IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 22, Issue 2. Ser. IV (February. 2020), PP 22-30
www.iosrjournals.org

Top Management Team Cognitive Characteristics and Organizational Performance

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Abstract: *Top management team (TMT) cognitive characteristics are associated with the ability of the top management team members to learn, remember, problem-solve and pay attention to details as they carry out their tasks within their organizations (Bromiley & Rau, 2016). Previous strategic management scholars have argued that TMT cognitive characteristics involve the theory of the mind or insight into peoples' thinking and prediction. These scholars have identified that TMT cognitive characteristics manifest in pattern recognition, problem solving or defining the problem in the right way, which then generate possible solutions in order to choose the best possible alternative. Some of these strategic management scholars have stressed that TMT cognitive characteristics involve the ability to make decisions based on the problems at hand, working memory or the capacity to hold and manipulate information. They have further argued that TMT cognitive characteristics comprise of the ability to cope with emotions, the capacity to collapse intricate schedules into actionable tasks and arrange them in the right sequence, and the skill towithstand distraction in order to achieve superior performance (Narayana, Zane & Kemmerer, 2011).Gavetti (2005), while contributing to the debate on TMT cognition, argued that TMT cognition is vital in sensing, interpreting, encoding and memory that are critical in the construction of organizational tasks that then lead to superior organizational performance. It has also been argued that it is not enough for TMTs to assemble a set of capabilities; they must utilize those capabilities in taking strategic actions informed by interpretations of their business environments and the prevailing situations in their organizations (Kaplan, 2005). The specific objective of the study was to assess the effect of top management team cognitive characteristics on organizational performance of independent regulatory agencies in Kenya. To achieve these objectives, the study adopted descriptive cross-sectional research design. The target population of the study was all the twenty-three independent regulatory agencies currently existing in Kenya. Due to the uniqueness of each independent regulatory agency and the distinct roles played by each top management team member in their organization, the study adopted a census survey of all the top management team members in all the twenty-three in dependent regulatory agencies in order to capture the required information. Primary data was gathered using structured questionnaire administered through drop and pick later method. Descriptive statistics was then used to summarize the survey data into percentages, frequencies, means and standard deviations. Inferential statistics employed regression analysis to test hypothesis and draw conclusions. The findings of the study showed that top management team cognitive characteristics significantly affect organizational performance. The study recommends that the recruitment process of the TMTs should include cognitive characteristics as requirements apart from the normal demographic characteristic requirements mostly in use.*

Keywords*: Top Management Team Cognitive Characteristics; Independent Regulatory Agencies; Organizational Performance*

Date of Submission: 04-02-2020 Date of Acceptance: 19-02-2020

I. Introduction

There has been growing concern amongst strategic management researchers and practitioners alike to endeavour to understand reasons that lead to some organizations achieving superior organizational performance than others even if they are operating within the same or similar business environments (Ogollah, Bolo & Ogutu, 2011). Previous researchers in strategic managementhave argued that top management team cognitive characteristicshave the potential to positively after organizational performance. Some of these previous scholars have argued that TMT cognitive characteristics positively affect the process through which experiences by the TMTs translate into proper understanding of their organizations' capabilities through transactive memory that is linked to how one learns about the talents possessed by those they interact with, especially team members. They have argued that transactive memory is constructed through personal interactions and examination of the talents

and behaviours of other individuals (Argote & Ren, 2012). These scholars have asserted that another process through which TMT cognitive characteristics do result into superior organizational performance is through procedural memory that encompasses the way in which individuals acquire learned abilities. They have argued that such memory is acquired through continued interactions, and represent a form of involuntary, inferred knowledge about how to accomplish an assignment (Eggers & Kaplan, 2014). The current study there conceptualized TMT cognitive characteristics in terms of problem solving techniques, attention, memory and learning.

The top management team in any organization are the highest-ranking officials in that organization. The titles of the TMT members however vary from one organization to another depending on the nature of business, scope of operation, organizational culture and ownership of the organizations among other factors. The common titles however among the TMTs are chairman/chairperson, president, chief executive officer, managing director, executive directors, and executive vice presidents among others. These positions are responsible for either the entire organizations or departments/units (Mkalama, 2014). Top management teams translate policies formulated by the board of directors of their organizations into goals, objectives, strategies and projects meant to steer their organizations to success in both the present and the future. They make decisions that affect everyone in their organizations or in key departments/units and therefore navigate these organizations to either successes or failures (Pearce & Robinson, 2011).

Strategic management scholars and practitioners have been concerned with the strategy process in organizations, more so on how organizations formulate and implement their strategies to achieve sustained exemplary organizational performance. TMT cognitive perspective researchers have therefore tried to understand the information processing tasks like problem framing and perceptions of industry to explore the impact of TMT cognitive characteristics on organizational performance. This group of researchers believe that understanding the cognitive underpinning of TMTs' decisions has the potential to unearth how TMTs sway the strategic management process in their organizations and the resultant effect on organizational performance (Bromiley & Rau, 2016).

Superior organizational performance is the most sought after outcome by all organizations be they public, private, national or multi-national, profit or non-profit organizations. However, the definition of organizational performance remains to be a prickly subject within strategic management circles with various scholars and practitioners defining organizational performance differently (Kasomi, 2015). Javier (2002) while contributing to the subject defined organizational performance in terms of economic, efficient and effective utilization of organizational resources in its activities. This is closer to what Daft (2000), suggested by postulating organizational performance to be the capacity of the organization to realize its objectives and attain its goals through utilizing its assets in a proficient and appropriate way. Richardo and Wade (2001), in their argument viewed organizational performance as the capability of an organization to maximize on its strengths while overcoming its weakness and to neutralize its threats while taking advantage of opportunities in order to achieve its objectives and goals. The current study therefore operationalized organizational performance in terms of effectiveness, efficiency, relevance and financial viability (Muraga, 2015). Effectiveness is thus conceptualized in the current study as the degree to which the organization achieves its objectives and produces desired outcomes that lead to the fulfilment of its mission. The current study conceptualized organizational efficiency in terms of optimal conversion of inputs into outputs. Key elements of organizational efficiency therefore are, worth of services and program delivery, accuracy and timeliness. The current study conceptualized financial viability as the capability of the organization to nurture the requisite capital to fund its operations in the short, medium and long term. The current study lastly, operationalized organizational relevance to mean the organization's capability to win the support of its stakeholders and to meet their expectations.

Independent regulatory agencies in Kenya are a special category of state corporations with oversight role over their sectors or sub-sectors. They license operators, set prices where necessary, protect consumers, enforce compliance to licence conditions and market rules, enforce standards as well as codes of practice for the industry. The independent regulatory agencies meant to spur growth and improve services to consumers or end-users of the services in their particular industries. Currently there are twenty- three (23) independent regulatory agencies in Kenya although there are plans to merge some of them to make them more efficient and effective (PTPR, 2013). The management of the independent regulatory agencies are bestowed on their board of directors and top management teams. Selection and identification of the top management teams with the requisite psychological characteristics for each regulatory agency has been identified as one aspect that affects their performance (PTRP, 2013). Previous studies on performance of state corporations in Kenya have identified that some top management teams are deficient of appropriate talents that can enable implementation of suitable strategic management practices that could positively influence the performance of their organizations. Some of the top management teams have also been associated with failure of their organizations to align themselves to their ever changing and demanding business environments (Mkalama, 2014). The variation in the performance

of the independent regulatory agencies have also been attributed to several other factors like; utilization of resources, poor identification of stakeholders and their needs, lack of sufficient resources, in appropriate organization structures and weak corporate governance structures (Ongeti, 2014).

II. Statement of the Problem

The task of managing the independent regulatory agencies are vested in their board of directors and their top management teams. The selection and identification of the board of directors and the TMTs with the right cognitive characteristics for each specific independent regulatory agency has been identified as one of the factors that influence their performance (PTPR, 2013). Some board of directors and TMTs of the independent regulatory agencies have been argued to lack appropriate cognitivecharacteristics to support implementation of requisite strategic management practices to positively affect the performance of their independent regulatory agencies. Some of the TMTsof the independent regulatory agencies have been linked to failure of their independent regulatory agencies to interpret happenings in their work environments to come up with correct strategic solutions to issues facing their agencies(Bromiley & Rau, 2016).

Previous studies focusing on the effect of TMT characteristics on organizational performance have generated conflicting and inconclusive results. Some of these studies have reported positive significant effect of TMT characteristics on organizational performance while others have reported negative relationships and others showing no relationships.In addition, most of these studies have focused on the competitive environments. Several scholars have also pointed out the fact that, there is still insufficient studies conducted on the connotation between TMT characteristics and organizational performance, while other studies have highlighted methodological errors, misperception and irregularities in the conceptualization of the concept of the top management teams and top management team characteristics (Wasike, Ambula & Kariuki, 2016). In addressing these identified gaps, the current study adopted both inward and outward looking measurements of organizational performance. The current study also expanded the conceptualization of TMT characteristics to include cognitive characteristics unlike previous studies that tended to concentrate only on TMT demographic characteristics.

III. Literature Review

According to the resource base view theory perspective, TMTs in all organizations should be regarded as strategic resources that when correctly utilized have the potential to bring outcomes that are likely to shape their organizations' efforts toward the desired goals that at the end result in sustained superior organizational performance (Benner & Tripsas, 2012). According to Hansen, Perry and Reese (2004), how an organization utilizes its resources is equally important as the resources it possesses. The mere possession of capabilities does not create superior organizational performance, what matters most is how the TMT utilize the organization's capabilities toward attainment of the organization's objectives and goals. The resource based view theory therefore underpinned the study of TMT cognitive characteristics in this study. This is because TMT cognitive characteristics are critical for capability development and deployment.

Several previous studies on the effect of TMT cognitive characteristics on organizational performance have looked at the influence of attributes such as attention, perception, problem solving and information processing. The researchers have argued that perception and attention endeavour to explore the TMTs' abilities to select information for processing while problem solving look into their capacities to use the information to arrive at suitable solutions (Anderson, 1990; Simons, 1995; Starbuck; 2009). TMT cognitive diversity enables the top management teams to have high chances of generating varied information and possibility to have different perspectives on the problem from which to analyze situations facing their organization in greater depths. This will hence result in more insightful decisions and greater capability to solve prevailing problems leading to superior organizational performance (Campbell, Coff & Kryscynski, 2012).

According to Bouquet, Morrison and Birkinshaw (2003), at the individual TMT member, attention comprise releasing information handling aptitude, time and effort to undertake the work activities. They stressed that the limited resource is not information but the time and attention that top management team can assign to search, sort-out, and interpret evidence in the organizations' business environment. The study findings showed that to avoid information overload, TMTs often decide to ignore some aspects of the situations they encounter that they feel may not be good for the success of their organizations. The study thus concluded that TMT members are often selective in their decision- making and problem solving, and that they can only accomplish limited things at a time from the information recorded in their memory of what is presented by the business environment that in turn effect the performance of their organizations. Therefore, the current study purposed to investigate the influence of TMT cognitive characteristics on performance of the independent regulatory agencies in Kenya tocontribute to the on-going academic investigations in the area and conceptualized TMT cognitive characteristics as problem solving, attention, memory and learning.

The literature reviewed revealed conceptual and contextual gaps that the current study purposed to address. First, most of the studies focusing on the effect of TMT characteristics have tended to focus only on TMT demographic characteristics. Lastly, most of the studies in Kenya focusing on the effect of TMT characteristics on performance in the public sector setting have generalized on the state corporations. The current study therefore focused on the combined effect of TMT demographic, TMT psychological and TMT cognitive characteristics as well as being specific to independent regulatory agencies as a unique category of state corporations.The studyoperationalizedTMT cognitive characteristics in terms of problem solving, attention, memory and learning. Lastly, the study operationalized organizational performance in terms of effectiveness, efficiency, relevance and financial viability (Muraga (2015). The study thus conceptualized a relationship as revealed by reviewed literature on TMT cognitive characteristics and organizational performance. In the conceptual model below, TMT cognitive characteristics is the independent variable while organizational performance of independent regulatory agencies is the dependent variable.The relationship is captured in the schematic model in Figure 1.

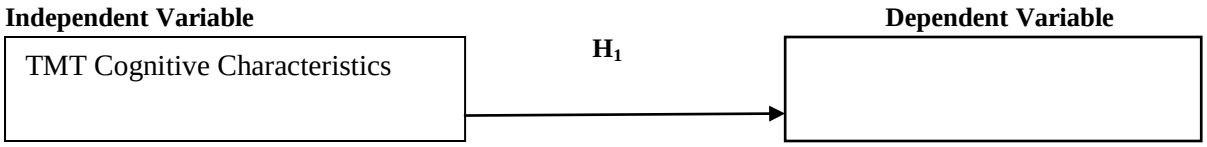

Figure 1: Conceptual Framework

Based on the logic presented in the conceptual framework, the authors proposed that TMT cognitive would affect performance of regulatory organizations in the public sector in Kenya. Specifically, the study proposed that:

Hypothesis H_1: Top management team cognitive characteristics hassignificant effect on the organizational performance of independent regulatory agencies in Kenya.

IV. Research Methodology

The study adopted positivist research philosophy since it delved to look at what causes the particular relationships and what the effects of these relationship are. Positivism philosophy favours quantitative methods where considerable amount of data is gathered for analysis (Muchemi, 2013). Positivist philosophy was also considered appropriate for the study as the researchers were independent of the phenomena being investigated and the properties of the occurrences under study were objectively measured (Mugenda & Mugenda, 2003). The study used a cross-sectional survey design because cross-sectional surveys enable collection of data across a large number of organizations at one point in time for analysis. In a cross-sectional survey research design, the desired data for each variable in the study can be collected from the entire population or a section of it to help test the research hypotheses (Njoroge, 2015). Other researchers like Mkalama (2014), Muchemi (2013), Ongeti (2014) and Kasomi (2015) while trying to test hypotheses and draw conclusions in similar studies have also used cross-sectional survey design successfully.

The study context was the independent regulatory agencies in Kenya. According to the presidential task force on parastatal reforms (PTPR) of 2013, Kenya had a total of one hundred and seventy-eight (178) state corporations spread across eighteen (18) government ministries as at 30th June 2013, out of which twenty-three (23) were independent regulatory agencies (GoK, 2013). The unit of analysis for this study was the twenty-three (23) independent regulatory agencies while the unit of observation was two hundred and thirty two (232) TMTs spread across the twenty-three (23) state regulatory agencies in Kenya. The researcher used a census of all the 232 TMTs from the twenty-three independent regulatory agency as each was considered to have unique information relating to how the characteristics of the TMTs affected performance of their state regulatory agencies.

Primary data was collected using structured questionnaire comprising of closed ended questions. The questionnaire was developed in line with the objectives and hypotheses of the study as guided by the literature review as well the upper echelons theory. Data on the variables were measured using a five point Likert scale ranging from “not at all” (1) to (5) “to a very large extent”. The positive responses were validated, edited for completeness and consistency upon receipt in order to prepare them for statistical analysis. Descriptive and inferential statistics were then used to analyze the prepared data. Regressions analysis then was used to establish the effect of TMT psychological characteristics on organizational performance. The descriptive statistics included frequencies, Cronbach’s alpha, mean and standard deviation of the variables. Diagnostic tests of normality, multi-collinearity and homoscedasticity were carried out on the study data to confirm that there were no violation of the assumptions of linear regression analysis that could result in biased estimates, over or under

confident estimates of the precision of regression coefficients and untrustworthy confidence levels and significance tests [4]. The inferential statistics included regression model summary, ANOVA and regression coefficients of the independent variables. The hypotheses were tested at 95 percent confidence level (α=0.05).

V. Research Findings

5.1 Respondents Characteristics

The researchers distributed 232 questionnaires, out of which 166 were responded to positively. This represented an overall response rate of 71.6%. The respondents were from 19 state regulatory agencies out of the targeted 23, representing 82.6% involvement of the state regulatory agencies in Kenya.Similar previous studies conducted in the Kenyan context by Muchemi (2013) and Muraga (2015) had comparable response rates of 72.5% and72.1percentage respectively. According to Mugenda and Mugenda (2003), 50% response rate is considered adequate, 60% good and above 70% very good. Very good response rates yield results that can be better inferred to a population (Awino, 2013). Therefore, the study response rate was adjudged to be very good and appropriate. The respondent's characteristics are as shownin table 1.

Table 1: Respondents' Characteristics

Category	Number	Percentage
Designation		
CEO	10	6.0
Director/GM	45	27.1
Head of Department	84	50.6
Deputy Head of Department	1	0.6
Head of Section	24	14.5
Others	2	1.2
Total	**166**	**100**
Gender		
Male	115	69.2
Female	51	30.8
Total	**116**	**100**
Age		
30 and Below	1	0.6
31 - 35	5	3.0
36 - 40	9	5.4
41 - 45	47	28.3
46 - 50	65	39.2
51 - 55	34	20.5
Above 55	5	3.0
Total	**116**	**100**
Education		
Bachelors	19	11.4
Masters	131	79.0
PhD	16	9.6
Total	**166**	**100**
Tenure		
0 - 5	82	49.4
6 - 10	66	39.8
11 - 15	14	8.4
16 - 20	1	0.6
Over 20	3	1.8
Total	**166**	**100**
Functional Area		
Support	101	60.8
Technical	65	39.2
Total	**166**	**100.0**

The statistics in table 1 show that majority of the respondents were heads of departments at 50.6% (84) followed by directors/general managers at 27.1% (45), heads of sections at 14.5% (24), CEOs at 6.0% (10), others at 1.2% (2) and lastly deputy heads of departments at 0.6% (1). The findings in table 1 therefore demonstrated that all of the respondents were CEOs and those directly reporting to them as the top management team was conceptualized in the study.The summarized statistics presented in table 1further show that the respondents were not fairly distributed across gender. There were more male respondents at 69.2% (115) than female respondents at 30.8% (51). For age distribution of the respondents, majority were in the age bracket 46-50 at 39.2% (65) followed by 41-45 at 28.3% (47), 51-55 at 20.5% (34), 36-40 at 5.4% (9), a tie of 31-35 and above 55 at 3% (5), and lastly 30 and below at 0.6% (1). Concerning the highest level of education, majority of

the respondents had master's degrees at 79% (131), followed by bachelor's degrees at 11.4% (19) and PhD at 9.6% (16). On the functional area of the respondents, support functions that had many departments had majority of the respondents at 60.8% (101) while technical departments that had few departments had 39.2% (65).

5.2 The Variable Characteristics

The descriptive statistics of the study variables comprising of the number of items used to measure the variables, Cronbach's alpha (α), aggregate mean score and aggregate standard deviation are as shown in table 2.

Table 2: Descriptive Characteristics

Variable	No. of Items	(α) Score	Aggregate Mean	Aggregate Std Dev.
TMT cognitive Characteristics	9	0.944	4.570	0.430
Organizational Performance	28	0.949	4.190	0.787

The descriptive statistics presented in table 2 show, that the Cronbach's alpha was 0.944 for cognitive characteristicsand 0.949 for organizational performance that were all greater than the threshold Cronbach's alpha value of 0.7 adopted by the current study, thus the research instrument passed internally consistency test.The overall aggregate mean score for cognitive characteristics was 4.57 with a standard deviation of 0.430, that indicates that on average the respondents agreed to a large extent with the attributes underTMT cognitive characteristics as pertains to their job performance in their current roles. The standard deviation of 0.430 indicates that there were considerable variations within and among the independent regulatory agencies. Lastly, the overall aggregate mean score for organizational performance was 4.190 that indicates that the respondents agreed to a large extent that the attributes of organizational performance applied to their independent regulatory agencies while the standard deviation of 0.787 indicates that there were considerable variations within and among the independent regulatory agencies.

5.3 Test of Hypotheses

The results of the multivariate regression analysis comprising of the model summary, ANNOVA and coefficients of the variables are presented in table 3.

Table 3: Effect of Top Management Team Characteristics on Organizational Performance of Independent Regulatory Agencies

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.567[a]	.322	.309	.37492	1.988

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.815	3	3.605	25.646	.000[b]
Residual	22.771	162	.141		
Total	33.586	165			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	β	Std. Error	Beta		
(Constant)	1.035	.370		2.793	.006
Demographic characteristics	.148	.086	.132	1.726	.086
Psychological characteristics	.379	.081	.363	4.694	.000
Cognitive characteristics	.222	.091	.192	2.437	.016

The statistics in table 3 show that the correlation coefficient (R) is 0.567, whichindicates a moderately strong positive correlation between TMT characteristics and organizational performance. The adjusted R square (Adjusted R^2) value is 0.309, indicating that 30.9% of variation in organizational performance of independent regulatory agencies in Kenya is explained by TMT characteristics. The remaining 69.1% of the variation in organizational performance of the independent regulatory agencies in Kenya is explained by other factors not included in the empirical model of the current study. The results further show that the F statistic is 25.646 with a p-value of 0.000. This is an indication that the regression model is significant. The summarized statistics in table 3 further show a standardized beta coefficient for TMT demographic characteristics of 0.132 and calculated p-value of 0.086 that indicates that at 95 percent confidence level, TMT demographic characteristics had no

significant effect on organizational performance of the independent regulatory agencies in Kenya. The standardized beta coefficient for TMT psychological characteristics of 0.363 and significance p-value of 0.000 indicates that at 95 percent confidence level, TMT psychological characteristics had a significant positive effect on organizational performance of the independent regulatory agencies in Kenya. Lastly, the standardized beta coefficient for TMT cognitive characteristics of 0.192 and significance p-value of 0.016 indicates that at 95 percent confidence level, TMT cognitive characteristics had a significant positive effect on organizational performance of the independent regulatory agencies in Kenya. Thus based on the p value at $p < 0.05$, hypotheses one for the study is supported.

VI. Discussion of Findings

The findings of this study can be explained by the descriptive statistics, results from previous researchers and the resource based view theory. The findings on hypothesis one showed a positive significant effect of TMT cognitive characteristics on organizational performance of the independent regulatory agencies in Kenya. The findings of the current study are consistent with the findings of Bromiley and Rau (2016), who argued that cognitive approach explicitly addresses information processing like problem framing and perceptions of industry that are key determining factors of organizational performance. The approach believes that understanding the cognitive underpinning of decisions will give insights into TMTs' effects on strategy process and organizational performance. They argued that the influence of TMT cognitive characteristics on performance looks at the consequences of a fewclosely related concepts such as attention, perception, cognition, and information processing. The findings of the current study also supports the postulates of the resource based view theory that top management teams in organizations constitutethe human assets of the organization that are key in sustained superior organizational performance. The descriptive statistics of the study for TMT cognitive characteristics indicates that all the sub-variables under TMT cognitive characteristics had aggregate means scores greater than 4.0, with the overall aggregate mean score for TMT cognitive characteristics being 4.57. This showed that the respondents agreed to a large extent that the attributes of the study under TMT cognitive characteristics applied to their independent regulatory agencies.

VII. Conclusions and Recommendations

From the findings of the study reported, the research makes three conclusions. First, that on average the respondents agreed to a large extent with the attributes under TMT cognitive characteristics as pertains to their job performance in their current roles in their independent regulatory agencies. Lastly, that TMT cognitive characteristics significantly affects organizational performance of the independent regulatory agencies.Based on the results and the findings that TMT cognitive characteristics have a great influence on organizational performance, the study therefore recommends that the recruitment process of TMTs for the independent regulatory agencies and other governmental agencies should integrate ways of selecting candidates with appropriate cognitive characteristics for the jobs. This is because the TMT cognitive characteristics are better predictors of how the TMTs will influence the performance of their organizations than the traditional demographic characteristics used in most recruitment processes.

The current study findings contribute in explaining why there has been inconsistencies in previous research on the influence of TMT characteristics on organizational performance. The contribution of the current study findings is that in investigating the influence of TMT characteristics on organizational performance, it is important to include other categories of TMT characteristics like TMT cognitive characteristics that are better predictors of the influence of TMT characteristics on organizational performance. Another contribution of the study is in using validated constructs to reduce inclusive and conflicting study findings. Lastly, the findings contribute to the resource basedview theory by giving empirical evidence that TMTs in organizations are a very important resource that have significant positive influence on their organizational performance. Lastly, the fact that 30.9% of organizational performance is explained by TMT characteristics with a moderately strong positive correlation evident by coefficient of 0.567 is another proof that while studying organizational performance, TMT characteristics should not be ignored. The context of the study was Kenyan independent regulatory agencies. Future research could be done not to replicate this study but instead compare the influence of TMT psychological characteristics on performance of Kenyan independent regulatory agencies with those of public companies quoted at the Nairobi Securities Exchange or other sectors of the economy to check whether the findings will be the same. Future research work could also be done in other non-commercial state corporations and public benefit organizations. In addition, the same study could be replicated but a different context could be used.

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Joseph O. Oketch, PhD,etal Student. "Top Management TeamCognitive Characteristics and OrganizationalPerformance." *IOSR Journal of Business and Management (IOSR-JBM)*,22(2), 2020, pp. 22-30.