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AN ASSESSMENT OF ENTREPRENEURIAL ORIENTATION, FINTECH, AND FIRM PERFORMANCE: A MEDIATION ANALYSIS USING CB-SEM APPROACH

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ABSTRACT

In this competitive global environment, entrepreneurship has become the pressing factor for business managers and policy makers. Now a days, conceptualization of entrepreneurship has shifted to a more robust concept, called entrepreneurial orientation where managers thinks and initiate innovative plans to reap better performance. This research aimed to investigate direct impact of entrepreneurial orientating on firm performance in commercial banking industry of Pakistan. In addition, this research has tapped the mediation and moderation effects of financial technology and financial literacy. In achieving the research objective, study has used positivist research philosophy and made a cross-sectional research design. The nature of this research is quantitative and primary data was collected by using adopted and modified survey instruments. The target population of this study was (N=368) top managers of commercial banking industry of Pakistan. The quantitative outcomes were drawn by using a multivariate statistical tool, structural equation modelling (SEM). The results of this research documented that entrepreneurial orientation has positive and significant impact of firm performance. The direct of EO and FP is also mediated by financial technology (Fin-Tech). Results of SEM reported that fin-tech mediates the relationship between EO and FP. Furthermore, study has also traced the moderating effect of financial literacy (FL) on the relationship of EO and FP. Based on statistical outcomes it is concluded in this study that top managers of banking firms do take initiatives to avail Fin-Tech for enhancing firm performance and this relationship can be interactive (moderated) if managers are involved to made them more financial literate.

Keywords: Entrepreneurial Orientation, Financial Technology, Financial Literacy, Firm Performance, Structural Equation Modelling.

Introduction

Puschmann and Alt (2016) stated that the banking industry, as well as financial service providers in general, are progressively embracing online and digital value production. As a result, the research plan for information systems (IS) includes various options, such as hybrid customer engagement, network competing, or collaborative financial system services. It has become increasingly necessary for traditional banks, particularly among nations with a weak banking tradition (like Pakistan), to rethink their business strategies in light of innovations like direct banks, crowd funding, and crypto currency. In today's competitive environment Customers do not accept the barriers of time and location; thus, "digitalization," or the implementation of digital technology is turned to be very necessary (Sachse et al., 2012). Furthermore, it is seen that Scandinavian countries are leading the way in digitalization of banking. There is currently a 90 percent internet banking adoption in Norway, 86 percent in Finland, and 85 percent in Denmark at the current time (Statista, 2016). At now, just 5% of people in Eastern Europe use online banking services, while 50% of people in Germany and Austria currently use online banking (Statista, 2016). As a result, it appears that banks carried out in different nations have responded differently to the digitalization problem. In contrast, no studies have looked into the banks' intrinsic willingness to grasp digitalization as a factor in their ability to adapt and to produce new income. Existing research implies that organizations benefit from an entrepreneurial oriented attitude when faced with unclear and unique issues (Rauch et al., 2009; Lumpkin and Dess, 1996; Covin and Slevin, 1989). From the Entrepreneurial Orientation of the firm, the desire to engage in, and entrepreneurial alignment of a firm towards innovation and risk-taking is likely to be the source of such an entrepreneurial oriented response (Covin and Lumpkin, 2011). However, the advantages of a more entrepreneurial strategy are not clear-cut for banks which are in the process of creating the transformation to digitalized value generation. Preliminary research suggests that the introduction of online services boosts cost efficiency but not sales efficiency, as Banker et al (2009) found. In the past, traditional channels have been associated with higher expenses, yet this hasn't deterred them from delivering bigger sales. Especially in a country like Pakistan, where online banking is still in its infancy, banks who choose to delay digitalization may find that they may not be successful. This study argues that not just the level of digitalization, but the extent to which banks 'embrace' digitalization strategically and grab possibilities in the marketplace is key to achieving a competitive advantage. With or without a clear vision of digitalization, banks can operate as usual or use Fintech to establish a plan that includes consistent packages and new online services. Different levels of entrepreneurial intensity might be taken into consideration while deciding on a strategy for accessing Fintech as well. Non-entrepreneurial digitalization in banks is characterised by a "wait and see" attitude in which institutions incorporate services and online features that have already proven successful (Covin and Lumpkin, 2011; Covin and Slevin, 1989). As an alternative, an entrepreneurial strategy to Fintech would be to launch new online services ahead of the competition, while understanding that these services may be the result of additional performance. With high internet penetration and robust banking sectors, the developed countries are currently transitioning to digitalized banking (Internet live stats, 2016; Statista, 2016). The application of entrepreneurial orientation

to gain access to fintech in a country like Pakistan, therefore, requires a need to be studied further. This research is taken entrepreneurial orientation as independent variable to assess its' impact on firm performance among commercial banking sector of Pakistan.

While traditional banks continue to play a significant role in the financial industry, technological advancements in the financial sector have led to a steady shift toward digital channels. Financial technology (Fin-Tech) firms had a profound impact on the financial industry during the past decade (Skan, Dickerson, and Masood, 2015). Technological innovation and financial services, like payments and money transfers, are combined in the term "Fin-Tech" (financial technology) (Lee and Kim, 2015). Various business structures and client demand have been reproduced by the Fin-Tech industry. Payment services, financial markets, and the banking industry are just a few of the areas it has an impact on (Salmony, 2014). The financial market void has been filled by a variety of new technological services. New technology is simple to use, rapid, and provides a large variety of service providers. As a result of the rise of electronic payment methods such as PayPal and digital money, the financial industry has completely shifted to digitalization (González, 2004). According to a recent survey, Asia and Europe are expected to see the fastest growth in global Fin-Tech investment in 2016. In the first quarter of 2016, global investment climbed to $5.3 billion, with roughly 62% of the money flowing to Fin-Tech firms in Europe and Asia-Pacific. Financial technology firms that work together as well as those that upset the status quo have distinct investing strategies. Fin-Tech companies face a variety of problems, including issues with IT security, the adoption of a business model, regulatory concerns, and disparities in management, culture, operations, and I.T. skills and compatibility (Shuttlewood, Volin, and Wozniak, 2016). The banking sector in Pakistan has been the first to embrace Fin-Tech and is aggressively expanding its financial services. Fin-Tech can be used to save time, advertise new products and services, and compete in foreign markets when properly utilized. Internet banking, mobile banking, automated teller machines, and a slew of other technologically-assisted financial services form Fin-Tech (Kazmi, 2003). As technology suppliers for financial service providers, traditional Fin-Tech collaborates with them using traditional pricing mechanisms. Newer forms of engagement between financial service providers and Emergent Fin-Tech are referred to as emerging Fin-Tech. There is still a lot to learn about Fintech in Pakistan's banking sector, according to this report. Fintech's prominence and widespread use has prompted researchers to consider it as a mediating factor between entrepreneurial orientation and firm performance.

Significance of study

For entrepreneurship to thrive in the national economy, it will take the entire society, government agencies, academic institutions, scholars, financial institutions, NGOs, and communities as a whole - to create an overall social environment that is amicable to entrepreneurship (Norman & Nieuwenhuizen, 2009; Osoro, 2012). According to the above, the following are some of the possible beneficiaries of this research. Expectedly, this study will essentially contribute in behavioral finance literature, especially for those financial institutions that form the foundation of entrepreneurial research and academicians involved in behavioral finance research (Osoro, 2012). Scholars and researchers may benefit from the study, which

would provide them with relevant and up-to-date information, particularly in Pakistan and the rest of the world. Those who benefit from this research include executives in the commercial banking business, academics and policymakers from both the public and private sectors. Business firms can benefit from this research by becoming more aware of the elements that influence entrepreneurial behavior, improve business performance, and aid in the expansion and development of their businesses. The research will also give bank executives and managers the tools they need to make long-term decisions and, as a result, improve their competitive positions and capabilities. Additionally, the study's findings will offer government officials with data that can be incorporated into policymaking to promote Pakistan's financial sector's entrepreneurial orientation.

Study Scope: The scope of this research is stated below.

Thematic Scope: The purpose of this study is to look into the dimensions of entrepreneurial orientation, Fintech, financial literacy, and firm performance among Pakistan's top banking executives. The outcomes of the study will contribute to bridging the gap in the literature of Fin-Tech and financial literacy.

Geographic Scope: Geographically, this research has covered the broad geographic scope. This study only includes top management of overall banking industry of Pakistan by investigating the top leading commercial banks of Pakistan.

Study objectives: The research contains following study objectives.

General: The general object of this study achieves the responses for entrepreneurial orientation in commercial banking sector.

Specific

- To investigated the influence of entrepreneurial orientation on performance among commercial banking industry of Pakistan.
- To find the mediating effect of FinTech in between entrepreneurial orientation and performance among commercial banking industry of Pakistan.
- To observe the moderating effect of financial literacy on relationship of entrepreneurial orientation and performance.

Literature & Hypotheses

Entrepreneurship & Firm Performance

Businesses or commercial banks' performance is a multi-dimensional issue, and hence requires a variety of different performance metrics. Innovations can have a positive impact on a company's performance in a variety of ways. Firm performance is typically described in terms of four distinct performance dimensions (Yilmaz et al., 2005; Hagedoorn and Cloodt, 2003; Hornsby et al., 2002; Antoncic and Hisrich, 2001; Narver and Slater, 1990; Barringer and Bluedorn, 1999). The four pillars of performance are innovation, production, market, and financial. This research estimates firm performance by taking innovative performance of commercial banking industry of Pakistan.

Any of the firm success is significantly impacted by innovation, which helps them to gain a competitive edge and achieve higher levels of firm performance (Walker, 2004). Study after study shows a positive correlation between an increase in the level of innovation in an

organization and an increase in the company's performance (Wu et al., 2003; Garg et al., 2003; Calantone et al., 2002; Du and Farley, 2001; Hult and Ketchen, 2001; Olson and Schwab, 2000). Rather than examining the effects of each of the four forms of innovation that have already been established, these studies are conceptual in character and/or concentrate on just one type of innovation. The most common types of innovation explored are process and product innovations. Those who study process innovations include Marcus (1988), Ittner and Larcker (1997), Whitington et al., (1999), Olson and Schwab (2000), Knott (2001), Baer, and Frese (2003), whereas those who study product innovations include Subramanian and Nilakanta (1996), Han et al. (1998), and Li and Atuahene-Gima (2003). However, there are other studies showing a negative link or no link at all between innovations and company success, even though many of these studies embrace a more or less positive association (Capon et al., 1990; Chandler and Hanks, 1994, Subramanian and Nilakanta, 1996). Miller (2001) noted that in order to acquire a competitive advantage, most companies are looking for technological innovation. These events necessitate marketing and organizational support. It's common for academics to overlook organizational and/or marketing advances, both of which are critical to a company's expansion and efficiency (e.g. Damanpour 1991; Damanpour and Evan, 1984). Organizational and marketing innovations are advocated in a small number of research on innovation capacity. Baldwin and Johnson (1996) found that innovative organizations concentrate more attention on management strategies and achieve sustainable levels of higher performance (Guan and Ma, 2003; Hult and Ketchen, 2001; Ravichandran, 2000; Han et al., 1998). There has been comparative research on the influence of product and process innovations on business performance by Wolff and Pett (2004) and Walker (2004). They found a correlation between increased profitability for the company and certain product enhancements. A study published in 2000 by Gopalakrishnan (2000) expanded the discussion by highlighting that both innovation speed and innovation size were important innovativeness qualities, both of which had a favorable effect on company performance.

H1: There is positive and significant impact of entrepreneurial orientation and firm performance in baking industry of Pakistan.

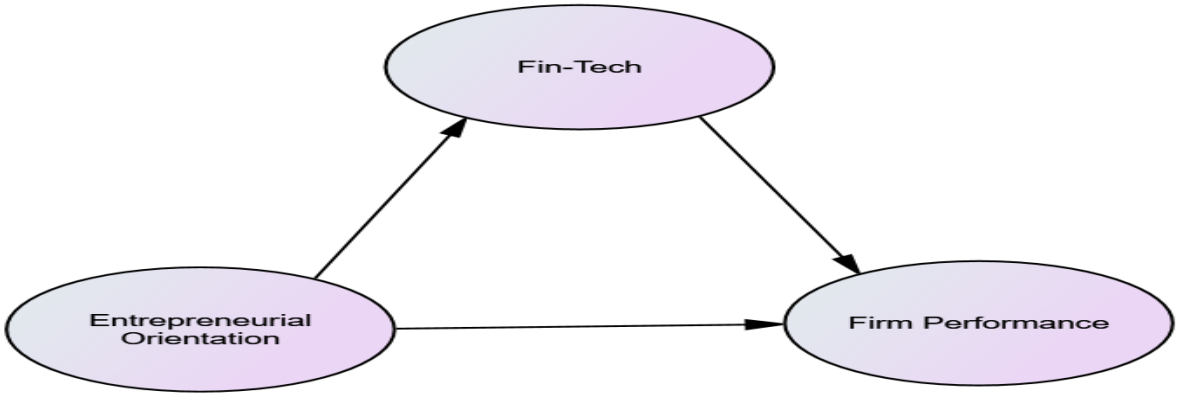
Mediation of Fin-Tech between EO and FP

Many studies have examined the link between EO and innovation efficiency and how it applies to Fin-Tech (Financial Technology) (Musawa & Ahmad, 2019). Product, service, process, and management innovations are positively influenced by entrepreneurial enterprises according to Ireland and Webb (2007a). It has also been shown that the two are closely linked, with greater levels of proactiveness and readiness to take risks associated with innovation found among entrepreneurs (Ireland et al., 2005). This suggests that entrepreneurship may play a role in innovation performance (Alegre & Chiva, 2013). Fintech development requires an entrepreneurial mindset, as Musawa and Ahmad (2019) found out when studying the financial services business. Entrepreneurial orientation has been linked to Fin-tech performance in different financial sectors by Alzuod & Isa (2017) and Khaleel et al. (2017). Further evidence that EO is a significant factor in the development and enhancement of innovation in services sector was found by (Al Mamun & Fazal, 2018), Omerzel (2016), Wang and Juan (2016),

Monteagudo and Martnez (2015). Innovating in the financial sector with an entrepreneurial mindset can lead to the introduction of new goods and technology as well as exceptional results (Wiklund & Shepherd, 2005). The willingness of a company to innovate at work confirms the essence of entrepreneurial approach (Huang & Wang, 2011; Baker & Sinkula, 2009). To better understand how businesses innovate, entrepreneurial scholars have long studied EO tactics, practices, and decision-making. According to various prior studies, entrepreneurial orientation has a beneficial impact on Fintech success (e.g. Solikahan & Mohammad, 2019; Mohammad et al., 2018; Zehir et al., 2015; Hughes & Morgan, 2007; Ireland & Webb, 2007; Wiklund & Shepered, 2005; Ireland et al., 2005; Lumpkin & Dess, 2001). According to Bucktowar et al. (2015), entrepreneurial approach is associated with both radical and gradual innovation. According to the research of Fadda (2018), the three characteristics of entrepreneurial orientation that highly influence developing innovation are innovativeness, proactiveness and risk-taking. Entrepreneurial activity greatly promotes the innovative behavior. Because of its worth and inimitability properties, EO can be regarded as a valuable resource for product creation (Tang et al., 2015). According to Khaleel and colleagues (2017), financial institutions with an entrepreneurial mentality do better in the Fin-tech sector.

H2: Fintech mediates the relationship between entrepreneurial orientation and firm performance in banking industry of Pakistan.

Study Model



Methodology

This research has used positivist research philosophy. This research is quantitative in nature and research design is cross sectional. The primary data was collected using survey instrument. The instrument was adopted and modified from Entrepreneurial orientation (EO) Wang and Juan, (2016), Fin-Tech Chang et al., (2016), Firm Performance Hornsby et al. (2002) and Yılmaz et al. (2005). The survey instrument was created on 5 point likert scale. The reliability of scale is checked through Cronbach's alpha score. The descriptive statistics is performed using SPSS software. While performing descriptive statistics mean and std. deviation scale were also examined. Furthermore, correlation analysis is used to estimate the strength and weakness of association among variable. In addition, structural equation modelling (SEM) were performed

to test the hypotheses of study. SEM is a robust statistical technique and significant for multivariate analysis.

Reliability

Table 1: R-Statistics Summary

Variable Name	Variable Status	No. of Items	R-Score
Entrepreneurial orientation (EO)	Independent variable	08	.81
Financial Technology (Fin-Tech)	Mediating Variable	08	.79
Firm Performance	Dependent Variable	06	.76

Nunnally (1978

Table 1, shows the summary of r-statistics. This research is including four variables to be studied, namely, 1) entrepreneurial orientation, 2) Fin-Tech, and 3) Firm performance. To estimate entrepreneurial orientation, eight survey questions were asked from respondents. In the same way, Fin-Tech estimated 08 survey questions, financial literacy with 4 items, and firm performance with 6 items. The r-statistics or consistency of scale for EO shows .81, Fin-Tech with .79, and FP with .76. Hence, according to Nunnally (1978) reliability criteria has fallen under the threshold of fair r-score.

Descriptive Statistics

Table 2: Mean and Std. Deviation

		EO	Fin-Tech	FP
N	Valid	368	368	368
	Missing	0	0	0
Mean		3.8484	4.0436	4.0511
Std. Deviation		.62383	.72941	.74155

This research calculated mean score of scales and examined the standard deviation around the mean. The above illustrated table showing mean score of Entrepreneurial orientation (EO) as 3.6, financial technology (Fin-tech) as 4.1and firm performance (FP) as 4.0. The std. deviation of same variables are .62383, .72941, and .74155 respectively. The results of mean score reported that all scales of variables have fallen under the agreed portion of interval scale.

Correlation Analysis

Table 3: Correlations

		EO	FinTech	FP
EO	Pearson Correlation	1	.399**	.468**
	Sig. (2-tailed)		.000	.000
	N		368	368
FinTech	Pearson Correlation		1	.412**
	Sig. (2-tailed)			.000
	N			368

FP	Pearson Correlation			1
	Sig. (2-tailed)			
	N			368
**. Correlation is significant at the 0.01 level (2-tailed).				

This research has four variables of study, Entrepreneurial orientation (EO) as independent variable, Financial Technology (Fin-Tech) as mediatorand Firm performance (FP) as dependent variable. The Pearson correlation is being assessed as an assumption to of structural equation modelling (SEM). In this connection, if there is a significant correlation among variables, so, the relationships will further be analyzed through with CB-SEM statistical technique. The correlation analysis gives us an understanding about the strength and weakness of a particular association among variables. In this connection, Table 3 showing a significant and positive correlation between entrepreneurial orientation and Fin-Tech. The statistics shows a correlation magnitude of .39 at 0.01 level of significance. Adding to that, EO has .49 positive association with financial literacy (FL) at 0.01 level of significance. Moreover, EO has a significant positive correlation with financial performance (FP), the statistics illustrated ($r=.46$, $p<.01$). In the same way, Fin-Tech and Financial performance (FP) has strong association ($r=41$, $p<.01$). Hence, results confirmed that all factors have significant positive correlation. Based on the Pearson's results the variables can further be assessed to check the structural relationship for hypotheses testing.

Structural Equation Modelling (SEM)

The covariance matrices of the variables are used in Structural Equation Modeling, a statistical technique for examining the relationships between them. Multivariate data analysis necessitates its use. This part employed sample data and a structural equation model to test the hypothesis after doing a validity and reliability analysis of the model adoption. There are two dimensions of data integrity that are examined during screening and validation. If one looks only at outliers and blank spots, it's evident that the information is being examined in great detail. This is due to two main reasons: Initially, each of the case's sub-fields is examined. Second, the interplay of values in a case is analyzed. Once each case has been examined, the next step is to see if the data as a whole meets the criteria for the tests that will be utilized with the data. Three qualities of data are regarded essential for SEM analysis: normalcy, linearity, and measurement. (Meyers et al. 2016) A normal distribution can be quickly identified using the descriptive statistics that were previously used. In addition, the mean and standard deviation of a normalized distribution are both equal to one. The skewness and kurtosis (or peakiness) of normal distributions are both zero. When skewness and kurtosis are measured, a value of 1.0 is deemed non-normal, according to George and Mallery (2003). The Skew and Kurtosis analysis also supports the claim that the data set is non-normal. In light of these results, it is reasonable to claim that while the data variables provide some difficulties for normalcy, they are also not excessively atypical for use in a CB-SEM test. Because of this, if two variables are plotted together, they will generate a straight line under the premise of linearity. Latent variable scatter correlations were generated to test for linearity. The measurement

model and structural model are two types of validation that should be studied and used to emphasize certain significant aspects to establish the existence of an accurate reflection and an investigated analysis of the phenomena.

Hypothesis 1 (H1): EO → FP

Figure 2: Structural Model Results (Hypothesis-1)

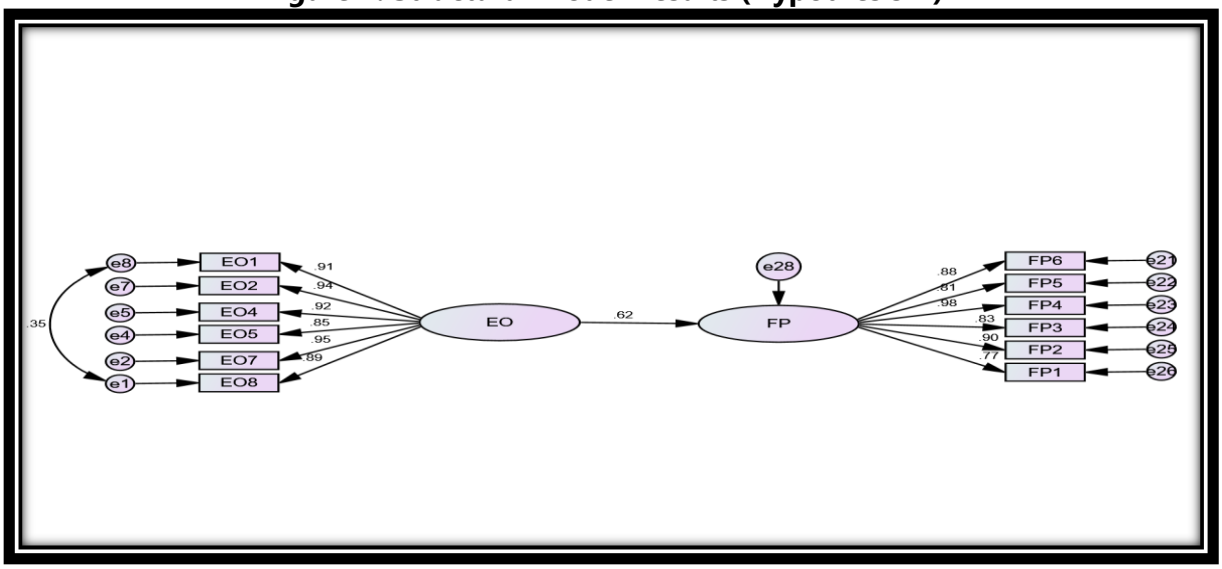


Table 4: Structural Results for Hypothesis-1 (H1)

Path Effect		
EO → FP **p<.001**		**.62,**
Entrepreneurial Orientation (EO)		
Survey questions ← Latent factor	Beta Coefficient (Standardized)	P-Value
EO1← EO	.91	***
EO2← EO	.94	***
EO4← EO	.92	***
EO5← EO	.85	***
EO7← EO	.95	***
EO8← EO	.89	***
Firm Performance (FP)		
Survey questions ← Latent factor	Beta Coefficient (Standardized)	P-Value
FP1← FP	.77	***
FP2← FP	.90	***
FP3← FP	.83	***
FP4← FP	.98	***
FP5← FP	.81	***

FP6← FP	.88	***
Model Fit Indices		
CMIN/DF= 1.58, PVALUE=.031, GFI=.976, AGFI=.961, TLI= .955, CFI= .964, PCFI= .981 RMSEA=.033		

In previous analysis, this research has confirmed the explanation power of each construct. After confirms each construct this research has further assessed the structural part of SEM with the model where observed suitable GoF. In this regard, Figure 3 and Table 4 reported the structural outcomes of SEM to assess hypothesis 1 (H1). The software results show two variables. Entrepreneurial orientation (EO), which on the left hand side of the model is taken as exogenous variable and on the other hand, firm performance as endogenous variable. The factor loadings for EO reported as EO1 .91, EO2 .94, EO4 .92, EO5 .85, EO7 .95, and EO8 .89. Moreover, loadings for firm performance are demonstrated as FP1 .77, FP2 .90, FP3 .83, FP4 .98, FP5 .81, and FP6 .88. The path effect of EO on FP reported that there is .62 or 62% positive impact on firm performance among commercial banks of Pakistan. The path coefficient is significant at 0.001 level of significance. Based on the above model results, hypothesis 1 (H1) has been accepted in this study. In addition, the model fit indices were also observed as CMIN/DF= 1.58, PVALUE=.031, GFI=.976, AGFI=.961, TLI= .955, CFI= .964, PCFI= .981 and RMSEA=.033.

Hypothesis 2 (H2): EO → Fin-Tech → FP

Figure 4: Mediation Model Results (Hypothesis-2)

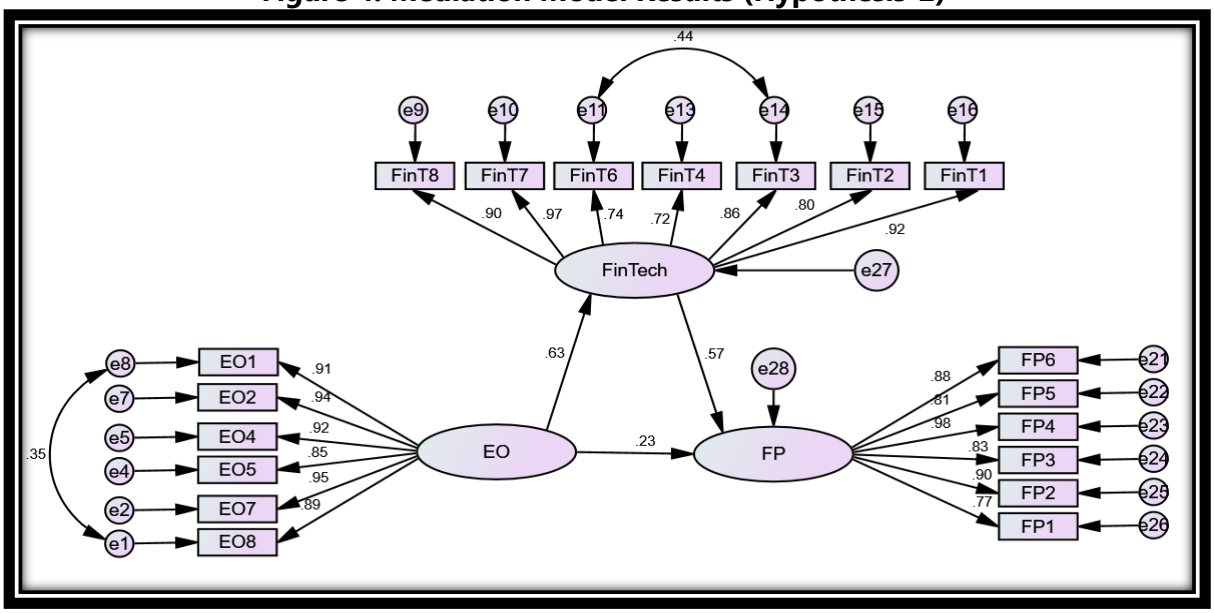


Table 5: Structural Results for Hypothesis-2 (H2)

Path Effect	
EO → FP	**.23, p<.204**

EO → Fin-Tech		**.63, p<.001**
Fin-Tech → FP		**.57, p<.001**
Entrepreneurial Orientation (EO)		
Survey questions ← Latent factor	Beta Coefficient (Standardized)	P-Value
EO1← EO	.91	***
EO2← EO	.94	***
EO4← EO	.92	***
EO5← EO	.85	***
EO7← EO	.95	***
EO8← EO	.89	***
Firm Performance (FP)		
Survey questions ← Latent factor	Beta Coefficient (Standardized)	P-Value
FP1← FP	.77	***
FP2← FP	.90	***
FP3← FP	.83	***
FP4← FP	.98	***
FP5← FP	.81	***
FP6← FP	.88	***
Financial Technology (Fin-Tech)		
Survey questions ← Latent factor	Beta Coefficient (Standardized)	P-Value
FinT1← FinTech	.92	***
FinT2← FinTech	.80	***
FinT3← FinTech	.86	***
FinT4← FinTech	.72	***
FinT6← FinTech	.74	***
FinT7← FinTech	.97	***
FinT8← FinTech	.90	***
Model Fit Indices		
CMIN/DF= 2.18, PVALUE=.041, GFI=.966, AGFI=.951, TLI= .944, CFI= .967, PCFI= .961 RMSEA=.052		

The above model outcome portrays the importance of such complex analysis where mediation is the point of analysis, in such cases SEM is a multivariate technique which helps contributing simultaneous results. In this regard, Figure 4 and Table 5 reported the mediation results of SEM to assess hypothesis 2 (H2). The software results show three variables. Entrepreneurial orientation (EO), which on the left hand side of the model is taken as exogenous variable and

on the other hand, firm performance as endogenous variable. In between EO and FP, Financial technology (Fin-Tech) is considered as mediating factor. The factor loadings for EO reported as EO1 .91, EO2 .94, EO4 .92, EO5 .85, EO7 .95, and EO8 .89. Moreover, loadings for firm performance are demonstrated as FP1 .77, FP2 .90, FP3 .83, FP4 .98, FP5 .81, and FP6 .88. The loadings for Fin-Tech are FinT1 .92, FinT2 .80, FinT3 .86, FinT4 .72, FinT6 .74, FinT7 .97, and FinT8 .90. The mediation mechanism of this study is being followed as per the suggested mediation rule of thumb of Andrew F. Hayes (2013) where mediation can be proved or disproved based on the specific effect having the outcome of nominal t-stat. The mediation can be proved if t-stat of specific effect is greater than 1.96 (t-stat >1.96). The specific effect were observed by using online tool, the results confirmed that the emphasizing effect of fin-tech as mediator is .46 having 2.34 t-stat. The outcome of t-stat is greater than suggested threshold, hence, Fin-tech is considered as significant mediator the relationship of EO and FP. The results explain that entrepreneurial orientation (EO) in the commercial banking industry of Pakistan causes indicatives to have significant involvement of financial technology, and, certain input of financial technology causes a better innovative firm performance of these banks in Pakistan. Hence, the acceptance of Fin-Tech as mediator confirms the hypothesis 2 (H2), that, Fin-Tech mediates the relationship between EO and firm performance commercial banking industry of Pakistan.

Conclusion

This study included an outline of the investigation, as well as a list of its goals and research questions. Entrepreneurial orientation (EO) and company performance are examined in the context of Fin-Tech (Fin-Tech) as a mediating factorin the commercial banking sector of Pakistan. Before, it wasn't evident how the EO of the banking industry affected the FP, therefore research included Fin-Tech as mediating element in between EO and FP. It is clear from the empirical evidence that Fin-Tech has a significant influence on the EO and firm performance. The findings suggest that fin-tech's rational and development processes have a good impact on firm performance. Previous research in other nations have yielded results that are very different from this one. Change in Pakistan's banking industry from conventional methods to more progressive ones has made it possible to foresee this discrepancy. OE and firm performance appear to be linked in the same way as in earlier studies. Fin-Tech capabilities and innovation performance have never been investigated for their mediation function in the relationship between OE and firm performance. Fin-Tech appears to mediate the link between EO and business performance, according to the empirical evidence. It is clear that the findings of this study will have significant ramifications for Pakistan's policymakers and bank executives. Fin-Tech, creative performance, corporate performance, improved decision-making processes, and adaptation to a fast changing technological work environment can all be enhanced by leveraging the firm's performance.

5.4 Recommendations

This part contains fundamental recommendations derived from the results reached in the previous chapter's study findings. The recommendations are divided into two categories: entrepreneurial and policy. It is intended that this advice will make a significant contribution

to enlightening important actors and stakeholders in Pakistan's commercial banking industry, as well as policymakers and government orders in developing Asia and emerging markets. These ideas are intended to stimulate the participants' interest and, as a result, make them appreciate the vital role of EO in the commercial banking industry's performance.

5.5.1 Entrepreneurial Recommendation

Because this research is primarily focused on EO and firm performance in Pakistan's commercial banking industry, the private sector must play a crucial and leading role in the development and molding of EO characteristics in Pakistan. According to Osoro (2012), who cited Drucker, 1985, McCormic, and Maalu (2011), systematic innovation is a tool for entrepreneurs, and the process of innovation should be taught and learned in a pedagogic and didactic manner. As a result, Pakistan's private financial sector and profit-maximizing entities should establish and adequately fund academic and research chairs in Pakistani universities where EO and Innovation can be taught and learned, particularly in light of the findings of this research project, which show a positive relationship between EO and firm performance, financial technology mediation. The implication of this study is that entrepreneurial attitude is important for managers to think creatively. In this way, a firm can improve its level of performance by providing more convenient transactional services to its clients through financial technological services.

5.5.2 Policy Recommendation

To enhance Pakistan's commercial banking business, the federal and local governments' efforts in entrepreneurship training development should be pushed up and rejuvenated. The banking sector of the economy plays a critical role in ensuring the financial stability of a country's economy. In a developing country like Pakistan, the government must take steps to train managers on how to use Fin-Tech to improve banking. More bank usage in an economy tends to create a smooth cash flow. As a result, it would assist the government in establishing a better circular flow of cash throughout the country.

5.6 Area of Further Research & Limitations

This study used five point likert scale to estimate entrepreneurial orientation (EO), Financial Technology (Fin-Tech), and Firm performance (FP) and only studied banking sector of Pakistan. Future research can be performed on same model but choosing other financial sectors such as stock markets, insurance companies etc. Furthermore, it was discovered that while entrepreneurship behaviour may be an inherent feature, it may also be acquired through formal education and experience, according to entrepreneurship academics. As a result, in Pakistan, the function of education in entrepreneurship orientation development must be addressed. In Pakistan, where entrepreneurship training and research has been going on for the past two decades or more, this is a useful reference point. A more pressing concern is how EO may affect non-behavioral indicators of company performance such as ROA, ROE, and ROS etc.

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