partial relevance with precedent studies. The dimensions of the two components when taken into account shows lack of corroboration with other researches. Partial relevance for the study abstracted from the key findings are far from associating in the main level. Moreover, relevance in research findings is valid within the constraints of regression analysis. In the upcoming years, more precise results will be obtained with the researches in which interested researchers examine conceptual structures in different sectors and different managerial levels. For this, instead of multi-scale forms, integrated scales of competence and performance can come up with more efficient results.

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