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BOARD ATTRIBUTES AND FINANCIAL RISK MANAGEMENT: MODERATING EFFECT OF OWNERSHIP STRUCTURE AMONG LISTED NON-FINANCIAL FIRMS IN KENYA

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Abstract

The objective of this study was to examine whether ownership structure moderates the connection between board attributes and financial risk management in Kenya. The sample included 41 non-financial companies from 2010-2017. The hierarchical binary logistic regression was used to evaluate the interaction conditions of the hypothesis. The findings of the research revealed that the ownership structure had a positive and insignificant moderating effect on the connection between financial expertise of the board and financial risk management ($ß=0.12$, $ϱ>0.05$) while independent board members and financial risk management was positively and significantly moderated by ownership structure ($β=0.75$, $ϱ<0.05$). The study findings will be useful to investors who want to make investments in firms by understanding board attributes in relation to structure risk management. This research offers logical information, especially in the case of emerging economies, on the role of ownership structure in influencing financial risk management decisions.

Keywords: Board Independence, Board Financial Expertise, Board Attributes, Ownership Structure, Finacial Risk Management.

1. Introduction

Existing corporate risk management theories tend to assume full knowledge about all relevant decision parameters. In reality, considering the complexity of companies and the fast-changing world economy, there's much more evidence to suggest that managers are actually struggling to comprehend their own exposures. According to (El-Masry *et al.*, 2016) management of risk need to be supported by robust governance practices particularly in non-financial companies. This is because the management of risk is believed to be one of the main elements of corporate governance and the ultimate responsibility for efficient risk management lies with the board. Therefore, without the immediate assistance and participation of the board members, it will be difficult to create an efficient risk management policy (Abdul *et al.*, 2013). The tenacity of good governance is to enhance organizational value by reducing financial risks, business risks, and operational risks. (Rashid & Islam, 2008).

In their seminal study (Shleifer & Vishny, 1997) they narrated that governance mechanisms are a simple agency perspective by understanding how investors are getting managers to give them a return from their investment. Echoing this, the study approach on management of risk is just as simple as the agency's view, merely by understanding how the principals as represented by the board members are getting executives to make risk management choices by employing hedging derivative instruments that maximize long term company value and thus maximizing the shareholders worth. Additionally, (Allayannis *et al.*, 2012) revealed that hedging generates more value in firms with robust internal governance, however, such firms (Lel, 2012) use derivatives to diminish risk and maximize firm value whereas those with weak governance use derivatives selectively to satisfy managerial self-interest. Asghar *et al.*, (2018) pointed out that compliance with governance mechanisms restricts management to channel their energies away from value-destroying activities and into value-creating activities and ultimately shareholders' rights are protected. The board's decisions and actions should reflect the demands of the shareholders, which would include a sustainable growth of a business with an appropriate risk in order to attain a long-term return on the investment (Wood & Zaichkowsky, 2004).

Ownership structure highlights the legitimacy of the proportion of owners in relation to stake in the company and has long been viewed as a relevant external control mechanism for monitoring the management behavior and choices affecting the board members (Haider & Fang, 2016). However, the ownership structure functions is multidimensional, as the conduct and performance of owners rely not only on the kinds of executives but also on industry and the institutional culture. The agency theory shows that ownership structure functions as a protection mechanism in aligning the activities and behavior of

executives (Jensen & Meckling, 1976). The availability of a multitude of hedging tools according to (Nance *et al.,* 1993) are crucial in enhancing sustainable corporate risk management by businesses which ultimately have a beneficial effect on the shareholders' wealth creation. Markets have been distinguished by accelerated uncertainty of foreign exchange rates, interest rates, market prices for securities and prices of commodities and, as a result, businesses face rapid vulnerability towards a broad array of corporate risks. Shareholder expectations are growing on the management not only recognizing but properly handling the exposure of the firm (Bodnar & Gebhardt, 1999) and because of managing risk, it has, therefore, become a firms' fundamental strategy. The concern that fascinates the study is whether the structure of shareholders in lieu of shares held plays a moderating role by shaping management choices on potential management of risk via the independent board members and board financial expertise. The objective of this study is, therefore, to investigate whether the ownership structure performs a significant moderating function in the interaction between board attributes and financial risk management.

2. Review of the Theory

The study research was guided by agency theory derived from the idea of separating ownershop from control. The agency's concerns according to (Jensen & Meckling, 1976) extend to potential conflicts of interest between both the principal and the agent who is contracted by the principal to accomplish the obligation. In setting up a business, it reflects the division of controlling and ownership of the firm assets. Executives may participate in personal-dealing to maximize resources under their command and frequently undertake vanity projects which mostly boost their value. Shleifer & Vishny, (1997) noted that there is a wealth of empirical evidence showing that agency costs in the corporation are genuine, pervasive and possibly significant. In this regard, the agency's management of risk disputes arises when the agent and the principal have distinct opinions on the quantity of residual risk to be borne by the company. According to (Smith & Stultz, 1985), managers incline to be risk-averse than shareholders because a bigger portion of their wealth, including their human capital, is linked to the achievement and ongoing presence in the enterprise. In view of their command over working practices, managers have the capacity to set the threshold of risk that maximizes their own value, as opposed to the level that maximizes shareholder value (Jankensgård, 2019).

According to the agency theory (Fama, 1980), the presence of autonomous executives in the company narrows the issues relating to the agency by adequately tracking the conduct of managers. The theory indicates that potential conflicts among managers and stockholders of firms in relation to the inability of owners to perfectly monitor their managers may reduce the entities' net worth and hence negatively affect

their value. It is therefore assumed that, due to the detachment of possession and control, agents may not be able to align their selfish driven interests within the company in line with the owners. Unless otherwise limited, executives will conduct self-serving actions that could be destructive to the monetary well-being of the principals (Rashid, 2016). However, agents will indeed be inspired to operate for the best interests of shareholders (Rashid *et al.,* 2010) only when there is a managerial motivation to do so in the manner of board members who lays the benchmark for less self-interested actions of managers.

The theory as pointed by (Mayers & Smith, 1987) expounds a probable discrepancy between owners, managers and debt holders owing to asymmetries in income distribution, which can result in taking the excessive risk by the firm. Agency theory continually shows that hedging policies have a significant impact on shareholder worth. The theory conveys strong support on hedging as a reaction to the divergence between managerial incentives and shareholders' concerns. To mitigate the agency's problems, Rose (2005) claims that the corporate board plays a main role in overseeing management and aligning its interests with the owners' desires. The board is regarded to be the main inner corporate governance mechanism (Brennan, 2006), as the board monitors and oversees management, and provides strategic direction to managers who can undertake the measures and ratify management plans (Jonsson, 2005).

Existing agency theory recommends a series of procedures aimed at reconciling the interests of shareholders and managers, through the application of internal control mechanisms by non-executive directors (Shleifer & Vishny, 1986). The logical implication for corporate governance from the perspective of agency theory is that regulatory structures need to be implemented so as to protect cases of conflict of interest between the principal and the agent (Fama & Jensen, 1983). Since corporate scandals and the development of new corporate governance codes, corporate risk management is often seen as a suitable component of the governance framework.

3. Review of Literature and Development of Hypothesis

3.1. Board Financial Expertise and Financial Risk Management

The collapse of multiple internal governance structures has often been quoted as the primary contributors to the global economic crisis between 2007 and 2008 (Bebchuk *et al.,* 2010, Hashagen *et al.,* 2009). However, entities that often lack the financial expertise of the members of the board played an important role in the crisis. It is imperative to note that financial expertise is essential in understanding the complex transactions of the company as well as the exposures linked with entities' plans. Furthermore, various company boards lacked adequate financial expertise in identifying and controlling the exposure levels (Srivastav &

Hagendorff, 2016**)**. Therefore in this regard, it is prudent that directors' expertise, particularly to the financial knowledge, is vital for effective decision making by the board. It is the source of legitimacy and power that determines a director's contribution to board deliberations (Srivastav & Hagendorff, 2016).

Management of risks is linked to a certain array of capabilities that managers might poses. Among the broad spectrum of skills that managers may have, Chhaocharia & Grinstein (2007) proposed that financial literacy is crucial for any board to work efficiently. As a result, boards with a greater proportion of autonomous directors with financial knowledge are anticipated to handle business risks more efficiently by making less risky choices. Accordingly (Acharya *et al.,* 2012) noted that financial expertise among board members inspires management in employing hedging derivative tools in alleviating against future uncertainties. In addition (Fama & Jensen, 1983) argued that members of the board are mandated in administering the organization hence they are required to have an understanding of the entire organization which will enable them to execute their responsibilities flawlessly.

H1: Board financial expertise does not significantly affect financial risk management

3.2. Board Independence and Financial Risk Management

The literature on corporate governance broadly documents boards executives' independency as one of the effective ways in monitoring the management where board independence increases with the proportion of directors' independence on the board. Fama (1980) considers autonomous directors to be referees whose job is to guarantee that the board as the supreme internal monitoring for corporate decision-making and safeguarding the welfare of owners. In addition, Fama and Jensen (1983) noted that boards with a higher percentage of autonomous executives have significant control over managerial actions. Empirical evidence shows that the beneficial effect of an autonomous board on a wide spectrum of the board decisions tends to support the concept that the monitoring efficiency of the board improves with the percentage of independent outside directors. Farrar (2005) indicates that autonomous directors play a significant role in long term firm planning and risk mitigation processes. Fernandes (2008) further observed that companies with non-executive directors have fewer issues with the agency and better-aligned interests of shareholders and managers.

The respective corporate governance report, (OECD, 2004) emphasizes the importance of increased non-executive representation on boards implying that non-executives are likely to bring greater autonomy and objectivity to board decisions. The impact of the outside executives was explored by (Mardsen & Prevost, 2005) in a sample of non-financial firms listed on the New Zealand Stock Exchange. They found that firms

with increased growth potential as well as a larger percentage of external board members are less probable to employ hedging tools to handle exposures. They further examined the impact of the structure of ownership on block holders and insider shareholders but did not find any statistical significant findings indicating strong support for the utilization of hedging instruments. Additionally, the board independence was examined by Borokhovich *et al.,* (2004) and the findings of the statistics revealed that the effect of independent external directors was statistically significant and positively relating to the management of corporate risk. In another study, (Dionne &Trikki, 2013) centered on the percentage of autonomous directors on the boards, and the results disclosed a significant and positive connection between management of risk by firms and independence of the board implying that the board independence is an essential governance attribute.

H$_2$: Board independence does not significantly affect financial risk management

3.3. Moderating role of Ownership Structure between Board Attributes and Financial Risk Management

It has been asserted by scholars like (Abraham & Cox, 2007; Beattie *et al.,* 2001) that the board attributes which in this study is represented by board independence and board financial expertise, as well as ownership structure, could have an impact on management of financial risks through the utilization of hedging instruments. The ownership structure according to (Razali & Tahir, 2011) is characterized as the structure of the owners in terms of shares held. Shareholders with substantial stakes in the firm (Wright *et al*., 1996) can shape the structure of risk management, which can affect the ability of a company to compete and eventually survive in a complicated business setting. Variations in corporate governance play a significant role in the management of risk. In addition, Owusu-Ansah (1998) verified that the ownership structure and financial risk management link is explained by agency theory since modern corporations are differentiated by the detachment of ownership from control. In addition, Jensen & Meckling (1976) argued that agency problems were declining when managerial ownership increased as the financial interests of corporate insiders and shareholders progressively converged.

The corporate governance frameworks and ownership structure jointly affect hedging behavior. The propensity of managers to hedge can be influenced by the corporate governance environment (Lel, 2006) as well as the ownership structure of companies (Tufano, 1996). Where protection is weak, managers tend to utilize hedging tools for their own advantage. When investors require greater transparency and better monitoring, the probability of the corporations to hedge increases (Lel, 2012). In addition, Hutson & Stevenson (2010) found a negative association between creditors' rights and firms' exposure and that a

good corporate governance environment enhances firms to involve in hedging actions. Allayannis *et al.,* (2012) provide consistent evidence that tightly controlled businesses are much more inclined to be hedged with derivatives. Interestingly, Fauver & Naranjo (2010) found that hedging has adverse valuation effects on companies with weaker corporate governance and lesser monitoring circumstances.

It is argued that ownership structure mitigates the free-riding issues of corporate control connected with a dispersed principal. In the same way, large shareholders have an incentive to exercise greater supervision and control over leadership in order to minimize agency issues and boost their oversight capacity in the entity where they invest. Demetz & Lehn (1985) contend that executives' actions are less observable in firms experiencing a more uncertain environment and therefore the rewards of ownership are higher. According to Osuoha, (2013) he noted that the ownership concentration forms the choices of companies with respect to hedging operations. In this regard, the internal block holders of companies have distinct incentives than external block holders. Misalignment of interest amongst internal and external block members may lead companies to economic hazards (Allayannis *et al.,* 2012). However, the utilization of derivative tools provides a suitable way in reducing risks faced by corporate entities and therefore it needs to be taken into consideration by managers who have been entrusted to run the company. The implications of using derivative instruments as a hedging mechanism enhance the value of corporate share price.

Similarly, Boubaker *et al.,* (2010) determined the impact of the ownership concentration on the use of derivatives as a means of management risk. They discovered that the ownership concentration of companies had a significant effect on the choices of companies regarding the use of derivatives tools. The impact of family-controlled businesses in the use of derivatives was investigated by (Hagelin *et al.,* 2006) and indeed the findings show that the largest shareholder in a family-owned and family-controlled business was significantly and negatively associated with corporate hedging. Spano (2007) argued that executives with a greater shareholding proportion were positively using derivatives to truncate risk in the best interests of shareholders.

The results of (Al-Shboul & Alison, 2009) who studied institutional ownership impact on the ownership of managers by using hedging tools through the ownership structures revealed that institutional ownership is substantially and favorably related to foreign exchange derivatives, while directors ownership was not substantially associated to the utilization of derivatives in reducing foreign-exchange vulnerability. Conversely, Wang & Fan (2011) revealed that internal block owners holding 5% or more of the common stock in a business are negatively linked to the application of derivatives in reducing risks as they favor mitigating the risks by diversifying their portfolio in more than one business. Indeed, Whalley (2008)

considered the effect of executive ownership on hedging and presented proof that managers positively use derivatives to hedge and improve the intrinsic value of their stock options, while stock ownership may not inspire them to just use derivatives, while Lel (2006) found no support between the block owners and management of corporate risk.

Ownership structure which is an external control mechanism, has not been discussed extensively in a board governance context. The effect of ownership structure and management of corporate risk is not very clear and it depends on the optimal balance between the costs incurred and benefits accrued on high ownership stakes (Paligorova, 2010). The agency's theory advocates that structure of ownership in the firm acts as a catalyst in mitigating the principal-agent conflict by better monitoring and control. It assumes that managers are risk-averse when working just as agents and protecting their own interests, while shareholders are risk-neutral because they can diversify their particular forms of risk. The concept of agency theory according to (Jensen & Meckling, 1976) indicates that ownership structure has an impact on the management of risk via its influence on management decisions. In this context, the presence of large shareholders may affect the managers' financial decisions because they have the authority and resources to actively monitor and influence executives with the objective of maximizing the earnings. Likewise, institutional investors are more active in monitoring management when they are the major stockholders (Jiang & Kim, 2015). In addition, from the institutional perspective (Laporta *et al.*, 1997), noted that countries where investor's protection is weak, ownership structure acts as an effective outside control mechanism.

According to Laporta *et al.*, (1999) ownership structure leads to expropriation of wealth by the majority shareholders. In a nation where the legal framework of minority shareholders interest protection is weak, controlling shareholders may divert corporate resources for their private advantage (Li *et al.*, 2015). Consequently, where large shareholding exists, the standard principal-agent dispute may become a principal-principal dispute where the rights of minority shareholders may be expropriated by controlling shareholders (Filatotchev *et al.*, 2013). In order to tackle this issue, autonomous managers are employed primarily to safeguard minority shareholders' interest (Young *et al.*, 2008) and to retain controls and checks on the efficient functioning of the company. Hence, drawing from agency theory and empirical reviews, the study assumed that;

H$_{1a}$ Ownership structure does not moderate the link between board financial expertise and financial risk management.

H2b   Ownership structure does not moderate the link between board independence and financial risk management.

Conceptual framework

Independent variable   **Moderating variable**   **Dependent variable**
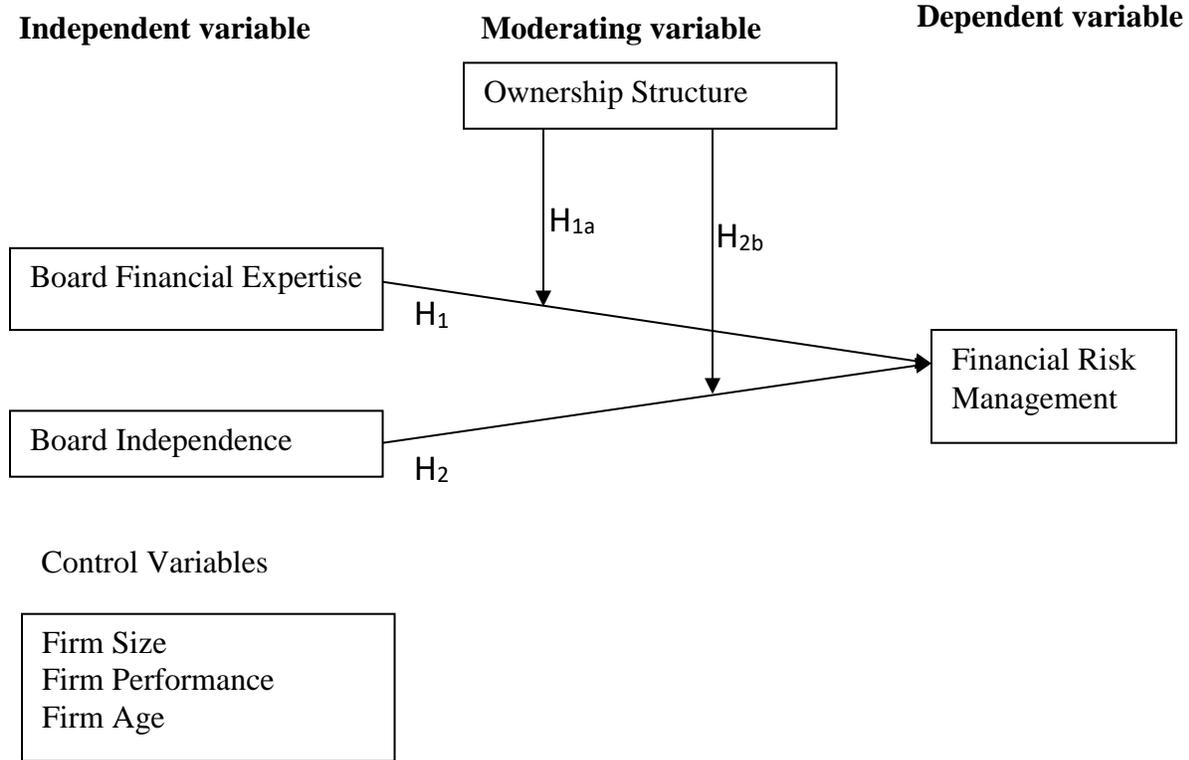
Source: The Authors

4. Material and methods

This study used a longitudinal design with a positivist approach. The research focused solely on the attributes of the board, the ownership structure as the moderator and financial risk management as the outcome variable in determining whether there is any indication of the interaction on the link amongst the study variables. The sample of the study was 41 non-financial listed firms in Kenya from 2010-2017 giving a total of 328 firm-year observations. The document analysis guide was used to collect secondary data from the annual reports and audited financial statement which was sourced from capital market authority and downloaded from http://www.cmarcp.or.ke/index.php/financial-reports-accounts, companies' website and http://africanfinancials.com. Under International Accounting Standards 32 and 39, it is the requirement that the company must reveal the usage of financial derivative tools in their financial reports.

4.1. Variables Measurements

Table 1: Variable Measurements

Variables	Symbols	Measurement	Empirical Studies
Dependent Variable	DV		
Financial Risk Management	FRM	Dummy variables 1 for hedgers users and 0 for non-hedgers	Géczy *et al.,* (1997).
Independent Variable	IV		
Board Financial Expertise	BFE	The number of members of the board with financial experience.	Minton *et al.,* (2014)
Board Independence	BI	The proportion of directors' independence divided by the total number of directors on the board.	Ferreira & Kirchmaier, (2013)
Moderator	M		
Ownership Structure	OS	Percentage of stocks held by the top 5 largest shareholders over total shares.	Demsetz & Villalonga, (2001)
Control Variables	C		
Firm Size	FS	Natural log of total assets.	Laeven *et al.,* (2014)
Firm Performance	FP	Measured as ROA	(Chen *et al.*, 2005)
Firm Age	FA	Total number of years a company has been in operation since registration.	Yasuda, (2005)

4.2. Data analysis and Econometric model

A panel data framework was used and the study employed the hierarchical binary logistic regression to test the hypothesis because the kind of the data of the outcome variable is non-linear 1 for hedgers and 0 for non-hedgers hence Peng *et al.,* (2002) recommend that logistic regression is appropriate for analyzing

non-linear data. By following (Fok *et al.*, 1997) logistic regression analysis was used to establish the interaction of ownership structure on the association between board attributes and financial risk management and the following equation was estimated:

$$logit(y) = \beta_{0it} + C + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{MODEL 1}$$

$$logit(y) = \beta_{0it} + C + \beta_1 X_{1it} + \beta_2 X_{2it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\text{MODEL 2}$$

$$logit(y) = \beta_{0it} + C + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 M_{3it} + \varepsilon_{it} \dots\dots\dots\dots\dots\dots\dots\dots\text{MODEL 3}$$

$$logit(y) = \beta_{0it} + C + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 M_{3it} + \beta_4 X_{1it} * M + \varepsilon_{it} \dots\dots\dots\dots\text{MODEL 4}$$

$$logit(y) = \beta_{0it} + C + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 M_{3it} + \beta_4 X_{1it} * M + \beta_5 X_{2it} * M + \varepsilon_{it}\dots\text{MODEL 5}$$

Where,

β_{0it} =   The constant of equation, C = Control variables (firm size, firm performance, and firm age), X_{1it} = Board financial expertise, X_{2it} = Board independence, M = Ownership structure, $\beta_1 - \beta_5$ = Coefficient of estimates, ε_{it} = Error term and $logit(y)$ = Likelihood of utilizing hedging instruments used in this study to measure financial risk management.

5. Results

5.1. Descriptive Statistics

The statistical results revealed that management of corporate risk which is a practice of creating a company's economic value by using financial instruments to manage firm exposures and hedge against uncertainties was at a mean of 0.49, the standard deviation of 0.50, Skewness of 0.05 and kurtosis of 1.00. The statistics findings demonstrate that approximately 49 percent of firms have adopted financial derivative instruments as the risk management tools, implying that the usability of hedging instruments was relatively low in the study which was used as a proxy of management of corporate risk by Kenyan non-financial listed firms.

Table 1: Descriptive Results of Study Variables

Stats	Obs	Min	Max	Mean	SD	Skewness	Kurtosis
Corporate Risk Management	327	0	1	0.49	0.50	0.05	1.00
Board Financial Expertise	327	0	4	0.67	0.78	1.42	5.19
Board Independence	327	1.1	4.24	0.46	1.01	0.77	8.95
Ownership concentration	327	0.15	5.61	2.70	1.59	2.21	9.14
Firm Size	327	2.11	2.42	2.27	0.06	0.12	3.09
Firm Performance	327	-6.78	1.96	-3.09	1.37	-0.64	3.90

| Firm Age | 327 | 8.69 | 49.27 | 27.50 | 0.91 | 1.08 | 3.63 |

Source: The authors

5.2. Testing of hypothesis

The moderating effect was tested in a series of hierarchical blocks in Table 2. In model 1, the control variables were tested which included firm size, firm performance and firm age. In model 2, predictor variables were tested and ownership structure which is a moderator was also tested so as to establish the contribution in model 3. The interaction terms in models 4 and 5 between board financial expertise*ownership structure and board independence*ownership structure were hierarchically tested.

The first hypothesis H_1 showed that board financial expertise had a positive and significant effect on the outcome variable ($\beta = 0.73$, p<0.05). The implication is that an increase in the financial expertise of the board brings about better management of risks by marginal change of 0.73. Board professional experience is a key determinant of boards' ability to make firm strategic decisions regarding hedging mechanisms

The second hypothesis H_2 indicated that board independence had a negative and statistically significant effect on financial risk management ($\beta = -1.25$, p< 0.01). The implication is that an increase in the number of board members is a deterrent to management of risks in the firm. The reason behind this could be that board members' independence may have a preference for the diversification of their investment portfolios in more than one firm with the goal of decreasing risk and maximizing the returns.

The third hypothesis H_{1a} indicated that ownership structure does not moderate the interaction between the financial expertise of the board and financial risk management. The regression coefficient value for the interaction exerted a positive value on management of risks but the influence was not statistically significant based on the coefficient of estimates $\beta = 0.12$ and *p*-value greater than 0.05. The results indicated that ownership structure had a positive and no significant moderating effect on the link between the financial expertise of the board and management of risk. Owing to the insignificant p-value, the hypothesis was therefore not rejected. Therefore board financial expertise does not significantly moderate the relationship between the predictor variable and financial risk management.

The fourth hypothesis H_{2b} stated that ownership structure does not moderate the association between board independence and financial risk management. From the statistical findings, it was evident that the regression coefficient of the interaction term of ownership structure on the association between board independence and financial risk management was at ($\beta = 0.75$, ϱ<0.05). The results suggest that ownership structure positively and significantly moderates the interaction between the predictor and the outcome

variable hence the hypothesis was therefore rejected. The implication is that the ownership structure brings about greater utilization of derivatives in protecting shareholders' interest and enhancing shareholders' value.

The hierarchical binary logistic regression findings disclosed a rise in Pseudo R^2 with the addition of variable blocks. For instance, the control factors (firm size, firm performance and firm age) contributed to Pseudo R^2 of 2%. With the addition of predictor variables in model 2, they jointly contribute to Pseudo R^2 of 20% (Pseudo R^2 change of 18%). The statistical results revealed that board financial expertise had a positive coefficient and statistically significant at p-value less than 5% while board independence had a negative coefficient and statistically significant at p-value less than 1%.

When ownership structure which is the moderator in model 3 was introduced to the model, the Pseudo R^2 increased to 26% (Pseudo R^2 change of 8%) which was statistically significant (p<0.05). However, when ownership structure was moderated with board financial expertise in model 4, it was evident that the interactions were positive and insignificant at the p-value of more than 5% (p>0.05). The Pseudo R^2 change of board financial expertise was minimal at 1% (increase in Pseudo R^2 from 26% to 27%). The addition of the interaction of ownership structure in model 5 positively moderates the association between board independence and financial risk management and the Pseudo R^2 increased to 31% (Pseudo R^2 change of 4%) which was statistically significant at p<0.05. The general model of moderation showed that Pseudo R^2 improved from 26 percent to 31 percent, suggesting that the structure of the shareholders in terms of shareholdings shapes the choices of companies on hedging operations. This is in line with the results of Wright *et al.*, (1996), which concluded that shareholders with substantial stakes in a firm can shape the nature of their risk management, which may influence the capacity of a company to compete and ultimately its survival.

Table 2: Hierarchical Logistic Regression

Financial Risk Management	Model 1 Coef.	Model 2 Coef.	Model 3 Coef.	Model 4 Coef.	Model 5 Coef.
_cons	-7.34(5.28)	2.01(6.76)	3.21(7.26)	4.28(7.46)	4.68(7.70)
Controls					
Firm Size	3.7 (2.33)	-0.94(3,01)	-1.71(3.21)	-2.12(.3.29)	-2.84(3.42)
Firm Performance	0.22(.11)*	0.24(.17)	0.16(.17)	0.16(.18)	0.20(.18)
Firm Age	-0.14(.17)	-0.09(.29)	-0.30(.31)	-0.29(.31)	-0.26(.32)
Predictors					
Board Financial Expertise		0.73(.31)*	0.82(.35)*	0.56(.47)	0.50(.47)
Board Independence		-1.25(.38)**	-1.37(.41)**	-1.37(.41)**	-3.7(.11)**
Moderator					
Ownership structure			0.39(.15)**	0.32(.18)	0.68(.23)**
Interactions					
BFE*OS				0.12(.16)	0.19(.17)
BIND*OS					0.75(.31)*
Model summary statistics					
LR chi2	*6.15*	*37.23*	*46.28*	*46.87*	*54.03*
Prob > chi2	*0.10*	*0.00*	*0.00*	*0.00*	*0.00*
Log likelihood	*-132.13*	*-74.87*	*-65.57*	*-65.27*	*-61.69*
Pseudo R2	*0.02*	*0.20*	*0.26*	*0.27*	*0.31*
Pseudo R2 change	*0.00*	*0.18*	*0.06*	*0.10*	*0.04*

Standard error statistics in parentheses, ** $p < 0.01$, * $p < 0.05$.

The graphical analysis in Figure 2 revealed a strong significant effect on financial risk management when the board independence and ownership structure is on high levels, small significant effect on financial risk management when the board independence and ownership structure is on medium levels and no significant effect on financial risk management when the board independence and ownership structure is on low levels. This indicates that as board independence increases, ownership becomes well-structured and thus the board is able to manage financial risks well via utilization of hedging instruments.
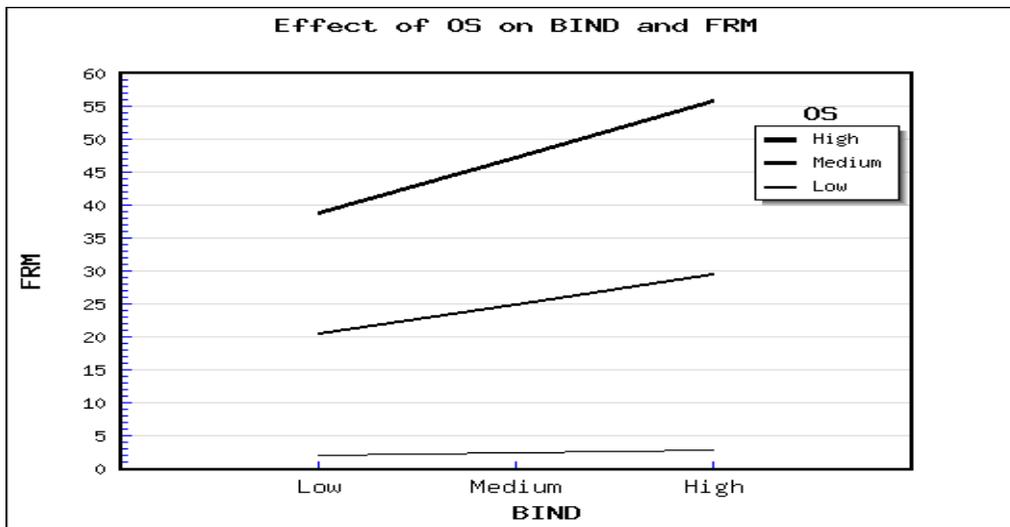
Figure 2: Mod graph for the moderating effect of ownership structure on the relationship   between board independence and financial risk management

6. Discussion, Conclusion and Recommendation

Board professional experience is a key determinant of boards' ability to make firm strategic decisions regarding hedging mechanisms as it improves the risk management of non-financial listed firms. The results suggested that members of a board who are financially knowledgeable have better ideas of the sophisticated hedging tools involved in risk management activities hence they engage more actively in hedging the firm's exposure in enhancing shareholder's worth. However, the study did not find evidence of any moderating role of ownership structure in the relationship between board financial expertise and financial risk management. The insignificance of the moderating role of the structure of ownership has shown the lack of relevance of the role of the structure of the shareholders in terms of shareholding in the connection between the financial expertise of the board and corporate risk management. Based on the findings, ownership structure directly affects financial risk management but does not play any moderating role in the relationship.

Board independence caused a negative and significant effect on financial risk management. The results suggested that a high proportion of outside directors was detrimental to hedging activities. This is so because non-executive directors have a tendency to diversify their portfolios in more than one firm hence, they are unlikely to be at the forefront in the use of hedging instruments in mitigating exposures. However, the direction of the relationship between board independence and financial risk management changes with

the incorporation of the ownership structure as the moderating variable. This, however, indicated that ownership structure moderates the link between board independence and financial risk management. It is clear that whenever there are shareholders with a significant stake in a firm, the decision is made to capitalize on the use of financial derivatives to manage risk is enhanced. This shows that with highly structured ownership, the effect of board independence on financial risk management is positively enhanced.

Thus, the idea that ownership structure plays a role in firm decisions becomes even more evident with the finding that firm risk rises with the increase in the proportion of structured ownership (Dhillon & Rossetto, 2014). This is an indication that the research of the connection between the ownership structure and the risk management should not be restricted to the differentiation between firms with and without concentration ownership systems or to the connection between the fractions of stocks owned by the biggest concentrated ownership. The ownership structure is an important element that plays an active role in firm policy. This new approach offers the alternative of re-examining and re-interpreting many aspects of firm policies related to corporate governance. It is essential that regulators pursue policies that limit the structure of ownership in order to limit the likelihood of adverse effects on minority shareholders

The research offers helpful ideas for regulators and policymakers from the view of external governance in a developing economy such as Kenya, where investor protection is relatively weak and capital markets are still developing, structured ownership affects the decisions made by companies and eventually the potential risk of a company, irrespective of its board independence and financial expertise. These results provide a solid basis for further research on how to improve the supervisory roles of boards so that they can evaluate management decisions objectively in order to enhance the value of shareholders.

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DO SELF-AWARENESS AND SELF-REGULATION AFFECT KNOWLEDGE SHARING BEHAVIOR? EVIDENCE FROM KENYAN UNIVERSITIES: INTELLIGENCE UNMASKED

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Abstract

Universities have been identified as an accelerated centers of Knowledge sharing and changing behaviors of scholars as a critical asset for universities and this study paper deepens the understanding that Self-Awareness and Self-Regulation affect Knowledge Sharing Behavior among academic staff at universities in Kenya as an intelligence drive for modern universities in Kenya in harnessing knowledge to explore intelligence-sharing behaviors. Both concepts are individual responses as they understand and know one another even in Universities to strive for improved knowledge sharing between individuals. The study aimed at examining whether Self-Awareness and Self-Regulation affects Knowledge Sharing Behaviors among academic staff at universities in Kenya. Explanatory study was used to target a population of 6,423 and a sample size of 376 academic staff academic staff at Kenyan universities in Nairobi County was selected using simple random sampling. Data was collected using a structured questionnaire. The findings of the research revealed that self-awareness ($\beta = 0.37$, $p<0.05$), and self-regulation ($\beta = 0.11$, $p<0.05$), had a positive and significant effect on knowledge sharing behavior. Also R was 81% and R2 was 66%. Concluding that emotional self-awareness and self-regulation are crucial to transforming universities in Kenya in achieving knowledge sharing behavior. Self-awareness and self-regulation in universities in Kenya have relatively been downplayed by government, respective institutions and scholars especially in harnessing knowledge yet the study contributes immensely that for leadership of universities in Kenya to drive, staff who must be self-aware and self-regulated in their emotions for free exchange of ideas and knowledge sharing.

Keywords: Self-Regulation, Self-Awareness, Knowledge Sharing Behavior

1. Introduction

Knowledge sharing is documented in the scientific knowledge economy as a vital tool for organizations to achieve competitive advantage (Castro *et al.,* 2013) and in ensuring long-term success. Knowledge sharing behavior is perceived to be one of the most essential knowledge management mechanisms in organizations. (Wang & Hou, 2015). As such, processes should be put in place to facilitate and empower individuals and groups to enhance knowledge sharing behaviors and actions in organizational settings. A review of the literature on the behavior of individuals sharing knowledge indicates that the causes and factors involved in behaviors such as knowledge sharing are still considered to be difficult to comprehend in-depth and to analyze in greater detail (Holste & Fields, 2010). It is therefore important to acknowledge what inspires individuals to share their knowledge as well as what prevents them from sharing it. Employees ' ability to share knowledge can be impacted not only by institutional factors but also by individual factors such as people's behaviors, motives, and attributes. Emotional intelligence can be one of the dimensions that can play a significant role in influencing their knowledge sharing actions.

Emotional intelligence has garnered a lot of research interest from scholars and practitioners respectively over the past two decades and has become one of the widely debated academic research themes in the fields of psychology, education, as well as management (Pradhan & Nath, 2012). Emotional intelligence is known to be one of the most expedient individual differences distinctive features of institutional research systems (Brackett *et al.*, 2013). According to (Benson, 2010) emotional intelligence encompasses the process of handling personal environmental and social changes by dealing with situations, addressing problems and making decisions quickly and objectively. (Iscan,2010) describe emotional intelligence as a mixture of desires, motives and fundamental values for handling the behaviors of individuals that are related to human connections and ascertaining the performance in the place of work. (Fayombo, 2012) found that emotional intelligence and skills are important to success in any institution. However, (Chopra & Kanji, 2010) also posit that emotional intelligence could indeed help manage relationships, understand feelings, inspire and guide others. According to (Luu, 2014), emotional intelligence can trigger behavior and function as a bridge between cognition and behavior. This has to be seen that a high degree of emotional intelligence will aid not only to regulate our individual emotions but also to handle the emotions of others.

Darabi (2012) posits that emotional intelligence is the most fundamental human mechanism which involves the adaption to the environment. (Chin, 2010) has described emotional intelligence as a technique used by employees to identify both employee-related emotions, as well as emotional self-

management, motivation, and social skills. (Petrides, 2009) identified fifteen dimensions of emotional intelligence and classified them into four variables: emotionality, self-control, sociability, and well-being. Emotional Intelligence appropriate intervention programs can inculcate a combination of diverse skills required for the same objective. Emotional intelligence therefore as becomes a vital factor to be considered in the institutional setup.

Knowledge distribution is the main function of universities (Ahmadi & Ahmadi, 2012). Nevertheless, scientific discoveries are most often conducted in areas among disciplines, the division of university departments and silos research making interdisciplinary research difficult to institutionalize. Barriers and problems for knowledge sharing organizations are inevitable (Riege, 2005). A survey by Commission for University education revealed that the level of knowledge sharing among members of the respective organizations, including the academic staff was merely moderate (Mukhwana *et al*, 2018).

Yet they are expert knowledge-intensive workers engaged in teaching, writing, and research and their education institutions generate value for knowledge using their intellectual assets and to share knowledge is part of their daily jobs and work activities. They create, manage disseminate and share knowledge with each other and with students. Therefore realizing the importance of knowledge sharing for academicians in promoting their learning and innovation would encourage them to practice it (Riege, 2005). Knowledge sharing in universities is experienced even though universities are knowledge service providers, many Kenyan universities are not utilizing knowledge to the fullest to improve their performance because the data, information, and knowledge available are not appropriately managed received and given when they could be efficiently shared and reused to generate new knowledge (Njoroge, 2017). Limited and very little empirical research investigating knowledge sharing behavior of academic staff at higher education is still scanty Delbridge, (2013). In addition, there has been considerable confusion about the connection between emotional intelligence outcomes, and many have failed to find significant link between emotional intelligence and knowledge sharing behavior. However, knowledge exchange processes which are not incorporated into staff and faculty day-to-day activities is a substantial duplication of effort.

2. Review of Literature

2.1. Theoretical Framework

The theory that underpinned the research is the theory of social exchange. The theory of social exchange, therefore, according to (Blau, 1964) is a widely applied theoretical foundation for the evaluation of individual knowledge-sharing behavior. According to this theory, individuals control

their associations with other people on the basis of a self-interest analysis of both the benefits and costs of this kind of connection. Individuals try to maximize their economic advantages and reduce costs by sharing resources with others. These benefits do not need to be physical, since persons may engage with the expectation of mutual cooperation (Gouldner, 1960). In such exchanges people help others with the general belief of some future gains, such as the creation of desired resources via social mutual recognition. In order to optimize the resources made available, individuals should develop social interactions with others through sharing their knowledge. (Davenport & Prusak, 1998) studied the behavior of knowledge sharing and presented some of the potential benefits which might regulate such behavior. Such benefits include potential proportionality, ranking, job security, and promotional opportunities. From this viewpoint, knowledge sharing will be positively influenced when a person intends to receive any future benefits by reciprocation (Cabrera & Cabrera, 2005). Previous studies have indicated that factors contributing to the theory of social exchange have been effective in explaining the behavior of knowledge sharing between individuals. These include emotional cognition, interpersonal interaction and institutional contexts.

2.2. Hypothesis Development

2.2.1. Link between Self-awareness and Knowledge Sharing Behavior

Awareness of one's emotions, what causes them, and how we handle them is important in emotional intelligence (Carmeli, 2003). Emotions of leaders who are able to handle them rather than react to them and adapt to circumstances when they arise. An individual who is self-aware understands what influences their behavior, and the implications it has on others. The most common trademarks are self-deprecating humor, realistic assessments of one's conduct, and a healthy dose of self-confidence. It is the willingness not to take yourself too seriously, while at the same time underestimating your value. Instead of responding to their emotional interactions their cognitive capacity to make better decisions thus reacting to emotions can damage relationships among staff. Self-aware leaders have a high awareness of the emotions of those around them. They are therefore able to get to the cause of strong emotional reactions of others (Goleman, 2001). Leaders not only should select the terms said, but also the emotions behind all the words. Individuals feel that they are being recognized when their emotions are acknowledged.

Each moment in the life of human beings is always within an experiential triangle of feelings, emotions, and actions. Thoughts that are powerful influence how a person feels and what a person performs. But then emotions are just as important, and so how a person feels affects his or her thoughts and actions.

According to (Lennick & Kiel, 2011) such as fear, anger, and optimism influence the thinking and thus drive everyone to actions and inactions. These are noticed by colleagues in any workplace and they affect work relationships. It is this self-awareness that will enable one to analyze one's thoughts, attitudes, feelings and actions, help to understand oneself better, make one act and react appropriately to situations. Such awareness which is to understand oneself, one's objectives, desires, emotions, behavior or being insightful to pick up what's going on inside oneself, is crucial in reducing one's personal stress and helping to create better relationships and a healthy working environment in any workplace. Based on the above, the study hypothesized:

H1: Self-awareness has no significant effect on knowledge sharing behavior

2.2.2. Link between Self-Regulation and Knowledge Sharing Behavior

(Zimmerman, 2013) says self-regulation is self-generated thoughts, feelings, and actions that are organized and cyclically tailored to the achievement of individual and institutional objectives. He states that self-regulation is a core human skill that gives us an evolutionary advantage and allows us to survive He argues that our self-regulation or lack of self-regulation is the foundation of the perception of an individual agency. He sees self-regulation as a relational system of interaction between social, behavioral and environmental factors. He pointed out that self-regulation is not a unique feature, skill or level of competence.

Self-regulation consists of an ability to think prior to acting, and also to suspend emotional judgment on occurrences. In addition to this, it involves having control over mood swings and impulses, and thus not allowing them to disrupt one's quality of life. Its trademarks include openness to change, integrity, reliability, and ease in accepting ambiguity. (Toyos, 2014), self-regulation includes cognitive, psychological, motivational and behavioral elements that provide a person with the ability to adjust his or her behaviors and goals in order to accomplish the desired outcomes in the context of dynamic environmental conditions. Schraw *et al.,* (2016) modeled self-regulation in scientific education and categorized it into three elements, including perception, metacognition as well as motivation.

According to Carroll and Bahr (2013) self-regulation for learners and staff is seen as having the capacity to effectively set goals, agree on suitable strategies, schedule their time, coordinate and prioritize materials and data, flexibly change methods, track their teaching and learning by seeking input on their results, and make appropriate changes to anticipated learning practices. Several recent studies explicitly promote the implementation of self-regulation at the university level in a variety of contexts. Seraphin *et al.,* (2012) discovered evidence that metacognitive reflection is a key driver of improvement

in students ' analytical thinking patterns, resulting in enhanced critical thinking and scientific knowledge.

As determined by (Lin, Hung, & Chen, 2009), knowledge sharing and self-regulation is one's confidence in an ability to provide knowledge that is valuable to others. In their research, knowledge sharing and self-regulation is a member's self-assessment and belief in his or her capacity and ability to respond to questions raised to other members as well as providing knowledge which is valuable and important to others. Through exchanging valuable knowledge, people feel much more confident about what they can do. (Bock & Kim, 2002) suggest that self-regulation is regarded as a significant source of self-motivation for sharing knowledge. Their discoveries disclose that the individual's judgment of his/her contribution to organization performance has a positive influence on knowledge sharing.

H2:   Self-regulation has no significant effect on knowledge sharing behavior

3. Research Methodology

This study emphasized on positivism while investigating the hypothesized causal explanation because the study is based on objectivity where objects exist independently (Elshafie, 2013). The study employed an explanatory research design built around testing the stated hypothesis (Hair *et al.,* 2013). The target population comprised of 6423 academic staff from 14 chattered universities in Nairobi County main campuses only and not satellite campuses and constituents universities colleges. The sample size was 376 respondents while data was analyzed using linear regression.

3.1. Reliability and validity of Measurements of Variables

Study variables were operationalized and measured using already established study items from existing literature and where necessary, adaptations were made to fit the uniqueness of the study by making them context-specific. All the variables were measured using five-point likert scale. According to (Zikmund *et al.,* 2013) likert scales with five-point or more were desirable than those that were shorter because they offered more variance, more sensitive and had a higher degree of measurement and information. Emotional intelligence independent variable (IV) was measured using the Wong and Law Emotional Intelligence Scale that comprised of 16 items (WLEIS; Law *et al.,* 2004).. While Knowledge sharing behavior dependent variable (DV) was measured by the knowledge sharing scale by (Kankanhalli, Tan, & Wei, 2005) which comprised of eight items was adopted.

From the results generated all variables had a Cronbach alpha of more than .70. Thus, the results met the required threshold for further analysis as presented in Table 1. The results depicted that the high

factor loading scores were all above the minimum recommended value of 0.50 (Hair *et al.*, 2015). The EFA extracted 1 factor with an Eigenvalue of 1 which is above the accepted value of 1 (Yong & Pearce, 2013) and cumulative extracted variance above 50%. Thus the items were appropriate to explain the variable. Moreover, from the Table 1, Bartlett's Test of Sphericity produced a significant Chi-Square (ρ<0.05) and Kaiser – Meyer - Olkin measure of sampling adequacy was above the acceptable value of 0.50 (Field, 2005), showing that it was appropriate to subject data for factor analysis on this variable of knowledge sharing behavior (Leech *et al.*, 2013).

Table 1 Reliability and Validity of Measurements of Variables

n=337	Mean	Loadings	Cum %
I accomplish my tasks through a good attitude and collaborative knowledge with other colleagues	3.960	0.894	
Perceived behavioral control towards knowledge sharing influence employees actual knowledge sharing behavior	4.000	0.911	
I am willing to share my knowledge with my colleagues freely	4.160	0.837	
Attitude towards KS behavior influence employees intention to share knowledge	4.150	0.665	
When I learn new knowledge I share with my colleagues about it	4.240	0.579	
I seek my colleagues' knowledge sharing experience when I need to learn something	4.310	0.744	
I utilize the available tools to share my knowledge with my colleagues	4.390	0.790	
I attend and contribute to different knowledge sharing activities	4.360	0.912	
KSB(Cronbach's Alpha=.865,KMO=.832, Bartlett's Test, Chi-Square=1945.876)**	4.197		76.613
Expressing my emotions is not a problem for me	3.590	0.812	
I often find it difficult to see things from another's perspective	3.680	0.829	
On the whole, I'm a highly motivated person.	3.950	0.895	
I usually find it difficult to regulate my emotions.	3.700	0.660	
I have good control over my own emotions.	3.880	0.677	
Self-awareness(Cronbach's Alpha=.0.831,KMO=.73,Bartlett's Test, Chi-Square=780.569)**	3.809		60.832
Many times, I can't figure out my emotional feeling.	3.090	0.692	
I feel that I have a number of good qualities.	3.880	0.804	
I often find it difficult to stand up for my rights	3.950	0.742	
I'm usually able to influence the way other people feel.	4.140	0.730	
On the whole, I have a gloomy perspective on most things	3.320	0.909	
Self-regulation(Cronbach's Alpha=.704,KMO=.689,Bartlett's Test, Chi-Square=371.044)**	3.674		44.840

3.2. Analytical model

Multiple linear regression model to analyze the effect of emotional intelligence on knowledge sharing behavior among academic staff in universities in Kenya. Regression of the outcome variable, which is the knowledge sharing behavior, with respect to the independent variables self-awareness and self-regulation was conducted. This produced a model for prediction. Hence multiple regression analysis was used to analyze data for this study. R^2, the coefficient of determination provided a measure of the predictive ability of the model. The equation was:

$$Y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \varepsilon$$

Where;

X_1:   Represents emotional self-awareness

X_2:   Represents Self-regulation

Y: Represents the dependent variable (knowledge sharing behavior)

β_0 Is a constant representing the Y-intercept

'β_1' to 'β_2':   Represent the effect of slope coefficients denoting the influence of the associated independent variables over the dependent variable.

ε: Represent the error term

4. Results and Discussion

This chapter presents the results of data analysis for the following;

4.1. Demographic characteristics

The researcher sought to establish the demographic information of the respondents paying close attention to their age, gender, length of job tenure, Level of education, Job scale in the university, and finally Leadership responsibility at the university in Table 2. The analysis of the background information of the respondents is critical in assessing confounders that might have a significant impact on the direction of the phenomenon under investigation. The findings put into account the age bracket of the respondents. In terms of the age of the employees19.9% are below 30yrs, (31.2%) between 31 to 40 years, 29.4% are in the 41 to 50 age brackets, 16.3% are between 51 to 60 years while 3.3% of the employees are over 60 years of age. From the results, 50.1% of the respondents were male, and 49.9% of them were female. The results indicate that there is an almost equal representation of both male and female employees though male employees comprise the majority. Since both male and female individuals are given a chance to share their knowledge for greater organizational achievement. Furthermore, 20.5% of the respondent's job tenure was 5 years or less, 33.5% was between 6-10 years, 32.3% was between 11-15 years, 9.5% was between 16-20 years and 4.2% was more than 20 years. It is

evident that the employees possess the requisite skills to perform their duties effectively. As such, the employees' job experience is part of the organizations' human capital.

The study revealed that the majority of the respondents (8%) undergraduate Degree, followed by Master's Degree (34.1%). Doctorate degrees were 47.8% while those with post-doctoral degrees were 10.1%. It is evident that the employees possess the requisite skills to perform their duties effectively. As such, the employees' educational attainment is part of the organizations' human capital. For the job scale in the University 16.6% of the employees were graduate employees, 20.8% were tutorial fellow, 27% were lecturer and 24.6% were senior lecturer and 6.5% were professor. The implication is that the employees possess the required skills to give reliable information about the study problem. Finally, 25.8% had no leadership responsibility at the University, 27.9% of the employees were coordinators, 23.1% were head of department, 9.2% were deans and 4.5% were directors, 3.6% were principals, 1.8% were deputy principals, 1.5% were deputy vice-chancellors and 2.7% were chancellors.

Table 2: Demographic profile of respondents

Variables		Frequency	Percent
Age bracket	Below 30yrs	67	19.9
	31-40yrs	105	31.2
	41-50yrs	99	29.4
	51-60yrs	55	16.3
	Above 60yrs	11	3.3
	Total	337	100
Gender	Male	169	50.1
	Female	168	49.9
	Total	337	100
Job tenure	5yrs or less	69	20.5
	6-10yrs	113	33.5
	11-15yrs	109	32.3
	16-20yrs	32	9.5
	More than 20yrs	14	4.2
	Total	337	100
Level of education	Undergraduate degree	27	8
	Master's degree	115	34.1
	Doctorate degree	161	47.8
	Post-doctoral degree	34	10.1
	Total	337	100
Job scale in the university	Graduate assistant	56	16.6
	Tutorial fellow	70	20.8
	Lecturer	91	27
	Senior lecturer	83	24.6
	Associate professor	22	6.5
	Professor	15	4.5
	Total	337	100

Leadership responsibility at the university	None	87	25.8
	Coordinator	94	27.9
	Head of the department	78	23.1
	Dean	31	9.2
	Director	15	4.5
	Principal	12	3.6
	Deputy principal	6	1.8
	Deputy vice chancellor	5	1.5
	Vice chancellor	9	2.7
	Total	337	100

Source: Research Data (2019)

4.2. Descriptive Statistics for Self-Awareness

The first variable of the study was self-awareness. The results are presented in Table 3. The results indicate that most of the employees have no problem in expressing their emotions as indicated by (M=3.590, SD=1.234). The results further shows that employees often find it difficult to see things from another employee's perspective was indicated by mean (M = 3.680, SD = 1.107). The results shows that employees on whole regard themselves as highly motivated persons as indicated by the mean (M = 3.950, SD = .999).

Further most employees usually find it difficult to regulate their emotions as shown by the results (M = 3.700, SD = 1.124). University Employees have good control of their own emotions as shown by the mean (M = 3.880, SD = 1.114). Finally the overall mean of (M=3.809, SD=0.689) shows that universities employees have the character of self-awareness. Further the result shows that the data experienced no skewness and kurtosis problems (-0.653 & -0.043).

Table 3: Descriptive Statistics for Self-awareness

n=337	Mean	Std. Deviation	Skewness	Kurtosis
Expressing my emotions is not a problem to me	3.590	1.234	-0.729	-0.525
I often find it difficult to see things from another's perspective	3.680	1.107	-0.852	0.043
On the whole, I'm a highly motivated person.	3.950	0.999	-1.058	0.773
I usually find it difficult to regulate my emotions.	3.700	1.124	-0.674	-0.420
I have good control of my own emotions.	3.880	1.114	-0.789	-0.415
Self-awareness	3.809	0.689	-0.850	1.513

Source: Research Data (2019)

4.3. Descriptive Statistics for Self-regulation

The second variable of the study was Self-regulation. The results are presented in Table 4. The results indicate that Many times most of the universities employees are not able figure out their emotional feeling as indicated by (M=3.090, SD=1.321). The results further shows that most of universities employees feel that they have a number of good qualities as indicated by mean (M = 3.880, SD = 1.015). The results shows that most of the employees time and again find it difficult to stand up for their rights as indicated by the mean (M = 3.950, SD = 1.139).

Further most employees usually are able to influence the way other people feel as shown by the results (M = 4.140, SD = 0.941). According to the results of the study Most of the University Employees have a gloomy perspective on most things as shown by the mean (M = 3.320, SD = 1.302). Finally the overall mean of (M=3.674, SD=0.751) shows that university employees have good knowledge on their own self-regulation. Further the result shows that the data experienced no skewness and kurtosis problems (-0.359 & -0.226).

Table 4: Descriptive Statistics for Self-Regulation

n=337	Mean	Std. Deviation	Skewness	Kurtosis
Many times, I can't figure out my emotional feeling.	3.090	1.321	-0.248	-1.110
I feel that I have a number of good qualities.	3.880	1.015	-1.026	0.681
I often find it difficult to stand up for my rights	3.950	1.139	-1.043	0.236
I'm usually able to influence the way other people feel.	4.140	0.941	-1.051	0.579
On the whole, I have a gloomy perspective on most things	3.320	1.302	-0.269	-1.178
Self-regulation	**3.674**	**0.751**	**-0.359**	**-0.226**

Source: Research Data (2019)

4.4. Tests for Regression Assumptions

For the purposes of this study, normality tests were performed by utilizing the commonly used methods namely the Kolmogorov-Smirnov and Shapiro-Wilk tests (Ghasemi & Zahediasi, 2012). The results in Table 5 confirmed that the normality of the data was not a problem because tests of K-S and S-W of all the variables were not significant. Hence, the data distribution in the study was reliable for multivariate analysis. Multicollinearity was tested by Variance Inflation Factor (VIF). The findings revealed that the VIF values for all the independent variables were below 10 and tolerance values of above 0.1 this means all the independent variables, had no multicollinearity.

Table 5: Test for Normality and Multicollinearity

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
Unstandardized Residual	0.023	337	.200*	0.998	337	0.992
Standardized Residual	0.023	337	.200*	0.998	337	0.992
Studentized Residual	0.023	337	.200*	0.998	337	0.99
	Multicollinearity Statistics					
			Tolerance			VIF
Self-awareness			0.591			1.693
Self-regulation			0.628			1.591

* This is a lower bound of the true significance.
a Lilliefors Significance Correction
Source: Research Data (2019)

4.5. Correlation analysis

The resultant correlations were indicated by the prefix 'r' where the degree of correlation was expressed by a value of the coefficient (Katz 2006). From the results in table 6, there is a positive and significant correlation between the independent variables and knowledge sharing behavior. Particularly, the correlation results showed that self-awareness has a positive and significant relationship with knowledge sharing behavior (r =.666, ρ<0.01). Self-regulation positively and statistically significantly correlates with knowledge sharing behavior (r =.533, ρ<0.01).

Table 6: Pearson correlation coefficient of the study variable

	KSB	SA	SR
Knowledge Sharing Behavior	1		
Self-Awareness	.666**	1	
Self-Regulation	.533**	.502**	1

** Correlation is significant at the 0.01 level (2-tailed).
Source: Research Data (2019)

KSB	=	*knowledge sharing behavior*
SA	=	*self-awareness*
SR	=	*self-regulation*

4.6. Test of hypothesis

Hypotheses were proposed to examine the effect of self-awareness and self-regulation on knowledge sharing behavior tests to ascertain the effects of relationship. A multiple linear regression analysis was performed to calculate the coefficients of independent variables with knowledge sharing behavior. The combined prediction of all the variables accounted for approximately 66% of the total variation in

knowledge sharing behavior (R= .81, R^2 = .66). The regression model showed that joint prediction of all the independent variables as depicted in Table 7 was statistically significant (F = 127.88, ρ=.000). Thus, the model was fit to predict knowledge sharing behavior using self-awareness and self-regulation.

Hypothesis (H_1 :) stated no significant effect of self-awareness on knowledge sharing behavior among academic staff in Kenyan universities. However, the findings in Table 7 showed that self-awareness has a positive and significant effect on knowledge sharing behavior (β = 0.37, p<.05). This implies that there is a probability of 0.347 that knowledge sharing behavior would increase with increase in self-awareness. More findings revealed that the effect on knowledge sharing behavior is attributed to self-awareness by over 9 times (t=9.37) more compared to the effect attributed to the standard error associated with it. (Goleman, 2001) supported this indicating that employees who are aware of their emotions and able to manage them, (rather than to react to them) and adequately respond to situations and able to engage their thinking capacity for better decisions. Reacting to emotions can damage relationships among staff. Self-aware employees have a high awareness of the emotions of those around them. They are therefore able to get to the cause of strong emotional reactions of others. Employees should not only pick words being spoken but also emotions behind the words. People feel they are being heard when their emotions are acknowledged.

Hypothesis (H_2 :) stated no significant effect of self-regulation on knowledge sharing behavior among academic staff in Kenyan universities. However, the findings showed that self-regulation has a positive and significant effect on knowledge sharing behavior (β = 0.11, p<0.05). This implies a probability of 0.11 that knowledge sharing behavior would increase with increase in self-regulation. More findings revealed that the effect on knowledge sharing behavior is attributed to self-regulation by over 2 times (t=2.558) more compared to the effect attributed to the standard error associated with it. This supported by (Lin *et al.*, 2009), as they determined that knowledge sharing and self-regulation is one's confidence in an ability to provide knowledge that is valuable to others. Through sharing useful knowledge, people feel more confident in what they can do.

Table 7: Regression Coefficient of Study Variables

	Unstandardized Coefficients		Standardized Coefficients		
	B	**Std. Error**	**Beta**	**T**	**Sig.**
(Constant)	0.37	0.16		2.39	0.02
Self-Awareness	0.36	0.04	0.37	9.37	0.00
Self-Regulation	0.10	0.04	0.11	2.58	0.01
Summary Statistics					
R	*0.81*				
R Square	*0.66*				
Adjusted R Square	*0.65*				
Std. Error of the Estimate	*0.43*				
Change Statistics					
F Change	*127.88*				
df1	*5.00*				
df2	*331.00*				
Sig. F Change	*0.00*				
Durbin-Watson	1.84				

a Dependent Variable: KSB

5. Conclusion

The findings concluded that self-awareness results lead to improved employee knowledge sharing. Workers who had strong self-awareness were realistic in whatever choices they make and in doing their work. From the findings the aspect of self-awareness serving as a basis for self-reflection had a marginal correlation with knowledge sharing behavior, Self-aware people typically finding time to self-evaluate had a significant effect on performance and knowledge sharing, and Universities management in Kenya needs to find a way of encouraging its employees to think things over rather than react impulsively.

The findings also concluded that improving employee's self-regulation abilities result in improved employee performance and knowledge sharing since they are in control of their emotions by ensuring these emotions are effectively managed to avoid it affecting their work and persons they relate at work.

6. Recommendations

The study recommended that Universities in Kenya needs to help its staff to improve on their self-awareness if they need improved employee knowledge sharing. The universities need to focus on developing workers to have strong self-awareness for realistic choices at work. Self-aware workers should be encouraged to refrain from expressing the anyhow they like, being over self-critical or naively hopeful in doing their work. Self-awareness should serve as a tendency for self-reflection and

thoughtfulness. Self-awareness needs to be encouraged and promoted so that the employees are in a better position to evaluate their actions and make very informed decisions.

The study further recommends to Universities in Kenya that they should optimize staff's self-regulation abilities such as how an employee can figure out their emotional feeling, which then leads to the attainment of overall organizational performance. Emotional self-regulation needs to be managed by management leadership to endeavor employees to be in control of their emotions and ensure these emotions are effectively managed to avoid it affecting their work to improve output and work relationships. Transparency needs to be highly promoted so that staff can live their values, and where necessary they can openly admit mistakes and fault which can be corrected for improved later knowledge sharing and performances. Universities in Kenya need to develop and recognize employees who constantly struggle to achieve something and ensure high standards at workplace through proper self-regulation abilities. Achievement-oriented leaders are recommended because they are interested in continually learning and teaching, wants to do things better and this is good for the attainment of general organizational objective of better performance.

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EFFECT OF INNOVATION CAPITAL ON FINANCIAL PERFORMANCE OF FIRMS LISTED IN NAIROBI SECURITY EXCHANGE

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Abstract

The purpose of this paper is to investigate the effect of innovation capital on financial performance of firms listed in Nairobi Security Exchange. The longitudinal research design was used. The study targeted 67 firms in Nairobi Security Exchange. Secondary data (financial reports) to obtain financial performance information from 48 firms from Capital Market Authority Statistical Bulletins and Nairobi Securities Exchange Handbook for a period of twelve years from 2006 to 2017. Both descriptive and inferential statistics were analysed on the data. Pearson's correlation coefficient, multiple regression and research hypotheses were tested using hierarchical multiple regression analysis which was adopted to assess the direct and indirect effects of Innovation Capital on financial performance. The study found a positive and significant effect between Innovation capital ($\beta = 0.102$; $\varrho < 0.05$) and financial performance of firms listed at the NSE. The present study has provided significant evidence that will help in generating an additional improvement on the understanding of Intellectual components and their effect on the firm's financial performance. The relationship between innovation capital and firm performance provides a guide on how firms in developing countries can enhance their performance in a competitive environment. Unlike previous studies which focused on developed and emerging economies, this study centered on a developing economy, and the findings are consistent with the propositions of the resource-base-view theory

Keywords: *Innovation Capital, Financial Performance*

1. Introduction

Recently, the complexities of the global business environment characterized by growing market competition and advancing technological developments, have created a high level of uncertainty among companies in all industries, reinforcing the need for corporate organizations to be more vigilant about the business success (Gavrea, Ilies, & Stegerean, 2011). Concerning the intermediation aspect, firms ' financial performance has significant implications for countries ' economic development. Good financial performance reflects the investors ' investment (Palaniappan, 2017). It, in turn, fosters additional investment and leads to economic development.

A company improves its performance by acquiring or creating a resource or resource combination that allows it to outperform its competitors (Muhammad and Ismail, 2009). There really is no question that high-performance firms are those that evolve constantly, focusing on their workers ' skills, knowledge and technology instead of resources such as equipment. Intellectual capital has been dubbed the new engine for corporate development to generate new awareness (Muhammad and Ismail, 2009). Understanding the determinants of organizational performance is therefore important, as it makes it possible to recognize certain factors that should be treated with increased interest to improve the financial performance. It is increasingly recognized that any organization's success depends significantly on its employees ' understanding, implementation, and integration. Successful companies rely more on workers ' skills and knowledge than on tangible assets. Dženopoljac, Janoševic, & Bontis, (2016) contend that the knowledge economy supports the fact that business depends on wealth creation through development, activity, and consumption of the company's intellectual capital.

The significance of Intellectual Capital (IC) has a world view of enhanced business results. Intellectual capital (IC) is considered a source of assets and financial performance driver, thereby establishing both market competitive advantage and sustainability. Intellectual capital (IC) is a term that has gained ground significantly because companies are increasingly designing models based on knowing where the human factor plays a central role (Shamsuddin et al., 2015). Despite IC's utmost importance and role in organizational performance, empirical research remains scarce to explore IC's individual dimensional effect on organizational performance. In addition, in developed nations, human capital has been studied extensively but less widespread in developing countries (Waseem & Loo-See, 2018). Despite recognizing intellectual capital as a key business engine, it has not fully explored its profound impact within and outside the group. In particular, empirical studies on intellectual capital and organizational performance posed contradictory threads that yield inconsistent and inconclusive results of a study (Kariuki, 2014).

2. Literature Review

The modern world compels business to look for new ways of gaining competitiveness. In the industrial era competitiveness was maintained due to more effective use of separate factors of production, in the post-industrial economy the key weight is being put on the creation and systematic development of the environment promoting generation and the implementation of innovations, focused on development, production and product/service support (Grigorieva, Yelenevab, Golovenchenkoc, Andreevd, 2014). Innovation is related to acquisitions and applications of expertise that can be turned into new financially profitable assets (McCann & Ortega-Argilés 2013). Therrien et al. (2011) defined innovation as a intricate procedure linked to the improvements of the manufacturing processes alongside techniques, as being connected closely to the innovative ideas (i.e. stocks of (technical) knowledge), and to human capital. This includes businesses seeking to gain the distinctive technical skills and build on them.

Innovation and distinction is considered necessary for every company due to fierce competition in the industry, globalization and an acceleration in innovation in recent years. Businesses must use new possibilities to develop new goods and/or services and industries in order to reach market success and maintain a competitive edge (Tajeddini 2010). Innovation is described as' the implementation of new useful ideas.' The general term applies to different types of design, such as product development, the implementation of new engineering systems and management. This means the adoption of new technologies and/or procedures, based on customer preferences (Kalkan, Bozkurt, Arman, 2014), to increase productivity and overall profitability. The competitive edge has moved from conventional to digital capital in the modern corporate world. The globalization process and the that development in fields such as industrial engineering, IT and telecommunications have led to the situation (Osinski et al. 2017). This situation has emerged.

Innovation has long been considered necessary to improve added value, to promote the development of businesses along the value chain, to increase productivity and efficiency, to stimulate spillover effects of innovation and economic growth in general (Trajkovski, 2018). Technology also represents a major cornerstone of intangible human resources (OECD, 2012), with up to one-third of growth in production in the field (Van Ark et al., 2012). Innovation often represents today. Empirical research indicates that creative capital and business skills generally constitute roughly 80% or more of all technical capital in appreciation of their role in global economic growth and in the development of the firms (Corrado et al., 2009; van Ark et al., 2012).

The company's ability to innovate is the main factor in terms of profitability. Capabilities of change drive companies to continually create solutions to adapt to changing market demands (Slater, Hult & Olson, 2010). Innovative research argues that creativity is the main source of business success and sustainability in such an analytical and dynamic competitive environment. Empirical studies by various scientists have shown that ingenuity is a necessary element for firm success (Aas and pedersen, 2011; Grajkowska, 2011; Gunday etal.,2011; Kiriyama, 2013). Four forms of technologies are introduced in the OECD Oslo Manual (2005). These are creative goods, systems, organisations and markets. Product and process development, especially in the service industry, closely related to technological improvements. Service technology can also be described in the Oslo manual (2005) (Rothkopf & Wald, 2011). Item, system demand and structure contribute to change in Financial Institutions (Deloitte, 2012, 2017; Schaerer & Wanner, 2011).

Innovation would have a more dynamic and separate impact on business quality in service companies than in development (Lin, 2011). This is because it's invisible, disruptive, inseparable and unpredictable. In the past few decades, scientists have been committed to finding the connection between technology and market achievement. To order to evaluate business performance, analysts have used various kinds of financial and non-financial metrics. Innovation had a positive effect on business performance, proposed (Yıldìz et al. 2014). Based on existing literature (Çakar and Ertürk 2010; Liao et al. 2010 and Lin 2007), it can be conceptualized that Innovation Capital as the potential of knowledge creation and accumulation to institutionalize something new in an organization, and valuate it from the aspects of product, process and management. Product innovation means providing differentiated or new products/services in the market and obtaining satisfaction from customers. Process innovation concerns providing new manufacture or service operation other than current ones in order to achieve better performance. Innovation Capital has been regarded as the sum total of knowledge resources of a firm. Innovation Capital and its components were demonstrated to contribute to a firm's competitiveness, innovativeness, financial, and non-financial performance (Phusavat et al. 2011; Sharabati et al. 2010; Shih et al. 2010; Hsu and Fang 2009; Kang and Snell 2009; Kong and Thomson 2009; Longo et. al 2009). Innovation is not a new phenomenon, as stated by Fagerberg (2004). Nevertheless, despite its significance, scholars have not given it due attention. Marques at al. (2011) emphasized that fostering competition among businesses would lead to better business and financial performance for firms. The complex role that business activity plays in fostering innovation and technology, economic growth and jobs is shown by empirical evidence (Audretsch et al., 2006; Van Stel, 2006). The hypothesis guiding this paper is formulated as shown below.

H$_0$: Innovation capital has no significant effect on financial performance of listed firms in Nairobi Security Exchange

Ha: Innovation capital has a significant effect on financial performance of listed firms in Nairobi Security Exchange

2.1.   Theoretical Perspective

This paper is grounded on three theories namely the Agency Theory, Resource-based theory and the dynamic capabilities theory. Agency theory derived from economic theory. Alchian & Demsetz first introduced it (1972) and expanded it further through Jensen and Meckling (1976). The key agent's role is established by Agency philosophy, while investors are the faces, while the manager is the person who is hired to run the company on behalf of the principal (Clarke, 2004). This theory separates ownership and control of firms. The shareholders are the directors inside the companies, whereas the managers are the agents and the company's board always play a dominant role by taking care of the investors expectations (Jensen & Meckling, 1976). A pure agency relationship could be the connection between the stakeholders, the owners of the company and the chief executive. According to the theory of the Agency, managers (CEOs) have additional company data due to operational management over the company compared to the owners of the company.

Accordingly, at the expense of shareholders (owners) wealth, managers could act expeditiously and look for personal rents. The subsequent loss to the wealth of shareholders is called the price of the agency. This theory assumes the individualistic, opportunistic and greed of managers (Davis, Schoorman, and Donaldonson, 1997). On the basis of these assumptions, the idea advises the organization to put less governance in the hands of managers of the Organization. The investors are guaranteed, in conjunction with Jensen and Mackling (1976), that the best judgments can be generated by the managers provided that appropriate opportunities are given and only if the agent is monitored. By addition, the Agency's theory assumes that supervisors and subordinates are divergent and are mainly greedy and selfish. Schmidt and Posner (1983) state that longevity is completely related to tenure as long as it gives rise to a strong dedication to company values. In addition, by demonstrating the tenure mechanism influencing firm performance, Simsek (2007) asserted that long-tenured CEOs have positive impacts on firm performance. This tenure influences firm performance notwithstanding its ability of the CEO to cope with risk-taking activities. Conversely, an additional come occasionally comes with risk, and long-tenured CEOs can establish an improved trade-off that maximizes risk-taking returns as short-tenured CEOs do.

The resource based (RB) theory is considered the pioneer that focused on the importance of intangible assets for firms (Barney, 1991). In this philosophy, the underlying premises are that both the measurable and the intangible assets are the competitive advantage of the commercial company. The intangible assets in this concept must be distinctive, inimitable and can create a competitive edge that is sustainable for the company. It assumes that the performance of tangible properties relies on immaterial asset quality and vice versa. A company's financial wealth has long been known as real and intangible assets. The theory has been mainly directed at immaterial capital over time (Reed et al., 2006). These authors argue that intangible assets or IC equities actually contribute to healthy firms ' competitive advantage. It says that every business can trad and replace natural resources such as shops, installations, and financial assets at any time. Youndt et al. (2004) reaffirmed that it is only IC that contributes greatly to income development and therefore provides a strategic advantage to knowledge economy firms. This argument was further reinforced.

Including the theory of Kolachi and Shah (2013) along with the atomic number 37 hypothesis, which notes that IC is central to every young and established business in more developed countries, this theory helps explain the connection of IC with the success of an entity. They primarily claim on the basis of this principle that IC contributes significantly to a company's financial output, notwithstanding the position of an entity, i.e. both developed, that and borders markets. This is in accordance with the World Health Organization's statement of Zéghal and Maaloul (2010) who note that companies will generate additional income and utilize their strategic resources for instance the IC. When assessing a competitive advantage of a company, the principle of RBV considers four (4) important features: longevity, consistency, transferability and replicability. The theory takes the view that companies are heterogeneous in terms of resources, capabilities or funds. Some of these resources are not readily tradable - for example tacit know-how and reputation (Teece, 2007). Therefore, from the RBV perspective, firms possess not only heterogeneous resources, but also sticky resource bundles. The resource heterogeneity results from their immobility and nontradability in the factor markets making them difficult to accumulate and imitate.

The RBV theory leaves out the process of resource development and adaptation to the external environment. This is that dynamic capabilities bridge. They alter the resource base in relation to the changing environment (Zahra & George, 2002) and therefore are more valuable in unstable environments. They may create market change as opposed to just respond to it (Eisenhardt & Martin 2000). The proponent for resource-based philosophy is Penrose (1959). In this theory, the sustainability of the company's performance and competitiveness is dependent upon the resources and capabilities at its disposal (Wernerfelt, 1984; Peteraf, 1993). Mahoney, (1995) posits that if companies are to develop, they must collect,

marshal and effectively use their assets strategically. This implies that performance is a matter of strategizing. Companies can enhance their performance by strategically differentiating their products and services (Collins & Porras, 2000).

The Dynamic Capabilities Theory is an extension of Penrose's capital-based view (RBV) (1959). Flexible capacities and RBV combine expectations, but former ones may help us understand the transformation of a company's resource inventory for firm performance over time. Dynamic capability approach means that productive companies need individuals who demonstrate prompt, quick and flexible development in the management skills, so that internal and external competencies are easily organized and implemented (Teece et al, 1997). Intrinsically, a particular capacity to differentiate and hard to replicate should be enhanced to a client in a strategic way (Teece et al., 1997). Like RBV, which uses heterogeneous, irreproducible tools, DCV notes that the nature of expertise and capacities is in the architecture and social control mechanisms that are created by a company's assets and formed by its methods. Given RBV's ability to describe, however, an organization can use its intangible capital to devise and execute a valuable strategy that provides efficiency, however, the approach lapsed at intervals rationalization on and why certain businesses outstrip others in rapidly dynamic environments (Carlos, 2011). As a consequence, Dynamic Capabilities Read (DCV) emerged as a coordinating framework for completing and complementing the RBV when deciding to provide superior firm output in such unannounced and increasingly dynamic sceneries (Teece and Pisano, 1994).

Resources are tangible and intangible assets, generally outlined, that the firm will develop and effectively management. Resources, that embrace the abilities of the firm's staff, its instrumentality, and also the collective skills of the organization, generate streams of services that the firm will deploy. Schumpeter's work in 1934 contributed to the concept of dynamic capabilities (Camison and Monfort-Mir, 2012; Chinese Monetary Unit et al., 2013). The Schumpeterian view hypothesized that what affects performance is the activities and skills that compose a company's basic structure as well as the organic mechanism that interacts between the world and a company (Makkonen et al., 2014). The study also showed that new blend of skills and capital into prevailing operational capacities forms the basis for evolutionary mobility (Jiao et al., 2013; Makkonen et al., 2014).

Dynamic expertise approach suggests thriving organizations that provide a swift, scalable response, and leadership resources to organize and deliver internal and external skills efficiently (Teece et al., 1997). Therefore, a selected ability to respond strategically to the requirements of a client should be improved, distinctive and difficult to duplicate (Teece et al., 1997). DCV maintains that the crux of talents and

capacities does not change in the structural and social control structures that are generated by and carried out by the asset roles in a business, unlike RBV, which has been based on heterogeneous and reproductive capital. Firms will develop and effectively manage both the tangible and intangible resources. Resources, that embrace the abilities of the firm's staff, its instrumentation, and also the collective skills of the organization, generate streams of services that the firm will deploy. Dynamic skills reside, in part, with individual managers and particularly the highest management team, enabling the World Health Organization to take part in detective work and exploit opportunities. At a certain critical juncture, the agility of a corporate executive and also the high management team to identify a key development or pattern, then delineate a response and lead the company forward, could be the most outstanding feature of the diverse capabilities of the company. The approach to dynamic capabilities helps to justify why intangible assets, together with the collective data and capabilities of a firm, have always been the most valuable asset category in a variety of industries. The rationale is that information, capabilities and alternative intangibles do not tend to be constrained; they are usually hard to imitate. In today's business climate, defined by fast changes in economic and political systems in phenomena like financial processes and e-business hyper-competition, rapid technological advances, companies can build and model specific strategies that can produce resources, expertise and competitive advantage over a lasting period (Marr et al. 2004). Tseng and Lee (2014) concluded that it is an indispensable need because of the incapacity of the existing Standard Strategic Management Framework to tackle differences in the reliability and use of its information tools to obtain a human adaptive potential that can react quickly to changes in its settings. The foundation for sustainable business success therefore lies in businesses ' agile abilities to develop internal and external capital and expertise to fit evolving conditions quickly (Zahra & George, 2002).

3. Research Design

The research design conjointly affords the rules and directions to be followed when dealing with the research drawback (Polit & Hungler 1993). Collis et al, (2003) note that a search style could be a manner of coming up with knowledge assortment so as to conduct associate degree inquiry and extract the foremost important and valid findings. This study ran the Panel regression model. Panel multivariate analysis is a regression that involves the amalgamation of time series and cross-sectional knowledge. Panel regression is a crucial methodology of longitudinal analysis as a result of it permits for variety of regression analyses in each spatial (units) and temporal (time) dimensions. Panel regression forestall the information loss

because of the collection; it reduces the quantity of multiple regression issues and it displays higher degrees of significance (Baltagi, 2001 and Balestra, 1992).

Panel regression has the advantage to require into thought each cross-sectional variations and variations over time during a time-series dimension. Not solely is it a lot of informative than one-dimensional ways, however results may also a lot of simply be generalized because it reduces attainable impacts of temporal errors that might have an effect on the information (Beattie et al., 2006, Bryman & Bell, 2011 and Bhattacherjee, 2012). This method conjointly permits management of individual heterogeneousness, creating it probable to eliminate partiality originating from the existence of individual effects (Hsiao, 2003, Baltagi 2005, Bjron & Friss, 2013). The panel analysis has been used antecedent by alternative students (Heshimite, 2001; Gujariti, 2003 and Baltagi 2005). Therefore, the supply of perennial observations on an equivalent cross-sectional unit ensures the viability of comparatively a lot of realistic models (Bjron & Friss, 2013). According to Park (2011), panel knowledge is ideally measured at regular intervals like months or years. This study supported a panel knowledge analysis of the Nairobi exchange between 2006 and 2017. The study endeavoured to illuminate the effect of intellectual capital on firm monetary performance (measured in terms of Tobin's Q) on one hand and tempered by CEO tenure so as to induce a handle on the time ordering of variables and to trace individual trajectories over time. Panel style was an ideal approach to be utilized in this study

Target Population and Sample

The study target population included all firms listed in the Nairobi Security Exchange in Kenya. According to CMA reports (2016), there are 67 listed firms in Nairobi Security Exchange by 2006-2017. However, listed firms that were included in the study were those that were fully trading on NSE during the study period. Those firms that listed after 2006 and those that were suspended were omitted from the study. Firer and William (2003) and Shiu (2006) posit that firms with a negative net worth or reduced value of Human or Structural Capital did not form part of the study sample. Companies whose information was unreachable (absent from the yearly financial records, due to deregistration or other reasons) were exempted from the sample. A sample comprising of 48 firms that met all the above criteria were available for this study, thus yielded 576 firm-year observable data.

3.1.   Empirical Model

The study endeavoured to use hierarchical regression models to test the direct effect of the study variables. The investigation models were as follows:

$$FP_{it} = \beta_{0it} + \beta_{1it}SIZE_{it} + \beta_{2it}AGE_{it} + \beta_{3it}IND_{it} + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots...1$$

$$FP_{it} = \beta_{0it} + \beta_{1it}SIZE_{it} + \beta_{2it}AGE_{it} + \beta_{3it}IND_{it} + \beta_{4it}HC_{it} + \beta_{5it}SC_{it} + \beta_{6it}CE_{it} + \beta_{7it}INVC_{it} +$$

$$\varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots$$

$$\ldots\ldots 2$$

Where:

FP_{it} is dependent variable (firm performance as measured by Tobin's Q ratio)

HC_{it}= human capital of firm *i* at time *t*.

SC_{it}= structural capital of firm *i* at time *t*.

CE_{it}= capital employed of firm *i* at time *t*.

$INEC_{it}$= innovation capital of firm *i* at time *t*.

$SIZE_{it}$= firm size of firm *i* at time *t*.

AGE_{it}=Firm age of firm *i* at time *t*.

IND_{it}= Industry of sector *i* at time *t*. of firm *i* at time *t*.

β_{0i}= *y*–intercept of firm *i*.

ε_{it} = error term error term of firm *i* at time *t*. (random variation due to other unmeasured factors).

3.2.   Measurement of Variables

A characteristic of research is calculating variables in the theoretical framework (Sekaran and Roger, 2013). The method of assigning numbers to that analysis parameter (Lee and McKinney 2012), is simply the measurement of a variable. Leedy and Ormrod (2010) have argued that the scientist cannot test the theories and find solutions to the problems of study if the variables are evaluated in any manner. The dependent variable was firm financial performance. The present study used Tobin's Q the dependent variable; that acted because the proxy for firm financial performance. Tobin's Q ratio, as reflected in its investment strategies, is an indicator of a business ' growth opportunities. It contrasts the market price of the product with the replacement cost of the assets of the company. It also means the lower the actual return on investment, the higher the value of Q.

Using Tobin's Q overcomes some of the book-to-market (B / M) related problems using the cost to replace capital while estimating the value of the company. Tobin's Q is measured by the value of the firm divided by replacement value of its assets (Chung & Pruitt, 1994). The utilization of Tobin's Q quantitative relation

of value to value neutralizes the impact of various policies from one company to a different company or from one country to another country. A Q between zero and one is taken into account as low and means the worth of the firm is under its assets and would implicate that the firm can be undervalued. Tobin's Q < 1 Description found in undervalued stocks, management has failed to manage the company's assets, with low potential for investment growth.

Tobin's Q= 1 Describe that a firm security are not through in the average circumstances, management is static in asset management. Tobin's Q > 1 Describing that securities in condition overvalued, management succeeded in managing the assets of the company, high investment growth potential (Tobin & Brainard, 1968 and Tobin, 1969; Lang, Stulz & Walkling, 1989 and Fiakas, 2005).

Tobin's Q$=\frac{market\ value+total\ debt}{total\ assets}$

The Value-Added Intellectual Capital (VAIC^{TC}) method used in this study to measure the independent variable was developed and used by Pulic (1998 2001 and 2002a, b). Other scholars who have used VAIC^{TC} method include (El-Bannany, 2008, Kamath, 2007, Goh, 2005, Mavridis, 2005). VAIC^{TC} is the sum of total of the three ratios calculated as the sum of HCE, SCE and CEE, and indicates the intellectual; capability of the listed firms. Independent variables are value-added intellectual coefficient (VAIC) factors. According to VAIC^{TC} the total revenue (out) and total expenses (input) represents the value that the firm produces by employing its resources and capital. This study adopted the same steps as were done by other scholars in computing VAIC^{TC} efficiency.

Independent Variables: Value Added Intellectual Coefficient (VAIC^{TC}) Components:

        i)   Innovation capital efficiency (INCE)

The procedures for computing VAIC are: first is to calculate Value Added, which is derived from the difference between outputs and input. Value added (VA) refers to the newly created value, calculated for a given firm during a particular fiscal year. It is obtained as the difference between inputs and outputs of the operating activities of the firm.

VA$_i$= OUTPUT – INPUT -- (1)

Where OUTPUT is the sum of earnings from sales throughout a financial year. While INPUT = the total costs and expenses incurred by the firm during that particular fiscal year (excluding labor expenses, which are employees' compensation and all expenses that are related to their training and development. In this research, output comprised the sum of all earnings per financial year in every participating company. On

the other hand, input comprised the sum of overheads and expenditures minus workforce salaries and costs incurred for their on-the-job induction. In this analysis, labour expenses are considered an investment and not cost.

In computing INCE$_i$, the study evaluated a firm's INCE divide by firm's book value of common stock.

INCE$_i$ =INC/VA--- (2)

This study controlled for three variables. Variables that may affect the financial performance were controlled during the analysis process to elicit the net effects of intellectual capital and financial performance. These variables have been extensively used in previous studies and have confirmed the potential influence on firm performance.

Firm size: the size of the company was chosen because it was essential for future disclosure research (Hossain, 2008). Firm size is chosen because it has been found by previous studies to be related to the difficulty and information processing demands placed on CEOs (Henderson and Fredrickson 1996). Measuring the size of the company was consistent with other studies done by Haniffa and Cooke (2005), Freedman and Jaggi (2005). The size of the firms has an effect on their IC components and financial performance of the company (Nimtrakoon, 2015; Chan, 2011). Previous studies calculating the size of the organization's total assets by popular logarithm include Pouraghajan, (2012), Iavorskyi, (2013) and Meressa, (2016). The natural logarithm of total assets for measuring the firm size in this analysis, as it is firmly established in previous research, and that firm asset as such appear as a logical denominator for size as such. The size of the company was referred to as FSize.

Firm age: The age of the company was denoted as FAge. It was determined by counting the company's age from the establishment date of the said company. Firm age is usually a monitor or an econometric device, and it is sometimes a proxy for non-observed variables like education (Pastor and Veronesi, 2003). The finance literature also discussed age-related productivity problems, although the age and tenure of managers within the company could also trigger a suspicious relationship from different angles (Finkelstein and Hambrick, 1990). Ultimately, the literature on diversification indicates a relationship between age and profitability. Therefore, this study followed Fama and French (2001) and Pastor and Veronesi (2003) and concluded that firms were "born" on the NSE listing in the year of their first

appearance. Consequently, the company's age is the number of years (plus one) that have already passed since the Company's IPO year.

Industry sector: The industry in which a firm is involved influences according to multiple studies, whether it's engaged in certain performance practices or not (Habbash, 2015). Some previous studies tracked the effects of industry simply by focusing on a single industry (Paek et al., 2013) or by distinguishing between manufacturing and non-manufacturing sectors only (Barnea & Rubin, 2010; Waddock & Graves, 1997; Loughran and Ritter, 1995). However, using manufacturing to create dummy variables by assigning "1" to firms in the manufacturing sector and "0" to the rest is one of the most common ways of controlling for a firm's performance. This study followed the same line with other scholars ' approaches to monitor the industry's specific effects on firm performance

3.3. Data analysis

For the presentation of data, mean, standard deviation skewness, and kurtosis was used. It offers statistical and graphical procedures for a clear and understandable way of summarizing a collection of data. Descriptive statistics enable the study in a sensible way to simplify large amounts of data. Descriptive statistics were used to explicitly summarize and understandably represent empirical findings (McDaniel and Gates, 2010). Correlation and multiple regressions analysis was also used to estimate the causative relationship between intellectual capital and firm performance what is more as various variables chosen. For the analysis of correlation and regression, SPSS version twenty package was used. The statistic indicates the direction of the affiliation, whether or not or not positive or negative (Bryman & Bell, 2007; Field, 2009). This research determined the coefficient of multiple correlations or the explanatory power of the modified model "R^2" to check the reliability of the model's linear fit. Multiple regression models were used here because many independent variables existed. Furthermore, with the range of explanatory variables in the model, this figure consistently increases. The analysis further examined the derivative of R^2 called the modified coefficient of correlation in this context. In the analysis, the determination coefficient (R-square) was used to demonstrate the model's predictive and explanatory strength. The thesis therefore utilized hierarchical multiple regression modelling to check the research hypotheses.

The use of hierarchical multiple regression analyses to check for moderator influence was observed by Baron and Kenny's (1986) and Frazier et al. (2004). Moderation occurs when the relationship between two variables varies depending on the level of another variable in magnitude, direction, or statistical significance. To evaluate the effects between the variables and to test the hypotheses, a hierarchical multiple

regression analysis was done. In order to test the effects of certain predictors, regardless of the influence of others, the hierarchical regression model is used to determine a fixed order of entry for variables (Pallant, 2010). Hierarchical model of regression was used to achieve this. Only some of the variables were used simultaneously throughout each point in the hierarchical regression analysis. At each step, R^2 was determined to show the incremental change with the inclusion of the most recently entered predictor and applied exclusively to the predictor.

4. Findings and Discussion

Table 1 provides a summary of the descriptive statistics of the dependent and independent variables for the 48 firms listed in NSE from the year 2006 to 2017 with a total of 576 observations. The table shows the mean, minimum, maximum, standard deviation, skewness, Kurtosis and number of observations of the dependent and independent variables.

Table 1: Descriptive Statistics

	Total penal observations	Mean	Sd	Max	Min	Skewness	Kurtosis
Tobin Q	576	1.67	0.88	4.42	1.33	1.89	1.80
HCE	576	11.57	11.60	75.33	-35.66	1.77	2.19
SCE	576	1.51	5.90	74.33	-0.13	-1.23	2.32
CEE	576	16.89	19.23	120.05	-55.66	2.05	3.32
INCE	576	2.93	4.57	25.89	0.27	-0.75	-0.06
VAIC	576	3.52	0.55	8.72	0.57	0.99	2.23
IND	576	5.78	3.34	1.00	0.00	0.11	1.73
FSize	576	6.17	0.92	8.89	4.10	-0.52	7.12
FAge	576	55.50	32.56	165.00	14.00	0.83	2.16

Source: Research data (2018)

As can be seen in Table 4.1 above, the mean values of all variables range from a minimum of -55.66 for CEE as measured by the significance-added ratio of the capital employed to a maximum of 165.00 for the firm age as measured by the firm's period to the current year. Over the period under study, the mean of VAIC achieved value greater than one. It means that sample of enterprises creates value. The minimum and maximum Tobin's Q of companies listed in NSE Kenya are 1.33 and 4.42 respectively. The table also indicates that the mean value for the dependent Tobin's Q variable is 1.67, suggesting greater efficiency than average. The standard deviation from either the dependent Tobin's Q variable is 0.88, indicating that economic performance volatility varies only by 88 percent from the median. Human capital is the highest

enhancing value of intellectual capital. The mean value of variables in economic performance suggests the general financial soundness of Kenya's NSE market. Tobin's Q can measure long-term performance that Kweh, Lu, Wang (2014) anticipated. Tobin's Q is a comprehensive analysis of the company's assets and a strong method to reflect the competitive strengths of the firm; it could also reveal the earnings achieved from the investment in Aramburu, & Saenz, (2011).

The average value of 16.89 capital employed efficiency illustrates the high quality of the NSE's financial assets. In relation, being a high-profile NSE, employed capital has been a major contributor to NSE performance overall excellence. Concerning the independent variables, the mean value suggested by CCE is more effective in wealth creation during the study period than HCE, INCE, and SCE. However, if the components are examined individually, it is evident that the efficiency in capital employed (mean= 16.89) is more efficient compared to the human capital efficiency (mean 11.57), innovation capital efficiency (mean= 2.93), and structural capital (mean= 1.51). The findings reveal that listed firms invest significantly in their financial assets and human capital to exploit the knowledge and skill of their employees to improve on their overall performance. The findings of Firer & Williams (2003), Ho & Williams (2002) corroborate this.

4.1. Correlation results

Table 2: Pearson Correlation Coefficients Result

		1	2	3	4	5	6	7	8	9	9
1.	Tobin's	1.0000									
2.	HCE	0.1592*	1.0000								
3.	CEE	0.6256*	0.4775*	1.0000							
4.	INCE	0.1883*	0.3369*	0.2189*	1.0000						
5.	SCE	0.1689*	0.1391*	0.0845*	0.1925*	1.0000					
6.	VAIC	0.142*	0.587*	0.977*	0.237	-0.177	1.0000				
7.	Industry	-0.3987*	-0.1637*	-0.4659*	-0.1697*	-0.0749*	0.018	1.0000			
8.	Firm Size	-0.4372*	0.0628	-0.4247*	0.0630	0.0830*	-0.080*	0.0927*	0.0214	1.0000	
9.	Age	-0.0906*	-0.2141*	-0.2609*	-0.1641*	0.0243	0.038	0.4535*	-0.1160*	-0.0618	1.0000

Correlation is significant at *0.05 level; N=576

Pearson moment correlation was used, depending on the level of measurement, to describe the relationship between independent and dependent variables. Using the Pearson product-moment correlation coefficient, the relationship between the independent variable and the dependent variable has been investigated. The

findings of the Pearson correlation in Table 2 showed that the financial performance of human capital was also associated positively as evidenced by a coefficient of r = .1635 which is also significant at p< 0.05. This proves that high-quality human resources have been the backbone for the efficient utilization of intellectual capital assets. The output also shows that structural capital efficiency is positively related to financial performance, with a coefficient of r = .1689 which is also significant at p< 0.05. Structural capital tended to have a lower influence on the performance of the firms than that of human capital This corroborates with the research study by (Khalique et al., 2011).

The correlation results also indicated that the efficiency of capital employed is positively related to financial performance as demonstrated by a coefficient of r=0. 625 significant at p < 0.05. It indicates that an improvement in physical capital's value-creation capacity will impact financial performance. The findings show that capital employed appears as the most important component of intellectual capital accounting in influencing the financial performance of publicly traded firms in NSE, capital employed is a primary and very critical component of intellectual capital because it is a very important source of superior performance. This is in inconsistency with previous studies (Bontis, 1998; Stewart, 1997) that ranked human capital as a first and structural capital as second contributors to business performance respectively.

Innovation capital efficiency is also positively related to financial performance with a coefficient of r=.1883 of Pearson Correlation, which is significant at p<0.05. Firm size was also negatively associated with financial performance, with an r= 0.4372 coefficient that is also important at p<0.05. Firm age had a negative correlation with financial performance based on the coefficient of r=0.091 of Pearson Correlation that is significant at p<0.05. In contrast, the industry sector has a negative correlation with a coefficient of r= 0.398 in financial performance, which is significant at p < 0.05. From the above, INCE, SCE, CEE, HCEI, firm size, firm age, and firm financial performance have a linear relationship. It offered more room for multiple analyzes of regression.

4.2. Testing for Fixed Model or Random Effect

To find out which estimation effects (between fixed and random) produced superior results, a Hausman test was carried out for the specified panel regression model. The test was conducted against the null hypothesis that the random effect model Both fixed and random effects were used to test the hypothesis and Hausman tests were used to determine which model the hypothesis was investigated. In the specification for fixed effects, r squared was 0.2603 that also implies that intellectual capital contributes to 26.03% of economic performance.

Table 1 findings showed that innovation capital efficiency would have a beneficial and significant impact on financial-economic performance (β= 0.104, π<0.05). In specific, an increase of 0.104 units in innovation capital efficiency leads to an increase with the same unit in significant economic results. The t-value= 2.90 which implies it's more than the recommended error.

Table 3: Fixed model

Fixed-effects (within) regression				Number of obs	=	576	
Group variable: firm				Number of groups	=	48	
R-sq: within = 0.2475				Obs per group: min =		12	
R-sq: between = 0.2417				avg = 12.0			
R-sq: overall = 0.2603				max = 12			
				F (8,520) = 11.25			
Corr(u_i, Xb) = -0.0430				Prob > F = 0.0000			

Tobin's Q	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Constant	.9415317	.3244437	2.90	0.004	.3041502	1.578913
HCE	.1349683	.0422113	3.20	0.001	.0520427	.2178939
SCE	.020228	.0200501	1.01	0.314	-.0191613	.0596172
CEE	.0838386	.0300701	2.79	0.005	.0247649	.1429123
INCE	.1035613	.0237505	4.36	0.000	.0569025	.1502201
VAIC	-.3112683	.2625089	2.52	0.000	-1.80430	0.88149
CT	3.070328	1.120501	0.01	1.014	2.010161	1.059017
Industry	-.4212783	.3125198	2.39	0.006	-2.104306	1.091493
Firm size	-.4612783	.3325098	-1.39	0.166	-1.114506	.1919493
Firm age	.0320596	.0875567	0.37	0.714	-.1399487	.2040678
sigma_u	.86065821					
sigma_e	.39884283					
rho	.82321165	(fraction of variance due to u_i)				
F test that all u_i=0:		F (46, 520) = 24.79			Prob > F = 0.0000	

Using Generalized Least Squares (GLS), RE models can be calculated. R Squared was 0.5065 from the RE model, indicating that the intellectual capital components ((human capital, structural capital, capital employed and innovation capital) explains 50.65% variation in the financial performance of listed firms in Nairobi securities. Results revealed that innovation capital (β3= 0.102, p<0.05) had a significant effect on organizational financial performance. It implied a decrease in the firm financial performance of up to 0.137 units for each capital employed and an increase in the firm financial performance of up to 0.102 units for each innovation capital unit. The control effect findings showed that the industry had a positive effect on the financial performance of the publicly traded companies (β= -0.540, π>0.05), while the size of the

company (β= -0.186, (β= -0.186, ϱ>0.05) and firm age (β= -0.07, ϱ>0.05) had no significant effect on firm financial performance.

Table 4: Random effect

Random-effects GLS regression				Number of obs = 576		
Group variable: firm				Number of groups = 48		
R-sq: within = 0.5332				Obs per group: min = 12		
R-sq: between = 0.5470				avg = 12.0		
R-sq: overall = 0.5065				max = 12		
				Wald $\chi^2(9)$ = 111.97		
corr(u_i, X) = 0 (assumed)				Prob > χ_2 = 0.0000		

Tobin's Q	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
Constant	1.046697	.3527195	2.97	0.003	.3553793	1.738015
HCE	.0645668	.0411294	1.57	0.116	-.0160453	.145179
CEE	.1369476	.0294213	4.65	0.000	.0792828	.194612
INCE	.1023792	.02415	4.24	0.000	.0550462	.149712
SCE	.0304559	.0204509	1.49	0.136	-.009627	.070539
VAIC	.162358	.017890	3.06	0.000	.045078	.176945
CT	.002379	1.02059	2.04	0.000	.0560462	.138612
Industry	-.5396242	.1771065	-3.05	0.002	-.8867466	-.192502
Firm size	-.1864135	.3375723	-0.55	0.581	-.848043	.4752161
Firm age	-.0074739	.082397	-0.09	0.928	-.1689692	.1540213
sigma_u	.5503982					
sigma_e	.39884283					
rho	.65569079	(fraction of variance due to u_i)				

4.3. Correlation results

Assessment of correlation is a means of measuring relationships between variables and causes. Pearson r is the most commonly used form of a correlation coefficient, often considered as a linear or product-moment correlation.

Table 5: Correlation results

	1	2	3	4	5	6	7	8	9	9
10. Tobin's	1.0000									
11. HCE	0.1592*	1.0000								
12. CEE	0.6256*	0.4775*	1.0000							
13. INCE	0.1883*	0.3369*	0.2189*	1.0000						

14. SCE	0.1689*	0.1391*	0.0845*	0.1925*	1.0000					
15. VAIC	0.142*	0.587*	0.977*	0.237	-0.177	1.0000				
16. Industry	-0.3987*	-0.1637*	-0.4659*	-0.1697*	-0.0749*	0.018	1.0000			
17. CT	0.2382*	-0.0226	0.1263*	0.0343	-0.1087*	0.531	-0.0673	1.0000		
18. Firm Size	-0.4372*	0.0628	-0.4247*	0.0630	0.0830*	-0.080*	0.0927*	0.0214	1.0000		
19. Age	-0.0906*	-0.2141*	-0.2609*	-0.1641*	0.0243	0.038	0.4535*	-0.1160*	-0.0618	1.0000

Correlation is significant at *0.05 level; N=576

Pearson moment correlation was used, depending on the level of measurement, to describe the relationship between independent and dependent variables. The findings of the Pearson correlation in Table 4.10 showed that Innovation capital efficiency is also positively related to financial performance with a coefficient of r=.1883 of Pearson Correlation, which is significant at $p<0.05$.

4.4. Regression Results

The control variables are regressed with Tobin's Q and secondly with a four-factor model like HCE, SCE, CCE, and INCE. Model 1 ran the three control variables and excludes IC components and the interaction variable in the model. The model has overall significance but its power to explain the total variation independent variable is good with about 26%. Model 2 consists of four IC components (HCE, SCE, CCE, and INCE) and the controlling variable (firm size, industry, firm age). The analysis reveals that capital efficiency (CCE) and innovation capital efficiency (INCE) have a significant positive impact on Tobin's Q values. The controlling variable (firm size, industry, firm age) all negative significant effect on the dependent variable. The regression results show that the financial performance of listed companies was influenced by both CEE and INCE.

Based on the findings in the Hausman test, the study will use a random effect to test hypotheses. The hypothesis guiding this paper is formulated as shown below.

Ho: Innovation capital has no significant effect on financial performance of listed firms in Nairobi Security Exchange

Ha: Innovation capital has a significant effect on financial performance of listed firms in Nairobi Security Exchange

Findings showed that innovation capital had estimate coefficient was statistical significantly on $\beta 4 = 0.081$ (p-value = 0.000 which is less than $\alpha = 0.000$ hence it was concluded that innovation capital had a positive and significant effect on firm financial performance, suggesting that there was an increase in firm financial performance of up to 0.081 units per unit of innovation increase. This suggested that there was an increase of up to 0.081 unit of firm financial performance for each unit of innovation capital increase. Ultimately, the null hypothesis was discarded and it was concluded that innovation capital had a significant effect on the financial performance of publicly traded companies in NSE. This is in line with Kinot's (2009) findings which demonstrated that investment in technology, specifically research and development, contributed directly to a company's higher performance, as Slater et al. (2012) also cited. Benedetto and Mu's (2011) findings aligned with current findings that innovation-based technology creates new products that lead to high company performance. In particular, the findings of Anal et al. (2011) supported the conclusions of the current study in suggesting that the relationship between technology and rim financial performance is positive and significant.

5. Conclusion

The study concludes that innovation capital had a positive and significant effect on financial performance. Similar findings by OECD, (2005) clearly indicated that innovation capital is a key driver of productivity and economic growth. Besides, the reviewed literature has also shown that innovation capital contributes to a firm's competitiveness, innovativeness, financial, and non-financial performance (Phusavat et al. 2011; Sharabati et al. 2010; Shih et al. 2010). In the same vein, the findings from this study lend support to that of Huang and Liu, (2005) who investigated the relationship between innovation, IT and performance. Their study established that interaction between IT capital and innovation capital has a positive impact on performance. Evidently, the extant literature has confirmed that indeed innovation capital has a positive influence on firm performance. Overall, the study findings corroborate prior studies on innovation capital effects on firm financial performance measured by several proxies.

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THE EFFECT OF ORGANIZATIONAL JUSTICE PERCEPTION ON WOMEN EMPLOYEES: A RESEARCH ON HOTELS[1]

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Abstract

Efficient, successful and competitive advantage in the services sector is also important, as in every business. Organizational justice perceptions of the employees are features that affect the internal and external customer satisfaction because of the service sector is labor-intensive. Businesses are aware of this feature always take into account the employees, especially endeavor for the development of the negative perception about the business. Between female and male employees may differ based on gender as well as other factors about the high or low of organizational justice perception. In this study, women organizational justice perception level who work in the hotel were investigated. Organizational justice, which has an efficient role on the business' productivity is staff's perception of whether the management treats them just or not. The other researchers' views have been examined by performing a literature review. This study has been realized with the individuals working in the tourism businesses in Ankara (Turkey).

Keywords: Organizational justice, women employees, hotels.

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1. Introduction

The hospitality industry is an important source of employment and income. There is a very close relationship that organizational justice perception of the hotel staff between customer satisfaction to obtain revenue. Employee who providing satisfaction from business and high motivation increase their productivity and integrate with organizations in other words also organizational citizenship increases customer satisfaction by providing increased service quality. Hotels that employee who high organizational justice perception will be one step ahead of the competition, in which case the country will be contributing to the development of tourism (Keleş & Pelit, 2009). Gender which is one of the demographic factors is an important factor to decide whether the perception of organizational justice of the employees is low or high. Although the activities in the tourism sector are thought to be more suitable for female employees, it is seen that women and men do not work under equal conditions in patriarchal societies (Çiçek et al, 2017). Perception concerning gender discrimination naturally leads to low of organizational justice (Yelboğa, 2012). Justice were interpreted by philosopher in different ways because of differences in the values from the past to the present. Plato advocated absolute equality if the distributed resources would happen equally to all individuals but Aristotle advocated the view that the economic system is important to ensure justice (Cihangiroğlu&Yılmaz, 2010; Colquitt, Wesson, Porter, Ng, & Conlon, 2001).

2. Conceptual Framework

The perception of organizational justice studies began with Adams' The Theory of Equality and the employees' degree of success and satisfaction were associated with perceived equality or inequality in the work environment (Gosser et al, 2018). Rawls advocated two principle about justice. First, individuals should have the same rights, and second individuals should have equality of opportunity (Eker, 2006). Developed the concept of justice from the past to present; personal rights to be respected on an equal basis, regardless of the differences among individuals, to be able to live together in a peaceful manner, it has taken place today as a basic concept that enables organized around specific purposes.

For this purpose the word justice means, truth, honesty, equality, rights, be unfair, adhere to the equitable, legitimacy, impartiality, humanity, kindness, observance of the right to fulfill.

According to the Turkish Language Association "Justice" concept is described as "the rights and compliance with the law, regardless of right, truth, not falling himself to everyone, providing its own right" (Türk Dil Kurumu Türkçe Sözlük, 2005).

Guidelines and standards have been formed within the community social justice gains importance in time. Later social justice theories have been adapted to organization and the concept of organizational justice has emerged. The theory of relative deprivation developed by Stouffer et al in 1949 which of social justice theory based on the idea of social comparison process is important. In 1961, according to developed distributive justice theory from the relative deprivation theory by Homans stressed that people expect hope and their investment rate of exchange relationship that they have the justice perception when they obtain those expectations are met.

Distributive justice theory, and in 1964, Blau's "The Role of Expectations", have been a pioneer in Adams put forward equity theory in 1965. Equity theory is important because views on whether act fair treatment of management to personnel in the workplace and significant contribution to the concept of organizational justice (Meydan, 2010). In 1976, Leventhal's "Judicial Justice Model" and finally "Motive Justice" has been laid out by Lerner in 1977, in particular has contributed to the development of theories of the concept of distributive justice (Karaman, 2009). Following these developments a variety definition of organizational justice have been made by researchers. Justice intuition of the individuals in the organization define as organizational justice (Schmiesing, Safrit&Gliem, 2003).

Beugre and Baron defined organizational justice as "individual colleagues, including the perception of a social system in terms of relations with superiors and the institution" (Beugre & Baron, 2001). Greenberg's definition of the organizational justice is; "The justice in workplace, the term that find out the impact to individual and the organization" (Greenberg, 1990).

The definition common point of organizational justice perceptions which of employee are salary, promotion and the decisions taken by the management of reward or punishment are perceptions that the process is fair. Cultural structure, demographic characteristics, and personality traits of employee are effective in the formation of this perception (Söyük, 2007). In fact, the perception of justice is universal, but the interpretation and the application of justice can show cultural differences. It must know the norms of the culture in order to evaluate the perception of employee related fairness in business. Employee personality traits also create different applications, if he does not have a problem does not take care of organizational justice in the workplace, in the contrary case increased concerns and occurs the perception of fairness of management's decision. The issue of distribution of resources varies according to whether the resources are limited the perception of fairness in the formation and organizational justice perception is different according to different conditions (Yürür, 2005).

Employee compares behavior and attitude of managers and colleagues, given to the importance and the respect shown, briefly output gained in return for the success it has demonstrated (awards,

promotions, bonuses, etc.), when she/he thinks injustice feels guilt or anger which negatively affects the attitudes and behavior within the organization (Güllüce & Kahyaoğlu, 2016).

In an organization where equality and fairness are ensured, organizational justice is one of the most important elements that increases job satisfaction, success and efficiency in the organization, as it organizes the employees, associates organizational values with their own values, facilitates cooperation among employees. Employees who are work with unfair managers lose their organizational commitment and even leave work (Hsu et al, 2018).

The perception of organizational justice is a perception that separates individuals from each other and from the organization. It is the responsibility of managers to ensure organizational justice because organizational peace and serenity in the business environment is an important influence on personnel productivity.

Leventhal states that there are six rules for the provision of organizational justice: that they are truthfulness and honesty, conformity to professional ethics, consistency, non-prejudice, consideration of objections and flexibility, participation in decisions (Eren, 2012). Justice is a social phenomenon, affecting attitudes and behaviors such as commitment, trust, performance, workforce and aggression, how employees are treated as the most important sources of organizations, and the shift towards a more educated workforce. Nowadays, when employees become more skilled and educated, demanding respect and sincerity in the workplace, and the need to conduct research on organizational justice for these and similar reasons (Yilmaz, 2004).

Organizational justice theory is examined in the literature in three parts. These; Distribution Justice, Procedure (Operational) Justice, Interaction Justice. Now let's examine these three definitions of justice.

3. Types of Organizational Justice

The perception of organizational justice studies began with Adams' The Theory of Equality and the employees' degree of success and satisfaction were associated with perceived equality or inequality in the work environment. Organizational justice is a social system that includes perception with regard to individual's relationships with superiors colleague organization (Beugre&Baron, 2001), (Li&Zeng, 2019).

Organizational justice is the term that serve to reveal the effects of the justice to the individual and the organization (Greenberg,1990), (López-Cabarcos et al, 2015). Scholars have generally identified three components of organizational justice: distributive justice, procedural justice, and interactional justice (Sia & Tan, 2016).

3.1. Distribution justice

Distribution justice is the perception of the organization's decisions about the distribution of resources in operation and whether the actions are fair to the staff. In other words, it can be said that the comparison of the earnings obtained by the distribution justice perception staff is the predominant perception (McShane & Von Glinow, 2009). Organizational resources; such as wages, bonuses, promotions, gratuities, extra permits and similar awards given to employees, and in some cases, cuts during wages or permits, not giving premiums or bonuses, or giving less or not promoting. When employee thinks that management resource distribution is unfairis is angered and is happy when they think that decisions are fair, also distribution justice is directly correlate with emotional and behavioral characteristics of employee (Yöney, 2010).

Stouffer, Suchman, DeVinney, Star and Williams (1949) developed the "theory of relative deprivation" as a result of their examination of US troops in World War II. This theory of Stouffer and colleagues shows that employees' perceptions of practice compares their own findings with results obtained by other workers (Colquitt, Greenberg& Zapata-Phelan, 2005).

The concept of "distribution justice" of Homans was based on the social exchange theory developed in 1958 by Homans, in the light of the Relative Absence theory. According to this theory, in the enterprises personnel respect, honor, friendship, consideration etc. they are in a rewarding expectation.

Since an individual's behavior affects the behavior of another, they have compared the gains they provide to the individuals involved in the exchange relationship. Personnel thinks that it should be proportional to the contribution that the earned income makes, and the perception of justice develops according to whether this proportion is provided or not. Blau (1964) emphasizes the concept of fair exchange and states that being fair is a moral behavior (Colquitt, Greenberg& Zapata-Phelan, 2005). Adams's (1965) Theory of Equality is based on the idea that individuals want to have fair behavior against themselves (Eker, 2006), a resultant theory that is a comparison of the rate of earnings they have earned on the labor they earn against the labor of other employees (Başar, 2011).

According to Leventhal's (1976) "Justice Judiciary Model", the staff strive for the implementation of different distribution systems so that a fair distribution can be made, the basis of this model is the need for the earnings that the employees have obtained in a fair way (Leventhal, 1980).

In Lerner's (1977) Justice Motive Theory, there are four distributional principles; competition that envisages to distribute according to their individual performance of employees, equality expressing equality of distribution, which emphasizes that distribution should be based on relative contributions,

Marxist Justice explaining justice and distribution taking into account the needs of employees (Söyük, 2007).

3.2. Procedural (operational-process) justice

The concept of procedural justice is also referred to in the literature as "justice for implementation", "operational justice" and "process justice". Basically, procedural justice means that organizational processes are equally, honestly and fairly implemented among staff. In particular, decision making, participation in decisions, promotion and rewarding, performance appraisal, career planning, etc. perception of whether management is fair in activities (Folger &Konuvsky, 1989).

Procedural justice has two important elements; the first is that employees' ideas, opinion and proposals are listened and the decisions made by the employees are made easier and easier to adopt by employees, and the increased commitment of the employees as they feel they have a say in the decisions taken. The second is the style of application of policies or used by management in decision-making, resource distribution and conflict resolution (Söyük, 2007).

The high procedural justice perception results in high job satisfaction and organizational commitment (Flint, 1999). The concept of procedural justice appears for the first time in research of Thibaut and Walker (1970), on the process of resolving conflicts among employees (Greenberg, 1990), it is thought that decisions taken in this study and how these decisions are taken are the effects on justice perception (Gürpınar, 2006).

Two different judicial systems used in England and USA; the combat system and the continental system used in Europe were compared by Thibaut and Walker, and the combat system was found to be more pleasing. According to Thibaut and Walker, the main reason for such an outcome is the opportunity to defend themselves in the fighting system, in which the judge assumes the task of referee and the final word is spoken by the jury. In the continental system, the judge both performs the task of arbitration and makes a final decision, suggesting that judging the individual is less fair and dissatisfaction is higher than the struggle system. It was also seen during the research; the recognition of the right to speak to the parties when the judicial process is difficult to reach a conclusion increases the perception that the decision is fair. According to Thibaut and Walker, this study shows that having a say on the decisions made increases the perception of justice.

The reason for this is that the parties can express their ideas freely and think that they can be influential on the decision and that a more positive decision can be reached for them (Yöney, 2010). Thibaut and

Walker (1978) found that individuals who had disagreement in their theories of procedural justice were two separate parties, and that a mediator acting as an arbitrator in resolving the dispute was a third party. In the solution of the disagreement, there are two stages that are called the stage of decision, in which the evidence is used, and the stage of process, in which the evidence is reveal (Karaman, 2009). Two control mechanisms, namely decision control and process control, have been developed at these stages. As a result, this research shows that individuals who have a say in process control find decisions more fairly (Greenberg, 1990). In this situation, it has been revealed that not only the outputs of the employees but also the processes in the process of getting these outputs play an important role in justice perceptions (Karaman, 2009).

Leventhal et al. (1980) examined the different aspects of procedural justice and reveal six basic rules affecting justice perceptions. This is the first of the six rules; accuracy is to provide accurate and as complete information as possible to those who communicate and interact. The second one is consistency. According to this rule, the justice of distribution and procedure should be adhered to and not in conflict with each other in taking and implementing decisions such as purpose, strategy, policy. Another rule is not prejudiced, but this rule implies that in the implementation of the decisions and plans to be taken, in action, in interaction and in communication, all prejudice and prejudice must be avoided and that the person should be kept away from objective and discriminatory. Considering objections and being flexible is the fourth rule. This rule refers to taking objections and complaints from employees, departments or institutions and objectively reviewing the decisions taken, taking into account the objections and complaints, and making the necessary changes and amendments. The fifth rule is the representation (participation in decisions). It is important that the decisions taken within the organization are fair and consistent with the decisions made by the employees directly or through their representatives, their values, their views and their needs. If the last rule is ethics (compliance with professional ethics), all decisions, practices and processes taken within the organization must be in accordance with the professional ethics principles and ethical values of the workplace (Leventhal, 1980). In some organizations it seems that these six rules are not fully implemented; procedural justice is perceived to be high and accurate in the organizations in which the six rules are applied, and their gains are high.

Justice perceptions also show an increase in the positive direction if the trustworthiness of the managers in the employees affects the perception of procedural justice, and if there is a sense of confidence in the employees' managers (Bos, 2001). If there is a trust relationship between employees and managers, employees see the procedures and decisions taken within the organization as very unquestioning and fair. However, in organizations where this trust relationship can not be established, it is seen that the

employees question the procedures and decisions taken more than necessary and may even be prejudiced.

Procedure justice also has a social aspect, especially when the quality of communication among employees in the organization is positive, employees perceive fair that the procedures and decisions taken within the organization.

3.3. Interaction justice

Interaction justice is defined as the communication between employee and the executives who in charge in implementing justice organization procedures. It is seen that the behavior of the managers towards the employee is good or bad in the formation of the interaction justice perception. If the manager is disrespectful to the employee, if he does not give information about the activities, employee does not respect and trust the manager, and therefore does not think that the decisions he makes or the procedures he applies are fair.

A manager who respectful, descriptive, accurate and full information and considering the personal situation of the employee is respected and respected by his employees and the decisions he makes and the procedures he applies are applied and accepted without much questioning by the employees. When the interaction justice perception is low, employee can react manager and even the whole organization negatively (Şehrinaz, 2005).

Bies and Moag (1986) point out that the dimension of interaction justice in their work on organizational justice is influenced by organizational communication and that the behavior and attitudes of the organization are also effective in the perception of interaction justice (Colquitt, Wesson, Porter, Ng, & Conlon, 2001). Bies and Moag (1986) have identified four rules of interaction justice perception; truthfulness is the first rule that honest, sincere in communicating between management and employee, it is the second rule to explain the decisions taken by the management and to inform the employee, the third rule is that managers should be respectful and courteous in the relationships show that they appreciate the value of employees and need to act sincerely and respectful. Compliance rule means that the managers are not against the employee and are respectful of their personality rights.

In later researches, the criteria of consistency and impartiality, opinions of the employees were added (Poussard & Erkmen, 2008: 114).

4. Research Method

In this research, firstly, success of female staff working in accomodation businesses and equality or inequality perceived from the point of satisfaction level, in other words whether the gender makes difference on the perception of organizational justice is researched.

In order to determine the perception of organizational justice of female staff, a research has been made in Ankara (Turkey). In the used organizational justice of perception scale, questions about gains and process are directed to attendees during face-to-face meetings.

The selected sample of 36.3% (109 employees) were female and the remaining 63.7% (191employees) is also found to be the man. Demographic information such as duties, working time education level, and age of participants by gender are given in Table1.

Table1. Demographic Characteristics of the Sample

		Sex				Total	
		Female		Male			
		#	%	#	%	#	%
Educational Status	Illiterate	4	100,0	-	-	4	100,0
	literate	11	40,7	16	59,3	27	100,0
	primary education	42	56,0	33	44,0	75	100,0
	high School	34	25,8	98	74,2	132	100,0
	university	18	33,3	36	66,7	54	100,0
	MSc / PhD	-	-	7	100,0	7	100,0
Age (Avg. ± Stan. Dev.)		32,95 ± 7,86		33,16 ± 7,84		33,09 ± 7,83	
Task	Kitchen Staff	28	42,4	38	57,6	66	100,0
	Housekeeping staff	25	64,1	14	35,9	39	100,0
	Social Services staff	12	37,5	20	62,5	32	100,0
	Accounting	3	30,0	7	70,0	10	100,0
	Reception	10	29,4	24	70,6	34	100,0
	Administrative Services Staff	7	28,0	18	72,0	25	100,0
	Cleaning Staff	14	73,7	5	26,3	19	100,0
	Front Office Staff	2	22,2	7	77,8	9	100,0
	Security Staff	1	7,1	13	92,9	14	100,0
	Technical Service Staff	-	-	25	100,0	25	100,0
	Valet	4	26,7	11	73,3	15	100,0
	Other	-	-	7	100,0	7	100,0
Working Hours	Less than 1 year	15	34,9	28	65,1	43	100,0
	1-2 years	33	38,4	53	61,6	86	100,0
	3-5 years	36	41,9	50	58,1	86	100,0
	6-9 years	15	41,7	21	58,3	36	100,0

| 10-14 years | 8 | 21,6 | 29 | 78,4 | 37 | 100,0 |
| 15 years and over | 2 | 16,7 | 10 | 83,3 | 12 | 100,0 |

4.1. Data collection method

Perceived Organizational Justice to determine by Colquitt (2001) was designed the scale, consists of 20 items, has been applied in a survey of 300 people face to face,4 and 5 star hotels and tourism employees in business activities in Ankara.

4.2. Analysis of data

To test the validity of the scale was used factor analysis and has been shown to be divided into 4 subscales of the same factors. The results of the reliability analysis applied to this scale is given in Table2. The analysis of the validity and reliability of this scale developed by Colquitt (2001) can be said that the results achieved.

Table 2. Reliability Analysis and Normality Test Results Related to Scale

| | ReliabilityAnalysis | | NormalityTest | | |
	Cronbach's Alpha	**n**	**Statistic**	**df**	**p**
OrganizationalJustice	,944	20	,981	300	,000
ProceduralJustice	,890	7	,977	300	,000
DistributionJustice	,852	4	,965	300	,000
InterpersonalJustice	,737	4	,973	300	,000
InformationalJustice	,898	5	,965	300	,000

The purpose of the survey is to find out the organizational justice perceptions differ according to gender. For this purpose;

• H1: Organizational justice perception does not differ by gender,

• H2: Procedural justice perception does not differ by gender,

• H3: Distributive justice perception does not differ by gender,

•H4: Interpersonal perception of justice does not differ by gender,

•H5: Informational justice perception does not differ by gender,

form hypotheses were established.

As indicated in Table 2 normality test results to determine the variables differ significantly by gender, the scale of the Independent Sample t test was applied. Made results of this analysis are given in Table 3.

Table 3. Comparison of the Organizational Justice and the Sub Dimensions by Gender

		N	Mean	Standard Deviation	t	p
OrganizationalJustice	Female	109	3,0569	,93049	-1,588	0,114
	Male	191	3,2270	,82137		
ProceduralJustice	Female	109	2,9976	,97965	-2,455	0,015*
	Male	191	3,2808	,92688		
DistributionJustice	Female	109	3,0344	1,11776	-0,804	0,422
	Male	191	3,1401	1,05398		
InterpersonalJustice	Female	109	3,1399	,96491	-1,154	0,250
	Male	191	3,2696	,88515		
InformationalJustice	Female	109	3,0917	1,13807	-0,724	0,468
	Male	191	3,1864	,98260		

The results in Table 3;

• perceptions of organizational justice does not differ according to gender (p= 0.114>0.05).

• Procedural justice perceptions vary by gender. It seems lower rates for the female employees (p=0.015 <0.05).

• Distributive justice perception does not differ according to gender (p= 0.422>0.05).

• Interpersonal perception of justice does not differ according to gender (p= 0.250>0.05).

• Informational justice perception does not differ according to gender (p= 0.468>0.05).

It is possible to say that information.

5. Conclusions

The organizational justice in business has a property affecting the business performance. There are the individual having the different personality traits in the organizational so male and female workers for

justice can perceive differently. In this study, has been researched the effect of organizational justice perception on women employees on hotels in Ankara/Turkey. This study shows differences according to gender in the procedural justice perceptions, so second hypothesis is rejected. Procedural justice is described as an increase in organizational commitment when employees feel that they have a say in the implementation, adoption and decisions taken by the employee by listening to ideas, opinions and proposals. When we consider demographic characteristics in this study, the result of procedural justice perception is lower of woman than men. It is considered that this result is to depend on the demographic characteristics because of women work more in cleaning and housekeeping department. To research the reasons for the results obtained from this study may be able to guide the future researches.

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