RESEARCH

Sustainable Entrepreneurship in Textile-Based SMEs: Linking Entrepreneurial Traits to Firm Performance

Arya Kumar

Assistant Professor, School of Economics and Commerce, Kalinga Institute of Industrial Technology, (KIIT) Deemed to be University, Patia, Bhubaneswar - 751 024, Odisha, India
Email: aryantripathy@yahoo.com
ORCID: 0000-0002-8203-361X

Asokan Vasudevan

Professor, Faculty of Business and Communications, INTI International University, Persiaran Perdana BBN Putra Nilai, 71800 Nilai, Negeri Sembilan, Malaysia
Email: asokan.vasudevan@newinti.edu.my
ORCID: 0000-0002-9866-4045

Srilalitha Sagi

Professor and Director, Executive Education, Sanjivani University, Kopargaon, Near Shirdi, Ahilyanagar (Ahmednagar), 423601, India
Email: girijasagi70@gmail.com
ORCID: 0000-0003-0083-2272

K.R.Sowmya

Professor, Department of Management, St. Francis de Sales College (Autonomous), Electronics City Post, Bengaluru, Karnataka, 560100, India
Email: drkrsowmya@gmail.com
ORCID: 0000-0003-4239-2586

ABSTRACT

PURPOSE: This study examines how Sustainable Entrepreneurship Practices (SEP) mediate the relationship between Individual Entrepreneurial Orientation (IEO) and firm performance among textile-based Small and Medium Enterprises (SMEs) in Odisha.

DESIGN/METHODOLOGY/APPROACH: Data from 431 weavers were analysed using PLS-SEM. Systemic constraints, including limited market access and institutional support, were noted as key challenges.

FINDINGS: Proactiveness and risk-taking influence performance only through SEP, while innovativeness has both direct and mediated effects. Creativity significantly enhances firm performance.

ORIGINALITY/VALUE: Focusing on SMEs in Berhampur and Sambalpur—regions renowned for handloom weaving—the study explores how proactiveness, risk-taking, and innovativeness influence sustainability and performance.

PRACTICAL IMPLICATIONS: Policies promoting the adoption of eco-friendly technology through subsidies and collaborations with organisations like OHHDPC are recommended to enhance sustainability and performance. An integrated framework is necessary to address the structural barriers faced by traditional weaving SMEs.

KEYWORDS: *Small and Medium Enterprises; Handloom; Firm's Performance; Individual Entrepreneurial Orientation; Sustainable entrepreneurship practices; Economic Development.*

INTRODUCTION

The pressure from a growing population and socio-economic activities adapt, which indicates that organisations must adapt through innovation and flexibility (Tunçalp and Yıldırım, 2022). Sustainable entrepreneurship (SE) is a practice that incorporates the three pillars of the economy, the environment, and society (Mohanty *et al.*, 2024; Bapat *et al.*, 2024; Haque *et al.*, 2025). This research investigates the link between individual entrepreneurial orientation (IEO) and the use of sustainable entrepreneurship practices (SEP) with a focus on SME performance in the textile sector of Odisha, particularly the handloom industry. IEO practices of being proactive, innovative, and taking risks go hand in hand with SEP and result in better performance.

IEO is crucial for SMEs as it is the driving force behind socio-economic and technological development. IEO influences the cultural and strategic orientations of the firm, which further lead to performance improvement (Popov *et al.*, 2019; Bolton and Lane, 2012; Palmer *et al.*, 2019). It also makes family businesses more efficient and optimistic (Liu and Xi, 2022; Forcadell and Úbeda, 2022).

The social and environmental goals of SE are aligned through values, such as sustainability (Kraus *et al.*, 2018), thus, ethics, reputation, and engagement are strengthened (Gast *et al.*, 2017). The utilisation of sustainability policies and NGO oversight, together with community expectations, drives SEP (Gast *et al.*, 2017). Odisha's handloom ecosystem is supported by policies promoting sustainability and market access.

This study fills a research gap with three main aims:

- to determine the role of IEO in SEP;
- to determine the correlation between handloom SME performance and IEO; and
- to investigate whether IEO prompts firms to participate in environmental initiatives.

This research aims to add depth in the fields of entrepreneurship, sustainability, and organisational management by looking at these topics through the lens of small and medium enterprises (SMEs) in Western Odisha. It further recognises the specific barriers that handloom SMEs face in adopting sustainable practices and thus seeks not only to reveal the impact of IEO but also to identify the practical difficulties that are encountered in the process. It also links entrepreneurial traits to sustainability-driven strategies for the handloom sector, which in turn promote the adoption of sustainable practices by SMEs. The paper enhances understanding of sustainability integration methods in start-ups, emphasising that SMEs and collaborations are pivotal players in environmental sustainability and regional development.

## LITERATURE REVIEW

Theoretical Framework

The Human Capital Theory of Entrepreneurship suggests that the success of entrepreneurs arises from knowledge, skills, and competencies accumulated over time, which play a significant role in entrepreneurial success. IEO is a core dimension of entrepreneurial human capital involving, among other aspects, proactivity, innovativeness, and risk-taking, increases the operational and innovative capacities of firms (Popov *et al.*, 2019; Forcadell and Úbeda, 2022). The NRBV theory (Hart, 1995) emphasises sustainable capabilities and resources, designating intellectual capital as a vital asset for developing entrepreneurship practices (Forcadell and Úbeda, 2022). In the handloom sector, SEP is used as a mediator of IEO between business performance in this study.

IEO is an important factor in understanding SME behaviour; however, the examination of external constraints, regulatory barriers, market entry barriers, limited technological infrastructure, the influence of regional policies, cultural practices, and critiques of IEO and SEP frameworks in the handloom SME sector is equally important.

Development of Hypothesis and Empirical studies

Individual Entrepreneurial Orientation (IEO): Miller (1983), refined by Covin and Slevin (1989), highlighted the competitive edge IEO offers. Building on IEO literature, this study explores its

traits and links to SEP adoption among SMEs, especially in traditional sectors like handlooms. IEO influences decision-making and processes in corporate entrepreneurship (Popov *et al.*, 2019; Bolton and Lane, 2012), enhancing firm performance (Gupta and Gupta, 2015). Proactiveness, innovativeness, and risk-taking constitute IEO (Morris *et al.*, 1994; Bolton and Lane, 2012). Leaders high in IEO perform better (Forcadell, Úbeda, 2022; Liu, Xi, 2022) (see Figure 1).
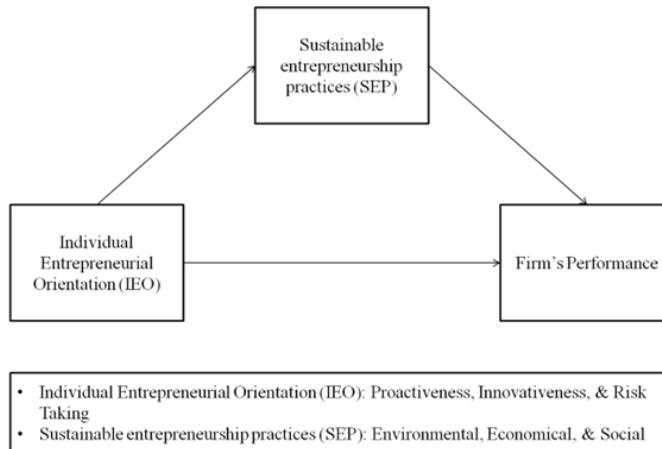
Figure 1: Conceptual Research Framework

Source: Constructed by the authors

Impact of Initial Exchange Offering (IEO) on the small and medium enterprises (SMEs) performance: These phenomena raise critical entrepreneurship questions: to what extent do Individual Entrepreneurial Orientation (IEOs) contribute to SME manufacturing? IEO levels should positively affect company performance (Forcadelland Úbeda, 2022). A study was conducted by examining IEO and corporate performance using firm-level evidence. The analysis shows that IEO accelerates internationalisation and enhances corporate performance (Keil *et al.*, 2017). In a study by Liu and Xi (2022) about the influence of IEO on organisational performance, IEO significantly impacted workplace dynamics and culture. We are proposing the following hypotheses (H):

H1: Firm Performance is positively influenced by risk-taking.

H2: There is an association between Innovativeness and Firm Performance positive association.

H3: Proactivity positively affects organisational performance.

Sustainable Entrepreneurship Practices among SMEs

The clusters of characteristics such as risk-taking, innovativeness, and proactiveness that are common to entrepreneurs' practices (SEPs) can have a substantial impact on their conception and adoption (Menguc *et al.*, 2010), translating into an impetus for developing sustainable entrepreneurial practices within organisations (Kraus *et al.*, 2018) According to Christmann and Taylor (2018), the roles of strategic behaviours in corporate sustainability cannot be overlooked.

Moreover, high innovative IEO in sustainable entrepreneurship is often associated with higher degrees of innovation, leading to new processes or products that support sustainability goals in adaptation and mitigation areas (Kumar and Banerjee, 2025). Based on the findings, this paper proposes the following hypotheses.

H4: SEP has a positive effect on risk-taking.

H5: Innovativeness positively affects SEP.

H6: Proactiveness has a positive effect on SEP.

SEP as a Mediator of the Association between Firm Performance and IEO in SMEs: IEO presents a varying relationship with company performance. While most studies suggest a relationship between IEO and business outcomes is positive (Gupta and Gupta, 2015), others show no such overall difference (Wiklund and Shepherd, 2005). SEP can mediate the performance-IEO relationship.

Globalisation increases national economies' interdependence (Farh *et al.*, 2018), impacting IEO-based capital expenditures and firm performance (Forcadell and Úbeda, 2022). IEO positively affects employee performance indirectly through motivation (Liu and Xi, 2022). Studies have examined organisational-level factors have often ignored individual-level barriers.

H7: Risk-taking impacts handsome SME performance and mediates through SEP.

H8: Innovativeness may impact handloom SME performance through SEP as a mediator.

H9: Proactivity may positively affect handloom SME performance through SEP as a mediator.

This study ascertains the role of entrepreneurial traits and also recognises that external barriers, including infrastructure limitations, limited financial accessibility, and inconsistent policy implementation, significantly decide SMEs' capacity to turn entrepreneurial intent into sustainable results.

RESEARCH METHODOLOGY

Sampling Technique and Study Design

In 2024, researchers conducted a cross-sectional survey across two key regions in Odisha; Behrampur and Sambalpur which are popular for their silk handlooms. Because of their vibrant weaving communities, these regions account for 67 percent of the total handloom production in Odisha. Applying Cochran's (1977) method, the sample size was estimated to be 384, considering a population variability of 0.5, a margin of error of 5%, and a confidence level of 95% to guarantee sufficient representation. The sample size was increased by 15 percent, resulting in 442 respondents, to account for anticipated non-responses. A cross-sectional approach was selected because of its effectiveness in establishing relationships between variables at a specific point in time (Wang and Cheng, 2020).

Data Collection

The researchers obtained 431 valid responses (97.5% response rate) from local weaving units and cooperatives using a convenience sampling approach. Participants included larger cooperatives and weavers from small-scale units. For the convenience of local participants, the researchers translated the questionnaire into local dialects and matched the literacy level of locals. Trained enumerators ensured ethical and accurate data collection. Though this method proved useful in fetching a high response rate, it might not have accurately represented Odisha's handloom SMEs. Thus, future studies should be done using a more generalisable probabilistic sampling approach. Due to unavailable population data, Cochran's (1977) formula was used with an assumed 50% variability for a conservative sample size estimate.

Research Mechanism and Collection of Data

This study employed a quantitative approach using a structured questionnaire (refer to Table 1), developed from past literature and adapted to the handloom industry context. Based on the study's objectives and three key constructs, 22 items were finalised after modification. Content validity was ensured through expert review and a pilot with 40 handloom sector respondents. Feedback was used to refine clarity and relevance. All responses, except for human subject factors, were measured on a five-point Likert scale (1 = "strongly disagree"; 5 = "strongly agree") using order of magnitude scaling.

Table 1:Constructs, Items, and Sources for Measuring Entrepreneurial Orientation and Firm Performance

Variables	Construct	Form	Component	Origin
(Independent Variable) Individual Entrepreneurial Orientation (IEO)	Risk-Taking	RT1	I am fond to undertake bold acts, even when facing uncertain outcomes.	Popov *et al.*, 2019; Bolton and Lane, 2012
		RT2	I am willing to engage in bold actions that contribute to community economic projects.	
		RT3	I am comfortable in situations that inherently involve risk.	
	Innovativeness	INV1	I am ready to dedicate time and financial resources to activities with potential for high returns.	Bolton and Lane, 2012
		INV2	I frequently explore new and unconventional paths that diverge from traditional practices.	
		INV3	I tend to embrace unique and innovative approaches instead of relying on established methods.	
		INV4	I am open to experimentation and prefer innovative solutions over standard problem-solving techniques.	
	Proactiveness	PRC1	I frequently adopt a proactive stance in anticipation of future challenges or changes.	Soto-Acosta *et al.*, 2016; Choongo, 2017; Cantele and Zardini, 2018
		PRC2	I typically plan and prepare in advance for upcoming projects.	
		PRC3	I demonstrate initiative by actively beginning tasks instead of waiting passively.	

Variables	Construct	Form	Component	Origin
Mediating Variable sustainable entrepreneurship practices (SEP)	Economic Practices	ECP1	Ensure timely delivery to minimise or eliminate rejects of our products.	Choongo, 2017; Cantele and Zardini, 2018
		ECP2	Strive to increase our customer base steadily.	
	Environmental Practices (ENVP)	ENVP1	Ensure that our business does not contribute to environmental harm.	Choongo, 2017
		ENVP2	Avoid operating in environmentally sensitive areas.	
	Social Practices	SOP1	Comply with both national and international standards for quality and safety.	Soto-Acosta *et al.*, 2016
		SOP2	Offer fair and equitable compensation to employees for their contributions.	
		SOP3	Support employees in balancing their work and family lives.	
		SOP4	Contribute towards economic development within the community.	
Dependent Variable	Firm Performance	PERF1	Our firm's profitability outpaces that of competitors.	Cantele and Zardini, 2018
		PERF2	Customers express high satisfaction with our products and services.	
		PERF3	Employees display strong commitment and loyalty towards our firm.	
		PERF4	Our staff often go above and beyond in their responsibilities to ensure the firm's success.	
Control Variable	Firm Age	FIRMAG	Firm age is measured as a continuous variable.	Researchers
	Firm Assets	FIRMAS	Firm assets, transformed into a natural logarithm, are measured as a continuous variable.	Researchers

Source: Analysed by the authors

The survey measured three constructs with three dimensions of SEP and IEO and the control variables as shown in Table 1. The above additional variables provide a more comprehensive understanding of external influences on firm performance. The market size was estimated based on regional population and SME density, while policy factors were evaluated based on the government's incentives and subsidies for the handloom sector. The firm age and assets refer to the length of time the firm has been operating and the amount of investment the firm has made in handloom-related machinery. The questionnaire was initially piloted with 40 respondents, and then a more significant sample of 431 respondents was collected in July 2024 through face-to-face interviews. Ethical approval was gained, and all participants gave informed consent with confidentiality and the right to withdraw assured.

Data Analysis

Quantitative analysis employed descriptive and inferential statistics, with results shown via charts, tables, and descriptive statistics (percentages, frequency, and mean standard deviation). SEM and SmartPLS were used for inferential analysis due to their flexibility with sample size and data

distribution (Hair *et al.*, 2019). The measurement and structural models by applying two stage SEM (see Figure. 1), where IEO is independent, SEP mediates, and PERF is dependent. FIRMAG and FIRMAS were log-transformed to reduce skewness (Hair *et al.*, 2010).

Statistical Summary of Entrepreneurial Profiles

As observed in Table 2, most handloom SME entrepreneurs were male (93.74%, n=472), limiting generalisability due to possible gender-based differences. Around 43.62% were aged 36–45, and 78.42% had at least primary education, which may affect sustainable practice adoption. Trained staff conducted surveys in the local language. Additionally, 39.68% had prior entrepreneurial experience.

Table 2: Descriptive Statistics

Descriptive	Category	Adjusted Frequency	Adjusted Percentage
Gender	Female	27	6.26%
	Male	404	93.74%
Age	Above 60	11	2.55%
	46–60	110	25.52%
	36–45	188	43.62%
	29–35	84	19.49%
	18–28	38	8.82%
Education Level	Masters	1	0.23%
	Degree	3	0.70%
	Diploma	4	0.93%
	Secondary	74	17.17%
	Primary	338	78.42%
	None	10	2.32%
Types of Business Experience	Both Opening and Managing	171	39.68%
	Managing Only	61	14.15%
	New Business	13	3.02%
	Other	59	13.69%

Source: Analysed by the authors

Constructs (IEO, SEP, and PERF) Standard and Deviation Mean

Table 3 presents the Means and Variability Analysis of IEO, SEP, and Firm Performance. Standard deviations range from 0.61 to 1.33, indicating variability. Construct scores range from 3.66 to 4.61, with risk-taking scoring lower (3.66–4.22) than innovativeness and proactiveness (>4.22). In SEP, SOP averaged 4.83, higher than ECP and ENVP (4.45). Five-point scales show high SEP means

(>4.51), indicating agreement on non-financial performance relevance, while profitability (PERF1) scored lower at 3.67. Market size and policy factors, measured using public data and surveys, controlled for regional economic and regulatory influences on firm performance.

Table 3: Standard Deviation and Mean for the constructs

Variables	Construct	Acronym	Mean	Standard Deviation
Individual Entrepreneurial Orientation (IEO)	Risk-Taking	RT1	3.66	1.16
		RT2	3.67	1.07
		RT3	4.22	1.33
	Innovativeness	INV1	4.23	0.89
		INV2	4.38	0.92
		INV3	4.61	0.66
	Proactiveness	PRC1	4.36	0.61
		PRC2	4.51	0.64
		PRC3	4.53	0.59
sustainable entrepreneurship practices (SEP) Mediating Variable	Economic Practices	ECP1	4.61	0.59
		ECP2	4.38	0.72
	Environmental Practices (ENVP)	ENVP1	4.33	0.73
		ENVP2	4.49	0.73
	Social Practices	SOP1	4.61	0.49
		SOP2	4.61	0.50
		SOP3	4.63	0.56
		SOP4	4.39	0.53
Dependent Variable	Firm Performance	PERF1	3.67	1.61
		PERF2	4.61	0.61
		PERF3	4.22	0.79
		PERF4	4.39	0.73

Source: Analysed by the authors

Measurement Model Evaluation

For the measurement model, the factor loading threshold is set at ≥0.40 according to Hair *et al.* (2019). A reflective measurement model using established guidelines (Hair *et al.* 2019) was also employed to assess relationships between indicators and constructs as indicated in Table 4, all the factor loadings are well over 0.6, except for ENVP1 and ENVP2, which have values of 0.582 and 0.571, respectively. Given the low factor loadings for ENVP1 (0.582) and ENVP2 (0.571), these indicators were retained due to their strong theoretical relevance. However, future research should

refine these measures to improve construct validity. As ENVP represents an essential dimension alongside ECP and SOP within the SEP construct, omitting ENVP indicators would weaken the theoretical consistency of the overall construct.

Table 4: Loadings, Reliability, and Convergent Validity (431 Sample Data)

Constructs	Items	Loadings	Average Variance Extracted (AVE)	Composite Reliability (CR)
Sustainable Entrepreneurship Practices (SEP)	SOP1	0.768		
	SOP2	0.812		
	SOP3	0.699		
	SOP4	0.657		
	ECP1	0.779		
	ECP2	0.605		
	ENVP1	0.582		
	ENVP2	0.571	0.491	0.873
Individual Entrepreneurial Orientation (IEO)	RT1	0.902		
	RT2	0.859		
	RT3	0.913	0.82	0.941
	INV1	0.821		
	INV2	0.692		
	INV3	0.741	0.589	0.802
	PRC1	0.889		
	PRC2	0.854		
	PRC3	0.728	0.693	0.869
Firm Performance (PERF)	PERF1	0.749		
	PERF2	0.818		
	PERF3	0.709		
	PERF4	0.672	0.603	0.861

Source: Analysed by the authors

The reliability and validity assessment employed Jöreskog's Composite Reliability (CR), which ranged between 0.7 and 0.9 (Hair *et al.*, 2019). Convergent validity was assessed using Average Variance Extracted (AVE), with 0.50 as the cut-off (Hair *et al.*, 2019); SEP scored 0.491, slightly below the threshold, indicating limited validity. Discriminant validity was assessed through HTMT, which should be below 0.85 (Hair *et al.*, 2019; Sarstedt *et al.*, 2019). Most HTMT values met this criterion, supporting construct distinctiveness. Overall, the model demonstrates strong reliability, convergent validity, and discriminant validity (see Table 5).

Table 5: HTMT Criterion for Discriminant Validity (Sample Size = 431)

	SEP	RT	PRC	PERF	INV	FIRMAS	FIRMAG
SEP	1						
RT	0.245	1					
PRC	0.711	0.223	1				
PERF	0.759	0.238	0.512	1			
INV	0.539	0.272	0.365	0.558	1		
FIRMAS	0.182	0.171	0.105	0.073	0.099	1	
FIRMAG	0.061	0.052	0.108	0.078	0.130	0.072	1

Source: Analysed by the authors

Figure 2 shows the structural model with hypothesised relationships in the research framework. Variance inflation factors (VIFs) were assessed prior to examining the structural model to ensure that no multicollinearity distorted regression results.
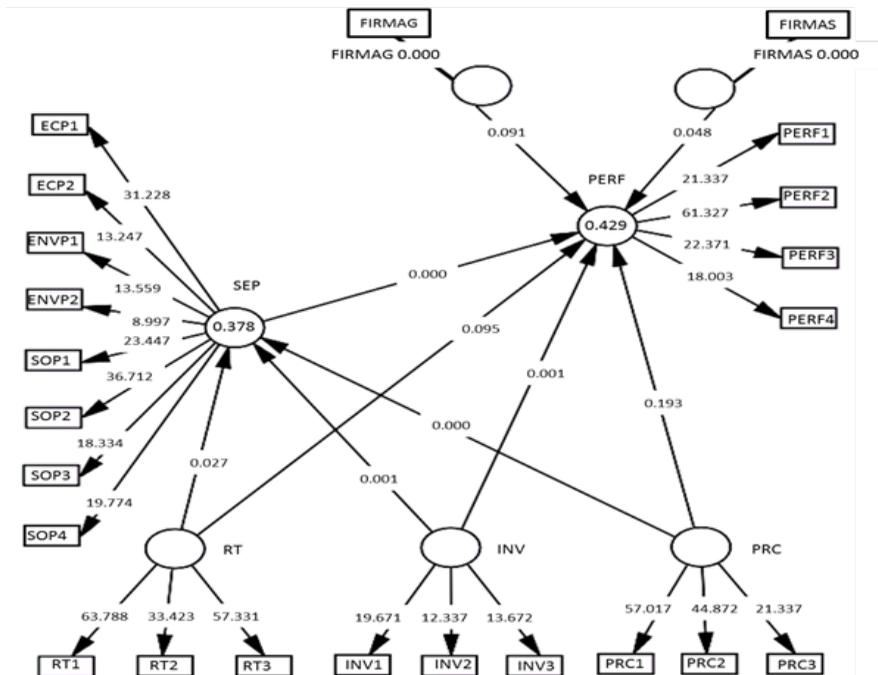
Figure 2: Structured Models for Conceptual Framework

Source: Constructed by the authors

As indicated by Hair *et al.* (2010), the results did not reveal any significant problems. All VIFs are < 3.3, so there is no collinearity problem (Forsyth, 2019). Four fundamental measures were taken to assess the structural model, including the four substantive dimensions of the modelling as

well (Q²—predictive relevance), effect size (f²) and explained variance (R²), and magnitude of the structural path coefficients and significant statistically (Hair *et al.*, 2019).

Table 6: Measurement of Relationship

Constructs	Path Coefficient (β)	p Values	t values	SD	BI [5; 95] %	f²
FIRMAS -> PERF	-0.065	0.048	1.732	0.038	-0.128 to -0.002	0.007
FIRMAG -> PERF	-0.058	0.091	1.512	0.048	-0.137 to 0.009	0.009
INV -> PERF	0.190	0.001	3.134	0.063	0.096 to 0.295	0.052
INV -> SEP	0.285	0.000	6.126	0.045	0.198 to 0.356	0.123
PRC -> PERF	0.056	0.193	0.913	0.060	-0.042 to 0.155	0.004
PRC -> SEP	0.482	0.000	12.346	0.037	0.414 to 0.546	0.338
RT -> PERF	0.074	0.095	1.411	0.055	-0.012 to 0.164	0.011
RT -> SEP	0.083	0.027	2.051	0.042	0.014 to 0.150	0.012
SEP -> PERF	0.522	0.000	9.891	0.055	0.422 to 0.602	0.278
Q² PERF	0.241		**R² PERF**	0.452		
Q² SEP	0.194		**R² SEP**	0.412		

Source: Analysed by the authors

As found in Table 6, the R² scores were 0.452 and 0.412 for PERF and SEP as endogenous variables, respectively. (1) the predictive relevance (Q²) was 0.241 for PERF and 0.194 for SEP, which further demonstrated that the model well explained the relationships (firm performance → SEP → IEO). The effect sizes of exogenous latent variables with f² were then classified as significant ($f^2 \geq 0.35$), medium ($0.15 \leq f^2 < 0.35$), and small ($f^2 < 0.02$). The f² for SEP on PERF was 0.278 (medium effect). And, cognate with INV as IV had minor impacts on both PERF and SEP (f² = 0.052 and 0.123). The results indicate that when it comes to the Perf f² = 0.004 (no effect) and Sep f² = 0.338 (medium effect). RT had little impact on SEP and PERF (f2 = 0.012 and 0.011), and PERF was not facilitated by the control variables FIRMAS and FIRMAG.

The relationship between PERF and RT (H1) was non-significant (p = 0.095, t = 1.411, β = 0.074). The association between INV and PERF (H2) was significant (β = 0.190, t = 3.134, p = 0.001). H3 (PERF—PRC) was non-significant (β = 0.056, t = 0.913, p = 0.193). H4 (RT → SEP) was significant (β = 0.083, t = 2.051, p = 0.0027). H5 and H6 (INV and PRC → SEP) were significant (β = 0.285, t = 6.126, p = 0.000; β = 0.482, t = 12.346, p = 0.000). PERF was, therefore, negatively affected by FIRMAS (p = 0.048, t = 1.732, β = −0.065). FIRMAG showed a marginally significant negative impact (β = −0.058, t = 1.512, p = 0.091).

Mediation Analysis

The mediating role of SEP between the relationships (PERF) dimensions— Proactiveness, Innovativeness, and Risk-taking based outcomes in Hypotheses H7, H8 and H9 within the handloom SMEs sector.

Table 7: IEO to PERF an Indirect Effect Measurement

Constructs	Total Effect (β)	p value	Direct Effect (β)	p value
PRC -> PERF	0.281	0.000	0.058	0.177
RT -> PERF	0.125	0.022	0.082	0.089
INV -> PERF	0.312	0.001	0.178	0.002
Hypotheses	**Indirect Effect of IEO to PERF (β)**	**SD**	**t value**	**p value**
PRC -> SEP -> PERF	0.223	0.032	6.969	0.000
RT -> SEP -> PERF	0.043	0.024	1.796	0.036
INV -> SEP -> PERF	0.134	0.026	5.154	0.000

Source: Analysed by the authors

H1 demonstrated an overall significant effect (β = 0.125; p = 0.022) and strong positive impacts were also found for H2 (p = 0.001; β = 0.312) and H3 (p < 0.000; β = 0.281), as shown in Table 7 When SEP was included in the model as a mediator, these effects were attenuated (while the direct effect of H2 remained significant (β = 0.178; p = 0.002; but both H1 and H3 became non-significant (β = 0.082; p =.89; β =.058, p =.177). H7 was supported because the indirect effects of SEP increased significantly for Risk-Taking (β = 0.043, t = 1.796, p = 0.036). In addition, there were strong relationships between SEP and Innovativeness and Proactiveness (t = 5.154, 7.969; β = 0.134, 0.223 and p = 0.000 for both H8 and H9 respectively), thus both H8 and H9 are supported). The findings indicate that SEP serves as a complete mediator in the influence of Risk-Taking and Proactiveness on PERF, while it acts as a partial mediator in shaping the link between PERF and Innovativeness.

DISCUSSION

The research focused on the performance of firms, sustainable entrepreneurial practices (SEP), and individual entrepreneurial orientation (IEO) in the handloom industry. It is discussed in the results that creativity and risk-taking traits, which altogether contribute to innovations, have a large positive impact on performance, whereas proactiveness and risk-taking traits also exert a positive influence through SEP. On the other hand, these traits were not found to have a direct effect. This means that they are in a developmental stage and their growth relies heavily on contextual feedback. SEP was found to be a strong mediator throughout the contexts, and thus, the model's stability was increased. No regional or gender-based moderation effects were found, which means that the SEP-performance relationship can be regarded as general.

Although SEP mediation was positive, the case of handloom SMEs was in the context of structural concepts like limited financial access to green technologies, low awareness of SEP benefits, and poor market exposure. Furthermore, the respondents pointed out inadequate training and weak

policy implementation as additional hurdles. Hence, it is important for institutions to provide support and carry out awareness-raising initiatives for the timely and effective adoption of SEP.

The use of PLS-SEM led to the conclusion that firm innovativeness is a strong predictor of performance, which is consistent with the IEO framework of Bolton and Lane (2012), which considers innovation as a competitive strategy. However, financial constraints, limited eco-technology access, and skill gaps are some of the factors that obstruct SEP practices and thereby may mellow the effect of IEO, thus requiring further research.

The study also states that IEO through SEP, performance is indirectly influenced by conditions such as supportive institutions and resource access which enable this process. The NRBV and human capital theoretical lenses support IEO, which entail resource use, risk-taking, and sustainability.

Traditional sectors in other developing nations can be compared as part of future research. Global trends like digital transformation and shifting consumer preferences may also be studied. Practical suggestions include micro-financing for sustainable technology, digital literacy enhancement, and e-commerce-based market access. The affordable eco-tech adoption could be achieved using shared resource centres.

CONCLUSIONS

The paper adds value to the existing literature by providing evidence that IEO and SEP work hand in hand to influence the performance of traditional textile SMEs positively. It highlights the role of human capital in achieving sustainability, particularly in the handloom industry. On the other hand, the absence of a direct connection between SEP and firm performance dimensions points to a drawback that needs to be addressed. This, in turn, requires the assessment of SEP's role in the success of firm or organisation. The future studies could explore how and to what extent the social and international networks contribute to the improvement of the SEP results and, consequently, examine these variables from the dimension of a more comprehensive impact of IEO on the performance aspect. The research provides notable suggestions for the development of proper strategies to be put in place by government and the people in the textile industry if they are to make the sustainability of the handloom sector a priority. Some of the strategies mentioned include policy instruments, financial incentives for eco-friendly projects, training for green practices, and a supportive regulatory framework.

The limitations involve the narrow scope of the study, which was limited to IEO, SEP, and performance, thus overlooking other factors that might have an impact. Mediators such as social networks and international entrepreneurship that facilitate market access and resource acquisition have not been considered, but they might have a significant effect on performance. Future research is therefore recommended to incorporate these variables to provide a broader perspective.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

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BIOGRAPHY

Dr Arya Kumar is a Senior Assistant Professor at KIIT Deemed to be University and a Research Fellow at INTI International University, Malaysia. He has a strong publication record in reputed Scopus, WoS, ABDC, and UGC Care–indexed journals. His adeptness in government-funded project management and exemplary research acumen have earned multiple best paper awards. A patent holder, he also serves as an editor, reviewer, and author of textbooks in Commerce and Management. His areas of specialisation include Financial Derivatives, Investment and Risk Management, and the Stock Market.

Professor Asokan Vasudevan is a Professor at INTI International University, Malaysia, holding a PhD in Management from UNITEN. With extensive experience in academic leadership, curriculum development, and research, his expertise spans business management, ethics, and leadership. He has received multiple awards for teaching and research excellence and is actively engaged in consultancy and professional organisations across Malaysia.

Professor Srilalitha Girija Kumari Sagi is Professor and Director, Executive Education, Sanjivani University, Maharashtra, and a Visiting Faculty at Toyo University, Japan, and a guest faculty resource for Rushford University, Spain. She is an alumna of the London School of Economics in executive education. She holds an MBA, MA in Psychology, MHRM, and a postgraduate degree in Philosophy from Andhra University. A Certified ZED Master Trainer and ISTD Trainer, she has led international collaborations, international projects and consultancy as director. Her teaching and research are in International Business, OB and Cross-Cultural Management, Sustainable Development, and Subsistence Marketplaces, Kaizen and Quality Management. She has published in ABDC-indexed journals, as well as book chapters and a book in international business, quality, and the circular economy.

Professor K.R. Sowmya is a seasoned academic with over two decades of experience in teaching, research, academic administration, and international relations. Her academic engagements have taken her to the USA, UAE, Africa, Malaysia, Sri Lanka, and Singapore, for scholarly assignments. Her professional portfolio includes academic appointments in India and Ethiopia, along with ongoing research affiliations in Malaysia with INTI International University and SIUC. Her areas of expertise span Human Resource Management, Marketing Management, Organisational Behaviour, and General Management.