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STRENGTHENING SMES: THE INFLUENCE OF ENTREPRENEURIAL DIMENSIONS AND NATIONAL INCUBATION SERVICES

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ABSTRACT

The globalization and innovation have significantly altered the dynamics of modern businesses. As a result, it has become vital for the organizations to establish strategies that promote innovation in ideas, products and processes while efficiently managing resources to boost overall performance. While numerous studies have examined direct relationships amid Entrepreneurial Self-Efficacy (ESE), Entrepreneurial Experience (E-Exp), Entrepreneurial Education (E-Edu), Entrepreneurial Orientation (EO) and firm performance, limited attention is given to their indirect impact through Entrepreneurial Intention (EI). This research addresses this gap by exploring how ESE, E-Exp, E-Edu, and EO influence firm performance through EI, particularly in SMEs within emerging economies. The study uses quantitative, causal and survey-based approach. Data were collected via self-administered questionnaires from 420 participants, including SME owners, directors, senior managers, middle managers, and policymakers. The analysis was conducted by using Structural Equation Modeling technique through statistical software SPSS and AMOS software. The results provide significant information in reaching desired conclusion.

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INTRODUCTION

SMEs play vital role in global business structures, significantly contributing to GDP and enhancing living standards in developing nations by generating employment opportunities, reducing poverty and driving economic growth (Minai, Raza, Hashim, N. Zain & Tariq, 2018; Ebrahimi, 2018; Guerra & Camargo, 2024). SME development is a primary focus for governments worldwide, especially in less developed or developing countries (Minai et al., 2018), as SMEs are seen as pillars of economic growth and productivity through their diverse economic activities (Subhan, Mahmood & Sattar,

2014). Interaction in IGA is the relationship entailed with extent of advertiser/player interactivity within the video game (Vashisht & Chauhan, 2017). Literature has suggested that advertisements are more persuasive with an increased level of user involvement and emotional attachment (Liu & Shrum, 2002). Therefore, interactivity in the context of digital games promotes a sense of presence and transportation (being deeply immersed in the game world), which increases receptivity (Green & Brock, 2000). Drawing on transportation theory, we posit that consumers who are immersive engaged in narrative experience will form a more positive attitude toward the embedded content (Laer et al, 2014), given that modern video games provide high levels of the narrative complexity and user control.

The development of SMEs is vital for advancing country financial growth, that is why governments prioritize their improvement (Khalique, Isa & Nassir, 2011; Lelo & Israel, 2024). Numerous studies have explored the factors influencing the success and failure of SMEs (Islam et al., 2011; Warren & Hutchinson, 2000). Ahmed et al. (2024) highlight that SME growth significantly supports both social and economic progress, making them fundamental to national prosperity and productivity (Xu & Hu, 2024). Research also shows that SME failures provide valuable insights for new ventures by highlighting common challenges faced by entrepreneurs. In Pakistan, SMEs play a vital role in financial development (Khalique et al., 2011) but struggle with low success rates and high failure rates (Machirori & Fatoki, 2013). Developing nations experience more SME failures compared to developed countries (Hyder & Lussier, 2016). Key challenges include political instability, energy crises (Khalique et al., 2011), and lack of entrepreneurial skills, education, and innovation (Ullah et al., 2020). Moreover, the inadequate training and basic education before starting a business remain significant barriers to SME success in Pakistan (Ullah et al.,2020) Hambrick and Mason's (1984) Upper Echelons Theory emphasizes that leader background and experiences shape organizational decisions and performance.

This underlines the crucial influence of senior executives in steering outcomes (Hambrick, 2007). Similarly, Barney's (1991) Resource-Based View (RBV) identifies resources such as assets, skills, and knowledge as vital for the competitive advantage. Grant (1991) expands this by categorizing resources into human, physical, technological, and financial domains. For sustainable advantage, resources must be valuable, rare, and difficult to replicate (Barney, 1991; Wernerfelt, 1984). This study integrates RBV to examine how resources like the entrepreneurial self-efficacy, experience, education, orientation, and intention impacts the performance level of firm. National incubation services enhance this by providing funding, support, as well as an entrepreneurial environment (Dettwiller et al., 2006). Firms must dynamically adapt resources to seize opportunities, showcasing innovative management (Jantunen et al., 2005). Thus, the entrepreneurial intention aids resource reconfiguration, though mediating mechanisms need further study (Griffith et al., 2006; Day & Reynolds, 2006). This research aims to bridge gap by employing RBV and dynamic capabilities approach to analyze that how the entrepreneurial resources (ESE, E-Exp, E-Edu, EO) impact firm performance through entrepreneurial intention and how national incubation services moderate these diverse relationships.

LITERATURE REVIEW

Entrepreneurial Self-Efficacy

ESE has become under massive consideration (Kazeem & Asimiran, 2016). Krueger and Bazeal (1994) confirmed that ESE is technique correlated to competence and personal control." In general, ESE is demonstrated as psychological power of a person's faith that they can positively perform the tasks and roles of an entrepreneur (Boyd & Vozikis, 1994). People with high ESE have chances of success in their entrepreneurial endeavors than low ESE (Kear, 2000; Pajares, 2002). Also, a person with higher entrepreneurial self-efficacy ratio has chance of struggle, resilience, and perseverance (Kear, 2000; Pajares, 2002).

Entrepreneurial Experience

Whether successful or not, spending time with entrepreneurs allows for mastering skills (Minniti & Bygrave, 2001) and contacting positive role models in the person of entrepreneurs and owners (Scherer et al., 2005). For those who want to pursue new endeavors, both skills and experience positively impact the plans and intentions. The risk-taking element of entrepreneurial orientation displays readiness of company to bind wealth for records of ventures with risks of disappointment (Lumpkin & Dess, 1996). The SMEs typically face challenges such as limited access to finance, markets, technology, and expertise. The direct experience enhances students' knowledge of product growth, market penetration, and new venture creation and management skills (Scott & Twomey, 1988; Zhao et al., 2005).

Entrepreneurial Education

In recent decades entrepreneurship education has gotten the attention of scholars as a research area (Garcia et al., 2017; Henry & McGowan, 2016). In whole world, the entrepreneurships are comprehensive and cover the study course's objectives (Lewis, 2018). Due to its wide importance and global business requirements, entrepreneurship as a course has become a major part of business and economics disciplines. Normally, big companies stay away from risk-taking. Small companies have pliability in risk-taking and swift reaction to outer situation, consequently guaranteeing their continuity and shining their achievements (Farsi et al., 2013; Lonial & Carter, 2015). Therefore, the entrepreneurship also plays an important role in non-business disciplines, and many economists say it benefits economic growth like raised employment, certain human development index got better (Celuch et al., 2017).

Entrepreneurial Orientation

Entrepreneurial orientation is an establishing marketing tactic that a business takes on and which allows it to recognize and utilize developing business chances for company (Lumpkin & Dess, 1996). Miller (1983) has pointed out three elements of EO, innovativeness, risk-taking, and pro-activeness. In comparison, keeping away from business-related risk effects in a wait of presenting new goods wastage of new chances and, inversely, actions to change market continuously, making company achievements weaker (Hughes & Morgan, 2007). In innovation, a firm goes over the inventive procedures and actions of introducing new goods and developing new mechanisms through study, growth, and technological leadership (Lumpkin & Dess, 2001). Organizations that prioritize risk-taking, proactiveness, and innovation are ready to adapt to external environments and seize market opportunities effectively.

Entrepreneurial intention

Most of the previously conducted investigations have explained the "entrepreneurial intention" as an individual's psychological state that prompts the wish to start a new innovative business or another esteemed expansion of recent business (Guerrero et al., 2008). Peng et al. (2012) likewise characterized "EI" as psychological or intellectual direction that triggers aspiration, hopefulness, and positivity, impacting their business choice. According to Liñán and Fayolle (2015), exploration of EI originates from two disciplines: social psychology & entrepreneurship. Social psychology, as highlighted by Bandura (1997), emphasizes how perspectives shape outcomes. On the other hand, entrepreneurship-focused research (Bird, 1988; Shapero & Sokol, 1982) integrates psychological theories into business practices. The studies like those by Shaver and Scott (1991) and Kolvereid (1996) recommend that the entrepreneurial intentions are pivotal in driving the diverse successful entrepreneurial actions.

Firm Performance

A firm achieves its targeted goal by using its competitive advantage in the market. Small-medium enterprises became successful in developing countries and now become vital part of their economy, leading to research from 360 degrees. The definition of firm performance states that a tool is used to measure an organizational success rate that delivers value to direct and indirect investors (Antony & Bhattachatyya, 2010). Thus, research has explained that national incubation services have shown a significant role in progress and publicity of vital technology businesses. Some organizations do not have the essential skills for continuity of business. The researcher analyzed that the national incubation services provide training and coaching facilities are significant facilities. The focus is on understanding how entrepreneurial traits and governmental or institutional services (incubation programs) impact SMEs' development. Moullin (2007) explains that organizational performance is tool recycled by business leaders to accomplish the efficiency of firm and provide worth to inside and outside clients.

National Incubation Service

National incubation services history can be mapped out in the middle of the previous century when the great joblessness percentage was there due to the great recession of UK and USA, which led to the major downfall of industrial sectors. They felt that there should be new strategies to generate profits level of firms, and entrepreneurial actions should be raised in the economies. Still, more than 7000 incubation plans are working worldwide (Monkman, 2010). The incubation system provides prospect for investment to commercial mechanization and enhance public employment chances (Mubaraki et., 2011). The young firms to perform and grow to start with help of new technological inventiveness and adding a business range of services (Campbell, 1989). That's why 2nd generation of incubators began supplying knowledge from facilities for the long physical organization (Jamil et al., 2015). Training is crucial for constant learning, skills perfection procedures, and best successes occur as a result.

Hypothesis Development

Entrepreneurial Self-Efficacy & Firm Performance

Chen and He (2011) reflect entrepreneurial self-efficacy as important parameter of development and venture creation. Entrepreneurial self-efficacy raises entrepreneurial teaching for impending entrepreneurs (Kazeem & Asimiran, 2016), and students are potential entrepreneurs. They need to approach skills and training to maintain business (Hamidi et al., 2008). Bandura (1997) recognized four classifications of involvement to improve entrepreneurial self-efficacy: verbal effect, vicarious experience, authority experience, and mental excitement. It is essentially a dominant experience that can be construed from person's previous exhibition. The writing shows a positive link between ESE with pioneering direction and learning, innovative aims and perspectives, execution, nature of work, adventure creation, vocation advancement, and different components (Erlina & Muda, 2018). It means if an entrepreneur possesses a high level of entrepreneurial self-efficacy, he can achieve more and increase firm performance. Thus, from this above detailed discussion, the following below hypothesis is proposed:

H1. Entrepreneurial self-efficacy positively relates to firm performance

Entrepreneurial Experience & Firm Performance

The past research uncovered that "experienced entrepreneurs may need minimal iterations of sense-making to resolve uncertainty and can rely on well-established scripts to conceptualize an opportunity fully." (Deakins & Freel, 1998). Unveils that past entrepreneurial experience acclaims implementing information-based learning in entrepreneurial process prompts the capacity to gain learning from the previous mishaps to stay away from them in future events. Past research concurs that past experience and noteworthy individual judgment (Cope, 2003) permit business holders to distinguish and take advantage of new opportunities and prospects (Ucbasaran et al., 2009). Still, learning isn't programmed in entrepreneurship (Sexton et al., 1997). As a general rule, learning from entrepreneurial experiences might be difficult due to task heterogeneity & mental predispositions that could restrain learning (Cassar, 2014). Hmieleski and Baron (2009) observed that previously attained experience in a business startup improves level of confidence in the entrepreneurs in their capacities to begin another endeavor effectively & help them develop it powerfully. The common view in writing builds up positive relationship amid previous experience & company development (Westhead et al., 2005).

H2. Entrepreneurial experience positively relates to firm performance

Entrepreneurial Education & Firm Performance

The degree of education learnt to education programs will usually build one's degree of conviction of having the option to take necessary steps to seek after business proprietorship (Basu & Virick, 2008). Impression of formal learning (Zhao et al., 2005) and functional information in business (Park, 2005) have been displayed to build one's self-adequacy for business possession. Past research put great emphasis on cognitive (prototype or script) for chance moved by experienced business holders were really more extravagant and clearer (more engaged) than those of fledgling business visionaries who search less widely for information in advanced unfamiliar extents (Baron & Ensley, 2006; Cooper et al., 1995). The newer information an individual has, more self-viable individual becomes about business possession and its execution (Chowdhury & Endres, 2005; Park, 2005). So, it is hypothesized that:

H3. Entrepreneurial education positively relates to firm performance

Entrepreneurial Orientation & Firm Performance

EO has been proposed as a significant property for an organization in further development and growth (Covin & Slevin, 1989; Lumpkin & Dess, 1996; Dess et al., 1997; Lee & Peterson, 2000). EO alludes to certain Management strategies that are connected with risk-taking, innovativeness, and proactiveness (Covin & Slevin, 1989; Lumpkin & Dess, 1996). The review exposed entrepreneurial orientation (risk-taking, innovativeness & proactiveness) impacts the performance (Miller, 1983; Rauch et al., 2009). According to result of (Deepa et al., 2016; Ajayi, 2016), organizations that are entrepreneurial oriented have better growth and performance as compared to the firms that are non-entrepreneurial oriented. The studies prove powerless connection amid EO and FP (Lumpkin & Dess, 2001), explicitly risk-taking and innovation (Kraus et al., 2012). Green et al. (2008) didn't track down a positive connection amid EO and FP. Frank et al. (2010) confirmed that EO has the negative link with FP.

H4. Entrepreneurial orientation positively relates to firm performance

Entrepreneurial Self-Efficacy & Entrepreneurial Intention

Bandura et al. (1980) believe action with intentions works at the individual level to strengthen the beliefs for achievement of goals. Chen et al. (1998) analyzed the concern data of students and its significant bond involving entrepreneurial self-efficacy and EI. De Noble et al. (1999) present progressive effects existing by examining a student sample. Jung et al. (2001) raises the importance of student associations in USA. Segal et al. (2005) study participate in student data collection and its results from USA. Nwankwo et al. (2013) work involves female student features significantly impacting entrepreneurial intention. Previous studies indicate that high self-efficacy increases entrepreneurial intention (Fietze & Boyd, 2017). So, research shows, there is positive association between ESE and EI.

H5. Entrepreneurial self-efficacy positively relates to entrepreneurial intention

Entrepreneurial Experience & Entrepreneurial Intention

Individual-level entrepreneurial experience influences a different perspective of behavior. While scholars also encourage entrepreneurs to manage the risk related to entrepreneurship (Kautonen et al., 2011). On other side, experience can reduce this risk, reflect that skilled people who reached the age of 50 preferred entrepreneurship and tried to provide favor to other entrepreneurs to establish a new business. Young and older adults both focus on entrepreneurship, but dismay is not exact; near maturity, entrepreneurs like to hire employees but less engage, mature entrepreneurs. Entrepreneurial intention cannot base on work skill (Kautonen et al., 2011). When entrepreneur gets to experience hitches, their existence and intentions to entrepreneurship are better with period (Baron, 2009).

H6. Entrepreneurial experience positively relates to entrepreneurial intention

Entrepreneurial Education & Entrepreneurial Intention

Education and various training concerns with entrepreneurship improve the skills and knowledge individually with age. Agreeing to Ediagbonya (2013), an entrepreneurship package consists of high-level preparation support to develop a better entrepreneurship environment associated with

new projects in a market. Students' entrepreneurial education is essential to understand unique business projects and their challenges. Heinonen (2007), objectives of entrepreneurship learning have three types. First of all, to fulfill the purpose of getting the knowledge of entrepreneurship, secondly must perform like an entrepreneur, and the third objective is becoming an entrepreneur. Fayolle and Gailly (2008) recommend three types. The primary category is learning to lead vision of entrepreneurship to become an entrepreneur. The last category a link with research work related to entrepreneurial knowledge and skills. Dohse and Walter (2010) give value to entrepreneurial course that leads to self-employed. Entrepreneurial course students generate the new and unique concepts of business.

H7. Entrepreneurial education positively relates to entrepreneurial intention

Entrepreneurial Orientation

Rauch et. (2009) defined EO as the strategic decision-making processes that enable organizations to formulate and gadget entrepreneurial actions. Literature-related entrepreneurship participates in entrepreneurial orientation by improving achievements, increasing profitability, innovation, and organization growth (Rahman et al., 2016). Lumpkin and Dess (1996) consider these categories as risk-taking, autonomy, proactive and competitive violence. Still, serious forcefulness indicates that the company's solid exertion is more fruitful than its opponents. Imaginativeness alludes to the organizations' propensity to be inventive through new items and administration advancement as pioneers in innovation over innovative work. (Rahman et al., 2016). Mainly, people with health care professionals are creative, advanced people interested in self-employment & self-achievement work with autonomy to fulfill their goals. Multiple types of research present that entrepreneur at individual level focus entrepreneurial orientation; students are interested in starting new business setups (Rahman et al., 2016).

H8. Entrepreneurial orientation positively relates to entrepreneurial intention

Entrepreneurial Intention & SMEs Performance

Entrepreneurial Intent (EI) plays a vital role in establishment and success of businesses, regardless of their size (Vuuren & Nieman, 1999). Intentions toward a particular behavior can serve as a strong predictor of that behavior. This study examines EI through two key models: Ajzen's (1991) Theory of Planned Behavior (TPB) and Shapero's (2000) Entrepreneurial Event Model (SEE). TPB explains how individual attitudes, subjective norms, and perceived behavioral control influence intention, while the SEE focuses on understanding entrepreneurial behavior. The following type is to adopt the perfect entrepreneur's skills, techniques, and knowledge. Both models share a fundamental principle: the stronger the intention toward a specific behavior, such as pursuing an entrepreneurial career, the greater the likelihood of successfully engaging in that behavior (Farrington, Venter & Neethling, 2012).

H9. Entrepreneurial intention positively relates to SME Performance

National Incubation Services Moderated Between EE & FP

Concerning the predecessors of perceived feasibility in entrepreneurship, business incubators and entrepreneurship education enhance entrepreneurs' self-efficacy (Martínez et al., 2017). Stephens and Onofrei (2012) propose that business incubators, with entrepreneurship education, increase the

professionalism of business visionaries, improve skills required for business management & increase ESE. (Zhao et al., 2005) gave persuading proof that people who decide to become entrepreneurs have high entrepreneurial self-efficacy, their own conviction that they are talented, competent, and can prevail in this role.
H10. National incubation services moderated between EE and FP

National Incubation Services Moderated Between EEx & FP

Many academics have limited recent experience working in commercial enterprises, making them unfamiliar with business management and transaction-related activities such as purchasing and selling. As a result, their exposure to the business environment is often insufficient. In pre-incubator academic programs, aspiring entrepreneurs acquire practical business experience over a learning-by-doing approach. These programs legally encompass various business transactions, providing a structured framework for entrepreneurial activities. In this connection, by managing a profit center within a private limited organization, participants gain industry-specific experience, interact with the clients, as well as conduct real-world market testing, thereby enhancing their entrepreneurial diverse competencies.
H11. National incubation services moderated between EEx and FP

National Incubation Services Moderated Between EEd & FP

National incubation services' internal networks are framed between new projects inside a similar incubator (Soetanto & Jack, 2013). The co-production theory represents that communication and joint endeavors between new ventures in similar incubator determine incubated outputs (e.g., ideas, sharing information and resources), which further promotes new business by creating values (Rice et al., 2002). In incubation network, the new business seeks resource combinations by framing both independent and associated connections (Ferri, Orallo, & Modroiu, 2009). Besides, co-production behavior urges new pursuits to incorporate proficient knowledge in the industry and continually produce radical ideas, thoughts, positively influencing business's growth and innovation. Anyhow, on the grounds that new ventures' notorieties have not yet been set up, they generally face a high level of certainty hardships in acquiring resources. Thusly, NISs' relationship networks can fortify shared trust and become significant channel of resources for new ventures to beat these imperatives (Branstad & Saetre, 2016).
H12. National incubation services moderated between EEd & FP

National Incubation Services Moderated Between EO & FP

The incubator network is significant for finding new opportunities, getting resources, and gaining legitimacy. Individuals in those networks start entrepreneurial activities in established networks (Sagath, Burg, Cornelissen, & Giannopapa, 2019), which further influences their inclination to partake in risky activities. In interim, entrepreneurial orientation develops new ventures versatility and capacity to enter environment, assists them with recognizing huge business opportunities, and enhances the formation of their core competitive advantages; eventually, that will positively influence development (Messersmith & Wales, 2013). Information and resources are fundamental components for survival and growth of new ventures. This study thinks that BIs positively influence

entrepreneurial orientation, enhancing performance. This way, both networks affect performance via entrepreneurial orientation.
H13. National incubation services moderated between EO & FP

Mediating Role of EI

As discussed in literature, that ESE, E-Exp, E-Edu, and EO positively linked to EI and EI is positively related to FP. Thus, hypothesized as:
H14: EI mediates the relationship between ESE and firm performance.
H15: EI mediates the relationship between E-Exp and firm performance.
H16: EI mediates the relationship between E-Edu and firm performance.
H17: EI mediates the relationship between EO and the firm performance.

RESULTS & DISCUSSION

This analysis is performed to determine the relationship between variables. Independent variables (ESE, E-Exp, E-Edu, EO, EI, and NIS) are positively correlated with the dependent variable i., FP with the values of the correlation coefficient is $r = .551^{**}, .315^{**}, .516^{**}, .322^{**}, .384^{**}$, and $.502^{**}$, $p<0.01$ and $p<0.05$.

Tabel 1 Correlation Analysis

SN	Variables.	1.	2.	3.	4.	5.	6.	7.
1.	ESE	1						
2.	E-Exp	.453**	1					
3.	E-Edu	.231**	.313**	1				
4.	EO	.443**	.390**	.452**	1			
5.	EI	.325**	.481**	.375**	.445**	1		
6.	NIS	.341**	.451**	.470**	.541**	.411**	1	
7.	FP	.551**	.315**	.516**	.322**	.384**	.502**	1

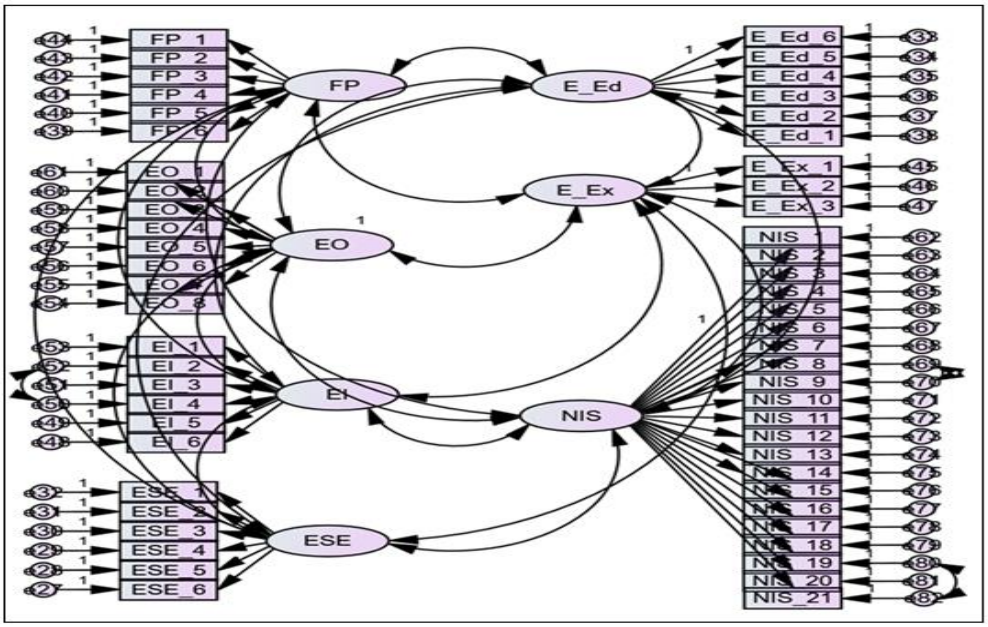
CFA Measurement Model

The M model evaluates factor structures and discriminant validity by assessing relationships amid latent constructs, which are measured using observed variables. In study, its fit indices are as follows: $X^2/d.f. = 1.132$, GFI = 0.942, AGFI = 0.955, RMSEA =0.031, RMR =0.050, CFI = 0.941, and PCLOSE > 0.837, indicating a strong model fit.

Table 2. Reg. Weights

			Estimate	S.E.	C.R.	P	Hypothesis	
ESE	<---	FP	.368	.036	3.527	***	H1	Accepted
E-Exp	<---	FP	.358	.181	5.569	***	H2	Accepted
E-Edu	<---	FP	.451	.105	3.200	.001	H3	Accepted
EO	<---	FP	.284	.018	3.576	***	H4	Accepted
ESE	<---	FP	.113	.053	.259	.006	H5	Accepted
E-Exp	<---	FP	.410	.004	3.527	***	H6	Accepted
E-Edu	<---	FP	.237	.109	5.569	***	H7	Accepted
EO	<---	FP	.201	.120	3.200	.003	H8	Accepted
EI	<---	FP	.304	.048	3.576	***	H9	Accepted

Figure 1 Direct Hypothesis Testing



Moderation 1: NIS moderated between ESE & FP

The graph illustrates the moderating effect of NIS on relationship between ESE and FP. All variables' unstandardized regression coefficients (B) were obtained through linear regression analysis in SPSS. The coefficient for ESE is B1 = 0.308 ($p < .001$), for NIS is B2 = 0.421 ($p < .001$), and for interaction amid ESE and NIS is B3 = 0.218 ($p < .001$). Above results indicates that NIS enhances positive relationship between ESE and FP.

Moderation 2: NIS moderated between E-Exp & FP

The graph illustrates moderating effect of NIS between E-Exp & FP. All variables' unstandardized regression coefficients (i.e., B) obtained through regression in SPSS. E-Exp coefficient is B1 = 0.308 ($p < .001$), NIS is B2 = 0.421 ($p < .001$) and the interaction of E-Exp and NIS unstandardized regression coefficients value is B3 = 0.218 ($p < .001$). The above results indicates that NIS strengthens the positive relationship between E-Exp and FP.

H11. NIS moderated between E-Exp and FP.

Moderation 3: NIS moderated between E-Edu & FP

The graph explains moderating effect of NIS between E-Edu and FP. All variables' unstandardized regression coefficients (i.e., B) get through linear regression in SPSS. The E-Edu unstandardized regression coefficient is B1 = 0.308 ($p < .001$), NIS is B2 = 0.421 ($p < .001$) and the interaction of E-Edu and NIS regression coefficients value is B3 = 0.218 ($p < .001$). Results show that NIS strengthens the positive relationship between E-Edu and FP.

H12. NIS moderated between E-Edu and FP.

NIS strengthens the positive relationship between E-Edu & FP

Moderation 4: NIS moderated between EO & FP

The graph explains the moderating effect of NIS between EO and FP. All variables' unstandardized regression coefficients (i.e., B) get over linear regression in SPSS. The EO unstandardized regression coefficient is B1 = 0.308 ($p < .001$), NIS is B2 = 0.421 ($p < .001$) and the interaction of EO and NIS regression coefficients value is B3 = 0.218 ($p < .001$). The results show that NIS strengthens positive relationship between EO and FP.

H13. NIS moderated between EO and FP

Mediation

This study employs bootstrapping for mediation analysis, a resampling technique that generates a sampling distribution to estimate standard errors and confidence intervals (Byrne, 2016; Cheung & Lau, 2008). In mediation analysis using bootstrapping, direct beta with mediation (Dβ with Med.), indirect beta (Iβ), and total effects of the hypothesized model are examined to determine the mediation type—whether full, partial, or none. The analysis is conducted using Bollen and Stine bootstrapping with 2,000 resamples and 95% bias-corrected confidence intervals (Byrne, 2016; MacKinnon, 2008).

Table 3 Mediation Analysis

Hypothesis	Direct Beta with Mediato	Indirect Beta	Mediation type observec
H14: ESE-EI-FP	β = .169, p = .001	β = .049, p = .001	Partial Mediation
H15: E-Exp-EI-FP	β = .169, p = .001	β = .049, p = .001	Partial Mediation
H16: E-Edu-EI-FP	β = .169, p = .001	β = .049, p = .001	Partial Mediation
H17: EO-EI-FP	β = .169, p = .001	β = .049, p = .001	Partial Mediation

CONCLUSION

This study investigates relationships of ESE, E-Exp, E-Edu, EO on firm performance via EI in SMEs of Pakistan. It also examines moderating role of NIS. The analysis and results support all hypothesis that shows if SMEs practice these variables in their operation, they can improve their performance. The deficit of these skills causes the failure of these enterprises. Due to a lack of competencies, SMEs cannot compete at national and international levels. SMEs have severe dares for their presence in the competitive situation. This study tries to overcome these problems in SMEs by studying different variables related to SMEs 'performance and developing conceptual model for Pakistani SMEs that will increase firm performance and reduce the failure ratio. While inclusive, study has limitations. Its findings may not apply universally due to focus on Pakistani SMEs. It overlooks other influential factors like leadership styles and market dynamics. The analysis is time-specific, limiting insights into evolving trends, and reliance on self-reported data may introduce bias. Future research could broaden scope, include diverse factors & adopt longitudinal approaches for holistic understanding of SME performance

REFERENCES

Ajayi, L. (2016). High school teachers' perspectives on the English language arts Common Core State Standards: An exploratory study. *Educational Research for Policy and practice*, 15(1), 1-25.

Al-Mubaraki, A. A. (2011). National and global challenges to higher education in Saudi Arabia: Current development and future strategies. In *Higher education in the Asia-Pacific* (pp. 413-430): Springer.

Bandura, A., Adams, N. E., Hardy, A. B., & Howells, G. N. (1980). Tests of the generality of self-efficacy theory. *Cognitive therapy and research,* 4(1), 39-66.

Baron, R. A. (2007). Behavioral and cognitive factors in entrepreneurship: Entrepreneurs as the active element in new venture creation. *Strategic entrepreneurship journal,* 1(1-2), 167-182.

Baron, R. A., & Ensley, M. D. (2006). Opportunity recognition as the detection of meaningful patterns: Evidence from comparisons of novice and experienced entrepreneurs. *Management science, 52*(9), 1331-1344.

Baron-Cohen, S., Scott, F. J., Allison, C., Williams, J., Bolton, P., Matthews, F. E., & Brayne, C. (2009). Prevalence of autism-spectrum conditions: UK school-based population study. *The British journal of psychiatry,* 194(6), 500-509.

Basu, A., & Virick, M. (2008). Assessing entrepreneurial intentions amid students: A comparative study. In *Venture Well. Proceedings of Open, Annual Conference* (79). National Collegiate Inventors & Innovators Alliance.

Byrne, R. M. (2016). The Counterfactual thought. *The Annual review of psychology,* 67(1), 135-157.

Cassar, G. (2014). Industry and startup experience on entrepreneur forecast performance in new firms. *Journal of business venturing,* 29(1), 137-151.

Celuch, K., Bourdeau, B., & Winkel, D. (2017). Entrepreneurial identity: The missing link for entrepreneurship education. *Journal of Entrepreneurship Education,* 20(2), 1-20.

Chell, E., Wicklander, D. E., Sturman, S. G., & Hoover, L. W. (2008). *The entrepreneurial personality: A social construction.* Routledge.

Chen, C. C., Greene, P. G., & Crick, A. (1998). Does the entrepreneurial self-efficacy distinguish entrepreneurs from managers?. *Journal of business venturing,* 13(4), 295-316.

Chen, Y., & He, C. (2011). Paid placement: Advertising and search on the internet. *The Economic Journal,* 121(556), F309-F328.

Cheung, G. W., & Lau, R. S. (2008). Testing mediation and suppression effects of latent variables: Bootstrapping with structural equation models. *Organizational research methods,* 11(2), 296-325.

Chowdhury, S., & Endres, M. (2005, January). Gender difference and formation of entrepreneurial self-efficacy. In *United States Association of Small Business. Annual Conference, Indian Wells, CA.*

Colombo, M. G., & Grilli, L. (2005). Founders' human capital and the growth of new technology-based firms: A competence-based view. *Research policy,* 34(6), 795-816.

Cope, J. (2005). Toward a dynamic learning perspective of entrepreneurship. *Entrepreneurship theory and practice,* 29(4), 373-397.

Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic management journal,* 10(1), 75-87.

Deepa, B., Abraham, E., Pothan, L. A., Cordeiro, N., Faria, M., & Thomas, S. (2016). Biodegradable nanocomposite films based on the sodium alginate and cellulose nanofibrils. *Materials,* 9(1), 50.

Dettwiller, A., Kaestli, J.-D., & Marguerat, D. (2006). théologie en construction, Genève, Labor et Fides, 2004, 493 pages (Le monde de la Bible 51), ISBN 2-8309-1146-6, 31€. Fruit d'un programme de recherche de troisième cycle mené à l'échelle des Facultés de Suisse romande, l'ouvrage rassemble dix-huit contributions. *Revue D*, *80*(3-4).

Dohse, D., & Walter, S. G. (2010). *The role of entrepreneurship education and regional context in forming entrepreneurial intentions*, 2010, 18.

Ebrahimi, P., Shafiee, B., Gholampour, A., & Yousefi, L. (2018). Impact of organizational innovation, learning orientation and entrepreneurship on SME performance: The moderating role of market turbulence and ICT. In *Competitiveness in emerging markets* (pp. 447-480): Springer.

Ediagbonya, K. (2013). Roles of entrepreneurship education in ensuring economic empowerment and development. *Journal of business administration and education*, *4*(1).

Farrington, S. M., Venter, D. J. L., & Neethling, A. (2012). Entrepreneurial attributes and intentions: perceptions of South African business science students. *Management Dynamics: Journal of the Southern African Institute for Management Scientists*, *21*(3), 17-32.

Farsi, J., Rezazadeh, A., & Najmabadi, A. (2013). Social capital and organizational innovation: The mediating effect of entrepreneurial orientation. *Journal of Community Positive Practices*, *13*(2).

Ferri, C., Hernández-Orallo, J., & Modroiu, R. (2009). An experimental comparison of performance measures for classification. *Pattern recognition letters*, *30*(1), 27-38.

Fox, G. A., Wilson, G. V., Simon, A., Langendoen, E. J., Akay, O., & Fuchs, J. W. (2007). Measuring streambank erosion due to ground water seepage: correlation to bank pore water pressure, precipitation and stream stage. *Earth Surface Processes and Landforms: The Journal of the British Geomorphological Research Group*, *32*(10), 1558-1573.

Frank, J. R., Snell, L. S., Cate, O. T., Holmboe, E. S., Carraccio, C., Swing, S. R., ... & Harris, K. A. (2010). Competency-based medical education: theory to practice. *Medical teacher*, *32*(8), 638-645.

Grant, R. M. (1991). The resource-based theory of competitive advantage: implications for strategy formulation. *California management review*, *33*(3), 114-135

Green, C. T., Fisher, L. H., & Bekins, B. A. (2008). Nitrogen fluxes through unsaturated zones in five agricultural settings across the United States. *Journal of Environmental Quality*, *37*(3), 1073-1085.

Griffith, R., Huergo, E., Mairesse, J., & Peters, B. (2006). Innovation and productivity across four European countries. *Oxford review of economic policy*, *22*(4), 483-498.

Guerra, R. M. D. A., & Camargo, M. E. (2024). Mediation of learning orientation on market orientation and business performance: evidence from Brazilian Small and Medium Enterprises (SMEs). *Benchmarking: An International Journal*, *31*(2), 590-610.

Guerrero, M., Rialp, J., & Urbano, D. (2008). The impact of desirability and feasibility on entrepreneurial intentions: A structural equation model. *International entrepreneurship and management journal*, *4*(1), 35-50.

Hambrick, D. C. (2007). Upper echelons theory: *Academy of Management Briarcliff Manor*, 32, 334-343.

Hamidi, D. Y., Wennberg, K., & Berglund, H. (2008). Creativity in entrepreneurship education. *Journal of small business and enterprise development*, *15*(2), 304-320.

Henry, C., Foss, L., & Ahl, H. (2016). Gender and entrepreneurship research: A review of methodological approaches. *International Small Business Journal*, *34*(3), 217-241.

Hughes, M., & Morgan, R. E. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth. *Industrial marketing management*, *36*(5), 651-661.

Hyder, S., & Lussier, R. N. (2016). Why businesses succeed or fail: a study on small businesses in Pakistan. *Journal of Entrepreneurship in Emerging Economies*.

Islam, M. A., Khan, M. A., Obaidullah, A. Z. M., & Alam, M. S. (2011). Effect of entrepreneur and firm characteristics on business success of small and medium enterprises (SMEs) in Bangladesh. *International Journal of Business and Management*, *6*(3), 289.

Jamil, F., Ismail, K., & Mahmood, N. (2015). A review of commercialization tools: University incubators and technology parks. *International Journal of Economics and Financial Issues*, *5*(1), 223-228.

Jantunen, A., Puumalainen, K., Saarenketo, S., & Kyläheiko, K. (2005). Entrepreneurial orientation, dynamic capabilities and international performance. *Journal of International Entrepreneurship*, *3*(3), 223-243.

Kautonen, T., Tornikoski, E. T., & Kibler, E. (2011). Entrepreneurial intentions in the third age: the impact of perceived age norms. *Small business economics*, *37*(2), 219-234.

Kautonen, T., Van Gelderen, M., & Tornikoski, E. T. (2013). Predicting entrepreneurial behaviour: a test of the theory of planned behaviour. *Applied economics*, *45*(6), 697 707.

Kazeem, A. A., & Asimiran, S. (2016). Factors affecting entrepreneurial self-efficacy of engineering students. *International Journal of Academic Research in Business and Social Sciences*, *6*(11), 519-534.

Kear, D. J., Coffman, G. A., McKenna, M. C., & Ambrosio, A. L. (2000). Measuring attitude toward writing: A new tool for teachers. *The Reading Teacher*, *54*(1), 10-23.

Keh, H. T., Nguyen, T. T. M., & Ng, H. P. (2007). The effects of entrepreneurial orientation and marketing information on the performance of SMEs. *Journal of business venturing*, *22*(4), 592-611.

Khalique, M., Isa, A. M., & Nassir, J. A. (2011). Challenges for Pakistani SMEs in a knowledge-based economy. *Indus Journal of Management & Social Sciences*, *5*(2).

Kraus, M. W., Piff, P. K., Mendoza-Denton, R., Rheinschmidt, M. L., & Keltner, D. (2012). Social class, solipsism, and contextualism: how the rich are different from the poor. *Psychological review*, *119*(3), 546.

Krueger Jr, N. F., & Brazeal, D. V. (1994). Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship theory and practice*, *18*(3), 91-104.

Krueger, N. F., & Carsrud, A. L. (1993). Entrepreneurial intentions: applying the theory of planned behaviour. Entrepreneurship and Regional Development, 5(4), 315–330.

Lee, S. M., & Peterson, S. J. (2000). Culture, entrepreneurial orientation, and global competitiveness. *Journal of world business*, *35*(4), 401-416.

Lelo, J. M., & Israel, B. (2024). Supply Chain Innovative Practices and Customer Satisfaction: Insights from Manufacturing SMEs. *Management Dynamics in the Knowledge Economy*, *12*(1), 54-69.

Levie, J. (1999). *Entrepreneurship education in higher education in England: A survey*: Department for Education and Employment London.

Liñán, F., & Fayolle, A. (2015). A systematic literature review on entrepreneurial intentions: citation, thematic analyses, and research agenda. *International entrepreneurship and management journal*, *11*(4), 907-933.

Lonial, S. C., & Carter, R. E. (2015). The impact of organizational orientations on medium and small firm performance: A resource-based perspective. *Journal of Small Business Management*, *53*(1), 94-113.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *Academy of management review*, *21*(1), 135-172.

Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of business venturing*, *16*(5), 429-451.

Machirori, T., & Fatoki, O. (2013). The impact of firm and entrepreneur's characteristics on networking by SMEs in South Africa. *Journal of Economics*, *4*(2), 113-120.

MacKinnon, D. P., & Luecken, L. J. (2008). How and for whom? Mediation and moderation in health psychology. *Health psychology*, *27*(2S), S99.

Messersmith, J. G., & Wales, W. J. (2013). Entrepreneurial orientation and performance in young firms: The role of human resource management. *International Small Business Journal*, *31*(2), 115-136.

Minai, M. S., Raza, S., bin Hashim, N. A., Zain, A. Y. M., & Tariq, T. A. (2018). Linking entrepreneurial education with firm performance through entrepreneurial competencies: A Proposed Conceptual framework. *Journal of Entrepreneurship Education*, *21*(4), 1-9.

Minniti, M., & Bygrave, W. (2001). A dynamic model of entrepreneurial learning. *Entrepreneurship theory and practice*, *25*(3), 5-16.

Monkman, S., & Shao, Y. (2010). Carbonation curing of slag-cement concrete for binding CO2 and improving performance. *Journal of Materials in Civil Engineering*, *22*(4), 296.

Moullin, M. (2007). Performance measurement definitions: Linking performance measurement and organisational excellence. *International journal of health care quality assurance*, *20*(3), 181-183.

Muda, I., Erlina, I. Y., & AA, N. (2018). Performance audit and balanced scorecard perspective. *International Journal of Civil Engineering and Technology*, *9*(5), 1321

Nwankwo, S., & Gbadamosi, A. (2013). Faith and entrepreneurship among the British African-Caribbean: Intersections between religious and entrepreneurial values. *Journal of Small Business and Enterprise Development*.

Rahman, M., Jashimuddin, M., Islam, K., & Nath, T. (2016). Land use change and forest fragmentation analysis: A geoinformatics approach on Chunati Wildlife Sanctuary, Bangladesh. *Rahman MF, Jashimuddin M, Kamrul Islam, Kumar Nath T (2016) Land Use Change and Forest*

Fragmentation Analysis: A Geoinformatics Approach on Chunati Wildlife Sanctuary, Bangladesh. J Civil Eng Environ Sci, 2(1), 020-029.

Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship theory and practice, 33*(3), 761-787.

Sagath, D., van Burg, E., Cornelissen, J. P., & Giannopapa, C. (2019). Identifying design principles for business incubation in the European space sector. *Journal of Business Venturing Insights, 11*, e00115.

Scherer, M. J., & Glueckauf, R. (2005). Assessing the benefits of assistive technologies for activities and participation. *Rehabilitation Psychology, 50*(2), 132.

Scott, M. G., & Twomey, D. F. (1988). The long-term supply of entrepreneurs: students' career aspirations in relation to entrepreneurship. *Journal of Small Business Management, 26*(4), 5.

Segal, G., Borgia, D., & Schoenfeld, J. (2005). The motivation to become an entrepreneur. *International Journal of Entrepreneurial Behavior & Research*.

Sexton, D. L., Upton, N. B., Wacholtz, L. E., & McDougall, P. P. (1997). Learning needs of growth-oriented entrepreneurs. *Journal of business venturing, 12*(1), 1-8.

Shapero, A. (1984). The entrepreneurial event,[in:] CA Kent (Ed.), The environment for entrepreneurship. *Lexington, Mass.: Lexington Books*.

Shaver, K. G., & Scott, L. R. (1992). Person, process, choice: The psychology of new venture creation. *Entrepreneurship theory and practice, 16*(2), 23-46.

Soetanto, D. P., & Jack, S. L. (2013). Business incubators and the networks of technology-based firms. *The Journal of Technology Transfer, 38*(4), 432-453.

Stephens, S., & Onofrei, G. (2012). Measuring business incubation outcomes: an Irish case study. *The International Journal of Entrepreneurship and Innovation, 13*(4), 277-285.

Subhan, Q. A., Mahmood, T., & Sattar, A. (2014). Innovation and economic development: A Case of Small and Medium Enterprises in Pakistan. *Pakistan Economic and Social Review*, 159-174.

Ullah, S., & Qaiser Danish, R. (2020). The impact of green entrepreneurial orientation on firm performance through green innovation: The moderating role of strategic green marketing orientation. *European Online Journal of Natural and Social Sciences, 9*(2), 306-317.

Warren, L., & Hutchinson, W. E. (2000). Success factors for high-technology SMEs: A case Study from Australia. *Journal of Small Business Management, 38*(3), 86.

Wu, C.-Y., Chen, Y.-J., Ho, H. J., Hsu, Y.-C., Kuo, K. N., Wu, M.-S., & Lin, J.-T. (2012). Association between nucleoside analogues and risk of hepatitis B virus–related hepatocellular

Xu, T. L., & Hu, Y. (2024). Towards Sustainable Prosperity? Policy Evaluation of Jiangsu Advanced Manufacturing Clusters. *Technology in Society*, 102583.

Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of applied psychology, 90*(6), 1265.