



Impact of Personality Traits on Sustainable Entrepreneurship Development

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Abstract

The evolving landscape of globalization is bringing about inevitable changes in the development of sustainable entrepreneurship. Sustainable entrepreneurship combines entrepreneurial traits with a focus on both market success and social impact. However, in today's competitive environment, it is imperative for every entrepreneur to possess specific personality traits to enhance their competitiveness. The primary objective of this research is to investigate the influence of four significant personality traits: agreeableness, openness, extraversion, and neuroticism, on the sustainable development of entrepreneurship in small and medium-sized enterprises (SMEs). The study employs a positivist research philosophy, an explanatory research design, and a quantitative survey method using a convenience sampling technique. A total of 396 entrepreneurs from the registered SMEs in Surkhet district were identified as samples. Inferential statistics, specifically structural equation modeling, were used to analyze the data. The study reveals that personality traits such as agreeableness, openness, and extraversion have a positive influence on the development of sustainable entrepreneurship. This suggests that individuals possessing interpersonal skills, innovativeness, curiosity, situational sociability, confidence, and passion played a foundational role in promoting entrepreneurial sustainability. On the other hand, the personality trait of neuroticism demonstrates an insignificant positive impact on sustainable entrepreneurial development. This implies that neurotic individuals, prone to anxiety, stress, and emotional instability, may hinder decision-making processes and disrupt the stability of sustainable entrepreneurship. Based on these findings, the study suggests that entrepreneurs should prioritize instrumental features of personality traits like agreeableness, openness, and extraversion for sustainable entrepreneurship development, while minimizing the influence of neuroticism.

Keywords: SMEs, entrepreneurship, agreeableness, openness, extraversion, neuroticism

Introduction

Business creation, operation, and sustainability are becoming increasingly difficult for entrepreneurs in today's highly competitive global market. The start-up and advancement of enterprises are significant subsets of sustainable entrepreneurship (Ahmad & Maochun, 2019). Besides, tremendous opportunities and challenges positively or negatively influence entrepreneurial activities. As a result, every entrepreneur must possess exceptional personality traits to grab opportunities and successfully navigate business-related challenges (Kirkley, 2017; Brandstatter, 2011; Chitra & Ramya Sreedevi, 2011)

Most renowned authors have defined entrepreneurship as one of the critical drivers of economic growth (Landes et al., 2012; Grey, 2013). Similarly, entrepreneurship has been recognized as a catalyst for enhancing the quality of human social life (Keat et al., 2011); however, Neck Greene (2011) has discussed entrepreneurship as a tool to generate novel ideas in unsettling circumstances. The term "entrepreneurs" is also used to describe people who grow and expand their businesses (Kyro, 2001; Gartner, 1990); social-economic movements of people (Pastakia, 1998; Mair & Marti, 2006). Moreover, individuals imitate others to stay competitive (Wiklund, 1999), and personality traits or qualities correspondingly, such as ambition, leadership, team building, personal involvement, and commitment (Keogh & Polonsky, 1998; Prahalad, 2006).

The most important question for entrepreneurship development is whether or not entrepreneurs can enhance personality traits associated with creativity and innovation (Schaltegger & Wagner, 2011); despite any difficulties they may experience (Kiefer et al., 2019). Moreover, business success depends on personal capabilities, organizational structure, and socio-cultural environment (Breuer & Ludeke-Freund, 2017). Even though entrepreneurial traits are crucial for business success and ultimately benefit society (Freeman, 1984), they can also help entrepreneurs take advantage of market opportunities (Schaltegger & Burritt, 2018).

Sustainable entrepreneurship development combines strong environmental and social values with energetic, entrepreneurial traits and attitudes (Schaltegger, 2002). Sustainable entrepreneurs show personal mastery that consists of professional and creative activities (Senge, 1990). As per Teran-Yopez et al. (2020), sustainable entrepreneurship is one of the fundamental aspects of entrepreneurial initiatives that consider the traits and qualities of entrepreneurs who have to establish market success and social transformation. Sustainable entrepreneurship can also emerge as a result of particular behavioural responses. For this reason, Klewitz and Hansen (2014) identify five distinct practices leading to sustainable enterprises, ranging from resistant, reactive, anticipatory, innovation-based, and sustainability-rooted. On the contrary, business growth and development depend on individual cognitive mechanisms, behavioural responses, specific values, and attitudes (Hummels & Argyrou, 2021).

In addition, personality traits play a vital role in determining behavior of an individual to make initiation on entrepreneurship growth and promotion (Tran & Von Korflesch, 2016). A few variables mediating the effect of personality traits on entrepreneurial development include perception, attitude, and intention (Shepherd & Krueger, 2002). Despite the role of personality in entrepreneurial cognitions and opportunity recognition (Ardichvili et al., 2003); motivation, dedication, self-control, and socialization as qualities or traits of rational entrepreneurs (Miner, 1963); and the fact that personality plays a more significant role in business survival (Ciavarella et al., 2004), personality traits play a pivotal role in the development of entrepreneurship (Farrukh et al., 2018). Furthermore, Ahmad and Maochun (2019) identify five big personality traits influencing entrepreneurial intention and development: extraversion, agreeableness, neuroticism, conscientiousness, and openness.

Most previous researchers try to investigate the impact of personality traits on entrepreneurial intentions in university-level business students. Some of the researchers attempt to recognize risk-

taking propensity, need for achievement, and locus of control as the key personality traits for entrepreneurial development. On the other hand, self-efficiency, self-control, self-determination, and motivation are the major personality traits needed to become rational entrepreneurs. Besides, little research is conducted in developed and developing countries worldwide. In the context of Karnali province and Nepal, there is a lack of empirical research in this field of study.

However, the researcher has conducted an empirical study examining how the personality traits of agreeableness, openness, extraversion, and neuroticism impact sustainable entrepreneurship development in Surkhet district. This study significantly contributes to existing research by offering valuable empirical insights and serving as a theoretical framework for future studies. Its primary objective is to enhance both theoretical and practical understanding of how these personality traits influence sustainable entrepreneurship development. To address research gaps, specific research questions guide the analysis and hypothesis testing, shedding light on the role of these traits in the context of sustainable entrepreneurship.

Methodology

Entrepreneurship transforms or creates an organization to add value by utilizing available resources (Bird & Jelinek, 1989). In order to add value, entrepreneurs first choose a service or a product (Rauch & Frese, 2007; Stewart & Roth, 2001; Zhao et al., 2010). Numerous studies have found a strong correlation between personality traits and intentions to start and expand a business venture (Brice, 2004; Zhao & Sibert, 2004; Zhao et al., 2010). Sustainable entrepreneurship depends on the knowledge and skills, entrepreneurial self-efficacy, motivation and intention, values and attitudes, business orientation and moral cognition of the entrepreneurs (Ardichvili et al., 2003).

Furthermore, several personality traits lead to the individual's behavior toward entrepreneurial intention and development, like risk-taking propensity, the need for achievement, locus of control (Begley & Boyd, 1987), and despite that, motivation and emotional factors (Fini et al., 2012). In addition, self-efficiency, self-judgment, self-initiation, and self-control are the major personality traits for entrepreneurship development (Zhao & Seibert, 2006; Kiviluto et al., 2011; Park, 2017; Farrukh et al., 2017). There are varieties of personality traits according to the previous studies or researchers. But in this study, the researcher focuses to identify the four major personality traits that influence on sustainable entrepreneurship development such as agreeableness, openness, extraversion, and neuroticism.

Usually, the issue of sustainable entrepreneurship development has been more significant day by day. The remarkable factors directly or indirectly influence businesses' establishment, operations, and diversification. In this study, the researcher tried to understand the relationship between four major personality traits and sustainable entrepreneurship development in the context of small and medium-sized enterprises (SMEs) in the Surkhet district. The four major personality traits can be identified as independent variables, and sustainable entrepreneurial development is recognized as a dependent variable. From the operational point of view, the researcher has scratched the surface of the study's theoretical framework.

Figure 1

Theoretical Framework of the Study

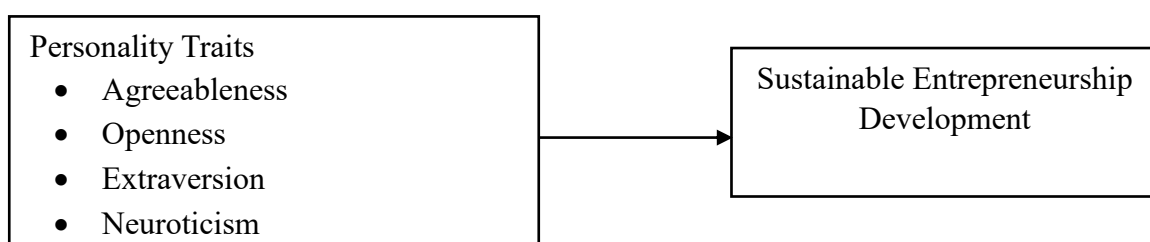


Figure 1 demonstrates the affiliation between personality traits and sustainable entrepreneurial development. The personality traits mentioned earlier were adopted by John et al. (2008). John has identified five big personality traits in their studies such as: agreeableness, openness, extraversion, neuroticism, and conscientiousness. But in this study, the researcher has attempted to examine the impact four personality traits on sustainable entrepreneurship development.

Agreeableness and Sustainable Entrepreneurship Development

Agreeableness is one of the key personality traits that may create some benefit to business enterprises in the long term. According to John et al. (2008), agreeableness is a prosocially and communally oriented trait with antagonism, including altruism, tender-mindedness, trust, modesty, and integrity. Besides that, it is related to obedience, custom, and dependence (Costa & McCrae, 1992), reliance and caring (Goldberg, 1992), and selflessness and forgiveness (Zhao & Seibert, 2006). In addition, Brice (2004) defined it as a binding individual characteristic of emotional dominance. Antonacic et al. (2015) have found that the components of agreeableness, like patience, cooperativeness, and friendliness, play vital roles in entrepreneurial growth and promotion. On the other hand, the survival and expansion of entrepreneurial firms require self-centered and manipulative entrepreneurial traits (Zhao & Seibert, 2006). Similarly, the agreeableness trait is highly dependent, which can harm business (Judge & Cable, 1997). Furthermore, entrepreneurs with agreeableness characteristics do not readily accept new ideas. Such kinds of people keep their beliefs inside because they value other beliefs and repel innovative ideas (Judge & Cable, 1997). By reviewing the previous theoretical and empirical studies, the present researcher strives to establish working hypotheses for assessing the impact of agreeableness personality traits on sustainable entrepreneurial development. The working hypothesis can be expressed as follows:

H1: The agreeableness has a significant positive impact on sustainable entrepreneurship development.

Openness and Sustainable Entrepreneurship Development

Openness is one personality trait that leads to the behavioral aspects of the individual with much clarity and intensity. As per John et al. (2008), openness describes an individual's mental and experiential life's breadth, depth, originality, and complexity. Furthermore, McCrae and Costa (1997) defined openness as a complement to the risk-seeking behaviour of an individual that leads to the success of the business enterprise. On the other hand, the individual who has openness personality traits seek to gain open experiences with a high level of acceptance of environmental change and innovation, tolerance of uncertainty and do not resist changes in his/her individual and professional life (Ariani, 2013; Costa & McCrae, 1992). According to Zhao et al. (2010), the openness personality trait describes a person's curiosity, broadmindedness, and creativity toward duties. Thus, such individuals can discover novel ideas that transform them into existence or functioning (Zhao & Seibert, 2006). After appraising the ground reality of previous studies, the present researcher tried to set up a working hypothesis for examining the effect of openness personality traits on sustainable entrepreneurship development. The operational hypothesis can be articulated as follows:

H2: The openness has a significant positive impact on sustainable entrepreneurship development

Extraversion and Sustainable Entrepreneurship Development

The next essential personality trait is extraversion. An extraversion trait is an energetic approach in that people can realize the social and material world. Therefore, realism can also be identified as sociability, activity, assertiveness, and optimism (John et al., 2008). In addition, Costa and McCrae (1992) discussed the extraversion trait that designates the extent to which individuals are dominant, assertive, enthusiastic, and talkative. Moreover, an individual with extraversion is exposed to positive emotions in the workplace. The sub-components of extraversion, like

enthusiasm, assertiveness, and optimism, play vital roles in entrepreneurship development (Zhao & Seibert, 2006). On the contrary, Enwick and Langford (2000) found that less extroverted entrepreneurs cannot run larger enterprises; they only operate small businesses. Therefore, the higher level of the extraversion personality trait may significantly influence entrepreneurship development. Through reviewing previous theoretical and empirical results of the studies, the present researcher attempts to create a working hypothesis for assessing the impact of extraversion personality traits on sustainable entrepreneurship development. The working hypothesis can be illustrated as:

H3: The extraversion has a significant positive impact on sustainable entrepreneurship development.

Neuroticism and Sustainable Entrepreneurship Development

Neuroticism was another imperative personality trait. According to John et al. (2008), the neuroticism personality trait refers to a pessimistic approach that contrasts emotional stability, temperedness, and feelings of anxiety, nervousness, sadness, and stress. Moreover, it can be recognized as an individual's exposure to numerous adverse emotions such as hostility, nervousness, self-consciousness, depression, vulnerability, and impulsiveness (Costa & McCrae, 1992). Most researchers have demonstrated that an individual with neurotic traits is powerless to have self-confidence, which does not lead to sustainable entrepreneurial development (Judge & Cable, 1997; Brice, 2004). Therefore, Baron and Markman (1999) highlighted that the individual with an emotionally stable score or low neuroticism makes more incredible changes in entrepreneurial initiatives. According to Locke (2000), an individual with a high level of neuroticism may create problems for business success in the long run. On the contrary, entrepreneurs needed favorable and hardy characteristics to develop sustainable businesses. Subsequently evaluating the outcomes of previous studies, the present study focused on developing operational hypotheses to investigate the influence of the neuroticism personality trait on sustainable entrepreneurial development. The operational hypothesis can be expressed as follows:

H4: The neuroticism has a significant positive impact on sustainable entrepreneurship development.

Sampling Techniques and Determination of Sample Size

In this study, the researcher has employed a quantitative approach to examine the effects of four personality traits on sustainable entrepreneurial development. It means that the objectives of the study require a survey-based investigation. Creswell (2009) and Maxwell (2016) argue that by using mathematical, computational, and statistical methods, a quantitative approach helps examine the cause-and-effect relationship between variables, such as dependent and independent variables. For this reason, the researcher applied the positivist research paradigm, quantitative methods, and explanatory research design for the overall operations of the study. Overall, the use of these methods in this study is to contribute to the credibility, reliability, and generalizability of the study's findings, particularly in natural and social sciences where empirical evidence and causality are often of paramount importance. The study's target population was all entrepreneurs who registered their businesses in the office of small and cottage industries in the Surkhet district.

Besides that, a convenient sampling technique was used to determine the samples. Out of the total population (5638), only 396 entrepreneurs were taken as the sample size in this study. Sample size calculation was carried out using the formula for adjusted sample size, as prescribed by Cochran (1977): $n = Z^2(pq)/e^2$. Hence, the minimum required sample size was determined to be 384. However, this study collected 396 samples to gather relevant data. The study used a survey questionnaire to gather primary data for further analysis. For this, there are two parts to the questionnaire; the first includes seven questions related to demographic responses, and the second uses five-point Likert scale questions for study variables with twenty-five items. The survey has

been conducted during the study's October 2022–November 2022 period. In addition, descriptive and inferential statistics were used to analyze the data. Descriptive statistics such as frequency and percentage are applied to the demographic responses. In the meantime, inferential statistics were employed, likewise structural equation modeling (SEM). Similarly, this study used IBM SPSS 20 and AMOS 22 as a data analysis tool. The study also addresses issues related to research ethics concerning data collection, adhered to the guiding principles of APA 7th style, and followed the instructions provided by the journal's publisher.

Results

In this study, there are two distinct parts of the analysis incorporated. The first part analyzes demographic responses through descriptive statistics such as frequency and percentage. For the second part, the variables-related responses of the respondents are analyzed through inferential statistics such as structural equation modeling and hypotheses testing. Both the analysis and the data are represented and examined with the help of the tables and figures below:

Table 1
Analysis of Demographic Responses

Demographic Variable	Category	Frequency (f)	Percentage (%)
Age			
	20-30 years	96	24.2
	30-40 years	131	33.1
	40-50 years	107	27.0
	50 and above	37	9.3
	Less than 20 years	25	6.3
Gender			
	Female	173	43.7
	Male	223	56.3
Education			
	Post graduate level	24	6.1
	Primary level	42	10.6
	Secondary level	192	48.5
	Under graduate level	138	34.8
Nature of Business			
	Construction oriented	41	10.4
	Manufacturing oriented	124	31.3
	Service oriented	156	39.4
	Trading oriented	75	18.9
Satisfaction			
	No	46	11.6
	Yes	350	88.4
Sample Size (N)	-	396	100

Source: Researchers' Survey (2022)

Table 1 shows the results of the respondents' demographic characteristics of the respondents. Out of the total respondents, 33.1 percent respondents are in the 30-40 year age group and 27 percent respondents were in the 40-50 year age group. Similarly, 24.2 percent were 20-30 year age group, 9.3 percent were 50 and above age group and 6.3 percent were less than 20 year age group. On the other hand, of all respondents, 43.7 percent were female, and 56.3 percent were male respondents took part in this study.

Similarly, of all respondents, 48.5 percent respondents have represented the secondary level, 34.8 percent respondents represented the undergraduate level, 10.6 percent respondents represented the primary level, and 6.1 percent represented the post graduate level of the education. In the same way, 88.4 percent of the respondents said they were satisfied with their current businesses and 11.6 percent of the respondents said they were not satisfied with the current business. In conclusion, the study's key findings underscored a concentration of respondents aged 30-50, indicating a strong inclination among this age group towards entrepreneurship development. The study also reveals a gender-balanced distribution, with the majority having secondary or undergraduate education. Furthermore, most participants expressed satisfaction with their current businesses.

Table 2
Measurement of Data Reliability

Variables	Items	Loading Score	KMO	% of Variance	Eigenvalue
Agreeableness	Agre5	.874	.854	82.234	4.112
	Agre3	.865			
	Agre2	.864			
	Agre4	.846			
	Agre1	.838			
Openness	Open1	.867	.826	74.475	2.979
	Open4	.807			
	Open3	.752			
	Open2	.622			
Extraversion	Extra3	.845	.652	72.888	2.187
	Extra2	.836			
	Extra1	.669			
Neuroticism	Neur2	.900	.787	70.210	2.802
	Neur3	.862			
	Neur4	.821			
	Neur1	.606			
SED	Sed4	.845	.820	85.848	3.434
	Sed3	.835			
	Sed2	.815			
	Sed1	.809			

Note: SED = Sustainable Entrepreneurship Development

Table 2 demonstrates the reliability results from the principal component analysis (PCA). In this study, the researcher has first tried to make factors loading to confirm the items regarding the study variables. Out of 20 items of the study variables, all items were accepted for confirmatory factor analysis (CFA) to measure validity and model fit indices to the study's path analysis. The calculated KMO, percentage of variance explained, and eigenvalues of each construct were best fitted with cutoff criteria (KMO > 0.60; % of variance > 70%; eigenvalue > 1). Therefore, the dataset used in this study offers a more comprehensive understanding of each computed value in the Principal Component Analysis (PCA). The results derived from PCA can be further analyzed and compared with cutoff criteria recommended by renowned authors, mathematicians, and researchers who have empirically established these standards. A confirmatory factor analysis was performed using the PCA results to evaluate the structural equation modeling (SEM) model fit and validity indices. The above-mentioned findings indicate that there are no issues with data reliability for rigorous confirmatory factor analysis (CFA) and structural equation modeling (SEM), ensuring the validity and reliability of the research and enhancing confidence in its findings and conclusions. All latent variables and their respective items exhibit strong factor loadings, KMO

values, explained percentages, and eigenvalues. Based on this robust data reliability and validity, the study has conducted CFA, path analysis, and hypotheses testing, as highlighted in the table below:

Figure 2
Confirmatory Factor Analysis (CFA)

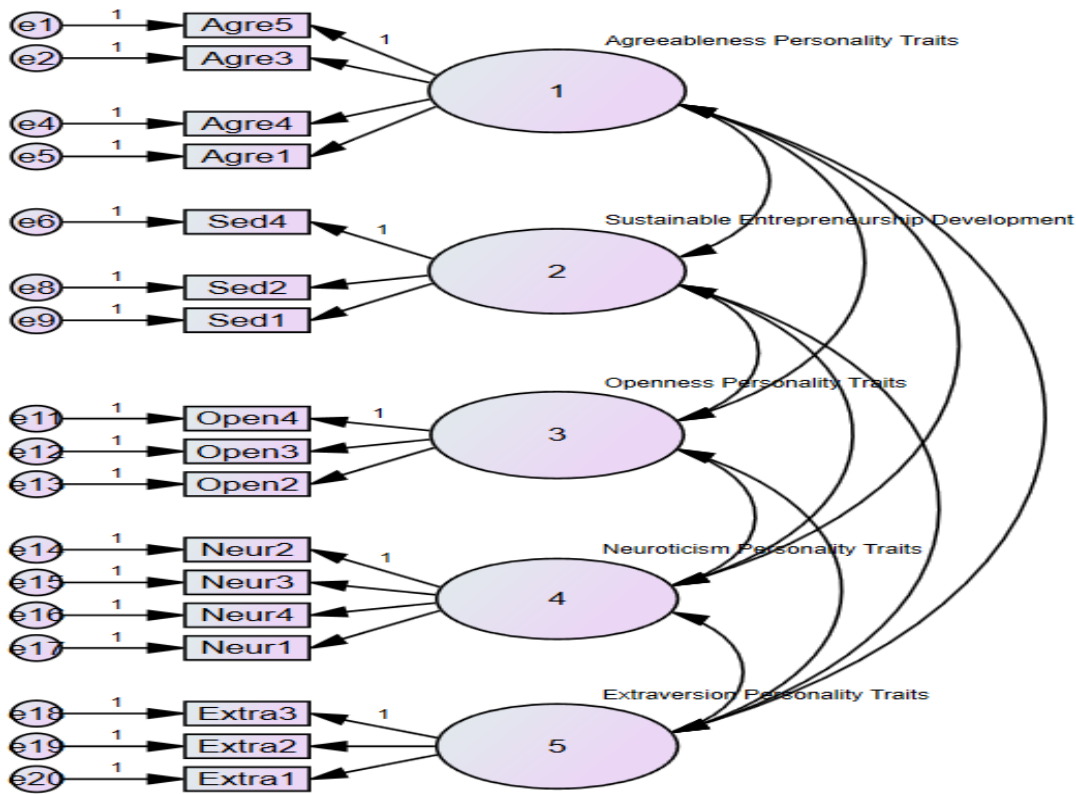


Figure 2 reveals the regression coefficient and covariance of all the study constructs. Out of 20 items, only 17 items were fitted in the CFA for the study's validity and model fit indices. Agree2, Sed3, and Open1 items were excluded from the CAF. The estimated beta coefficients of the latent variables are positive. It depicts that the one-unit increase in the exogenous (independent) variables leads to one-unit increases in the endogenous (dependent) variable. Thus, there is a significant impact and association between agreeableness, openness, extraversion, and neuroticism personality traits and sustainable entrepreneurship development.

Table 3
Model Fit Indices of the CFA

Model Fit Indices	CMIN/DF	RMR	GFI	TLI	CFI	RMSEA
Recommended Value	3-5	≤ 0.05	>0.90	>0.90	>0.90	<0.08
Obtained Value	3.060	0.017	0.917	0.956	0.945	0.072

Note: CMIN/DF=Relative X2, RMR=Root Mean Squared Residual, GFI= Goodness of Fit Index, TLI= Tucker-Lewis Index, CFI= Comparative Fit Index, RMSEA= Root Mean Square Error of Approximation.

Table 3 describes the measurement model for great personality traits and sustainable entrepreneurship development. The model was also acceptable based on model fit indices (CMINDF = 3.060, RMR = 0.017, GFI = 0.917, TLI = 0.956, CFI = 0.945, and RMSEA = 0.072). The above-mentioned recommended values of the model fit indices were prescribed by Bentler (1990), Hu and Bentler (1999), Ullman (2001), Schumacker and Lomax (2004), and Hair et al. (2010). Further, validity and reliability are also assessed using average variance explained (AVE), composite reliability (CR), maximum shared variance (MSV), and average shared variance (ASV). Convergent validity has been established because the AVE value was greater than 0.5 and the CR values were greater than 0.7.

Table 4
Measurement of Validity

	CR	AVE	MSV	MaxR(H)	Agre	Sed	Open	Neur	Extra
Agre	0.931	0.772	0.317	0.933	0.879				
Sed	0.932	0.821	0.541	0.939	0.537***	0.906			
Open	0.867	0.686	0.541	0.881	0.563***	0.736***	0.828		
Neur	0.868	0.637	0.148	0.922	0.317***	0.385***	0.366***	0.798	
Extra	0.829	0.624	0.273	0.882	0.444***	0.523***	0.491***	0.370***	0.790

Note: Cr = Composite Reliability; AVE= Average Variance Explained; MSV= Maximum Squared Variance; MaxR (H)=Maximum Reliability; Agre=Agreeableness; Sed=Sustainable Entrepreneurship Development; Open=Openness; Neur=Neuroticism; Extra=Extraversion

Table 4 displays that both discriminant and convergent validity have been satisfied: the value of CR was higher than 0.70 and the value of AVE was greater than 0.5. Before conducting structural equation modeling, the researcher required testing different kinds of validity and model fit indices through CFA. Therefore, there are no issues of validity or reliability in the present study. SEM and path analysis are essential research tools, helping model complex relationships, evaluate theories, test hypotheses, and enhance our understanding of how variables interact systematically across various disciplines, aiding informed decision-making and knowledge advancement. Therefore, switching from PCA to CFA and EFA to CFA is possible.

In this study, the researcher has used EFA for CFE and SEM analyses. After creating CFA and verifying model fit indices and reliability and validity tests of statistics, the present researcher draws the SEM model for testing the hypothesis using IBM SPSS Amos 22. The main aim of conducting SEM is to examine the impact of drivers and restrainers on indigenous entrepreneurship development. The outcome of SEM path analysis in this study was to encompass model fit assessments, parameter estimates, hypothesis testing results, and a visual representation of the model. Additionally, the choice of cut-off values may vary based on the research context and the field's standards. This study also considers theoretical plausibility and the practical implications of the model when interpreting the fit indices. Thus, it can be represented with the help of the figure below:

Figure 3 exhibits the regression weights of each independent variable on the dependent variable. The SEM was conducted to justify the cause-and-effect relationship between personality traits and sustainable entrepreneurial development. However, for analyzing the designed hypothesis, the value of regression weights was taken from the outputs of AMOS based on the structural equation modeling path. As per the results, personality traits had a significant positive impact on entrepreneurship development. Table 5 presents the findings from the standardized equation modeling.

Figure 3
Structural Equation Modeling (SEM)

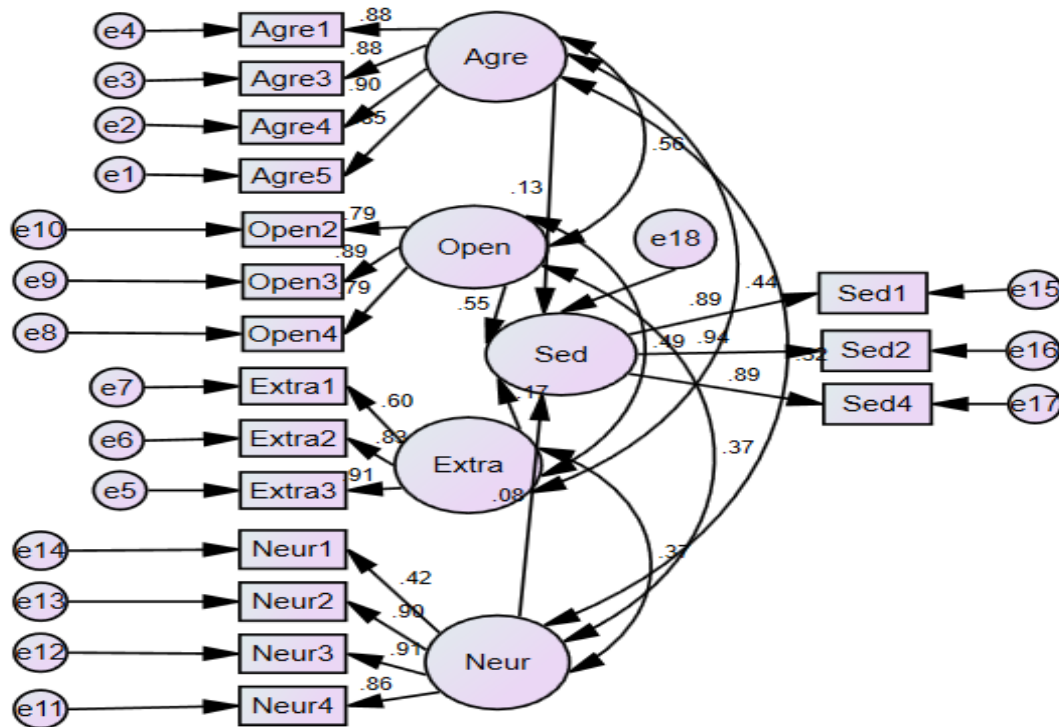


Table 5
SEM Path Analysis Estimates

Path	Estimate	S.E.	C.R.	P	Results
Sed <--- Agree	.149	.058	2.568	.010	Significant
Sed <--- Open	.718	.076	9.407	***	Significant
Sed <--- Extra	.150	.044	3.373	***	Significant
Sed <--- Neur	.073	.038	1.889	.059	Not significant

Note: (***) Denotes p-value significant at the 0.01 level of significance.

Table 5 illustrates the impact of different personality traits on sustainable entrepreneurship. The result reveals that out of four independent variables, only three constructs (agreeableness, openness, and extraversion) have been found to have a significant and positive impact on entrepreneurship development (here, Agree → Sed, $\beta = 0.149^{**}$, C.R. = 2.568, $P < 0.05$; Open → Sed, $\beta = 0.718^{***}$, C.R. = 9.407, $P < 0.01$; Extra → Sed, $\beta = 0.150^{***}$, C.R. = 3.373, $P < 0.01$). Moreover, the result shows no significant impact of the neuroticism personality traits on sustainable entrepreneurship development (Neur → IED, $\beta = 0.073$, C.R. = 1.889; $P > 0.05$). Thus, it can be said that agreeableness, openness, and extraversion personality traits positively influence entrepreneurial development in the long run.

Discussion

Several studies have examined the impact of personality traits on entrepreneurship development, but only a few have focused on it. The study's findings are consistent with previous researches that have found a positive relationship between these personality traits and entrepreneurship development (Antonacic et al., 2015; Ariani, 2013; Brandstätter, 2011; Zhao et al., 2010; Rauch & Frese, 2007; Enrick & Langford, 2000). Moreover, Salleh and Zainal (2021) and Costa and McCrae (1992) found that three personality traits, namely agreeableness, openness, and extraversion, significantly and positively impact sustainable entrepreneurship development (Salleh & Zainal, 2021; Costa & McCrae, 1992). Personality traits like agreeableness, openness, and extraversion have significantly and favorably impacted sustainable entrepreneurship development. Entrepreneurs with high scores on these personality traits tend to be more successful in developing sustainable businesses. Specifically, agreeableness is associated with working effectively with others and building strong relationships with customers and partners. Openness is linked to creativity, innovation, and a willingness to explore new opportunities. Finally, extraversion is associated with strong communication skills, assertiveness, and the ability to network effectively.

On the contrary, the researcher has found that entrepreneurs who score higher in neuroticism, which is characterized by emotional instability, anxiety, and negative effect, are not more likely to engage in sustainable entrepreneurship (Salleh & Zainal, 2021; Obschonka et al., 2013; Zhao et al., 2010; Locke (2000)). The findings related to neuroticism personality traits suggested that entrepreneurs with low levels of neuroticism are more likely to engage in sustainable entrepreneurship. Entrepreneurs may be better able to cope with the uncertainties and challenges of entrepreneurship and may be more willing to take risks and seize opportunities. However, entrepreneurs who score higher in neuroticism are not more likely to engage in sustainable entrepreneurship. It is suggested that entrepreneurs with low levels of neuroticism may be better able to cope with the uncertainties and challenges of entrepreneurship and may be more willing to take risks and seize opportunities.

Overall, the study's findings suggest that entrepreneurs with the personality traits of agreeableness, openness, and extraversion are more likely to succeed in sustainable entrepreneurship development by demonstrating social and environmental responsibility, promoting innovation and creativity, and building strong relationships with stakeholders. On the other hand, this section lacks a comprehensive exploration of the potential drawbacks and challenges associated with the personality traits of agreeableness, openness, and extraversion in the context of sustainable entrepreneurship. A more balanced perspective, including both strengths and limitations, would enhance the depth of understanding.

Conclusion

In conclusion, personality traits have significantly impacted entrepreneurial development, particularly sustainable entrepreneurship. The study's findings are consistent with previous researches that have found a positive relationship between personality traits and entrepreneurial development. Agreeableness, openness, and extraversion are personality traits that significantly and positively impact sustainable entrepreneurship development. Entrepreneurs with high scores on these personality traits tend to be more successful in developing sustainable businesses by working effectively with others, exploring new opportunities, and communicating assertively. However, the study also suggests that entrepreneurs who score higher in neuroticism are less likely to engage in sustainable entrepreneurship. Entrepreneurs with low levels of neuroticism may be better equipped to cope with the uncertainties and challenges of entrepreneurship and may be more willing to take risks and seize opportunities. In sum, these findings underscore the significance of personality traits in shaping the path of entrepreneurship, shedding light on both the advantageous and disadvantageous dimensions of these traits. This knowledge can inform

entrepreneurial education and development programs, offering valuable insights for aspiring and current entrepreneurs aiming to succeed in sustainable business ventures.

The implications of this study are significant for entrepreneurs, educators, and policymakers who aim to promote sustainable entrepreneurship development. Understanding the importance of personality traits in entrepreneurial success can help individuals make informed decisions about their entrepreneurial aspirations and develop strategies to enhance their personal strengths. Educators can also use this knowledge to design entrepreneurship education programs that promote the development of essential personality traits. Policymakers can create policies and programs that support the development of these traits, such as providing funding for mentorship programs and networking events. Furthermore, this study relied on a quantitative survey, utilizing convenience sampling, which may limit the generalizability of the findings to a broader population. In addition, due to budget and time constraints, a more comprehensive mixed-methods approach was not feasible. However, it is imperative for future research to address these limitations in order to advance our comprehension of sustainable entrepreneurship development in Surkhet and the broader Karnali Province. Future research endeavors should also investigate the potential impacts of personality traits, consider longitudinal studies, and conduct comparative analyses to further enrich our understanding of this dynamic field. Ultimately, the findings of this study suggest that sustainable entrepreneurship development requires a combination of personal and environmental factors, and policymakers should consider both in their efforts to promote entrepreneurship as a driver of economic and social development.

References

- Ahmad, S. Z., & Maochun, H. (2019). Sustainable entrepreneurship: Review and future research agenda. *Journal of Cleaner Production*, 208, 1468-1480. <https://doi.org/10.1016/j.jclepro.2018.10.249>
- Antoncic, B., Hisrich, R. D., & BratkovicKregar, T. (2015). The influence of big five personality traits on entrepreneurial intentions and self-employment. *Journal of Small Business Management*, 53(2), 357-378. <https://doi.org/10.1111/jsbm.12089>
- Ardichvili, A., Cardozo, R., & Ray, S. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing*, 18(1), 105-123. [https://doi.org/10.1016/s0883-9026\(01\)00068-4](https://doi.org/10.1016/s0883-9026(01)00068-4)
- Ariani, D. W. (2013). Personality traits and entrepreneurial intention: A review of literature. *Journal of Economics, Business, and Accountancy Ventura*, 16(1), 113-124. <https://doi.org/10.14414/jebav.v16i1.52>
- Baron, R. A., & Markman, G. D. (1999). Beyond social capital: How social skills can enhance entrepreneurs' success. *Academy of Management Executive*, 13(1), 106-116. <https://doi.org/10.5465/AME.2000.2909843>
- Begley, T. M., & Boyd, D. P. (1987). Psychological characteristics associated with performance in entrepreneurial firms and smaller businesses. *Journal of Business Venturing*, 2(1), 79-93. [https://doi.org/10.1016/0883-9026\(87\)90011-3](https://doi.org/10.1016/0883-9026(87)90011-3)
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246. <https://doi.org/10.1037/0033-2909.107.2.238>
- Bird, B., & Jelinek, M. (1989). The operation of entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 14(3), 21-29. <https://doi.org/10.1177/104225878901400302>
- Brandstatter, H. (2011). Personality aspects of entrepreneurship: A look at five meta-analyses. *Personality and Individual Differences*, 51(3), 222-230. <https://doi.org/10.1016/j.paid.2010.09.012>
- Breuer, C., & Ludeke-Freund, F. (2017). The impact of personal capabilities on entrepreneurial opportunity identification and exploitation. *Small Business Economics*, 48(3), 619-638. <https://doi.org/10.1007/s11187-016-9794-4>

- Brice, J. (2004). The influence of personality on new venture creation: An examination of founders' and key employees' psychometric profiles. *International Journal of Entrepreneurial Behaviour & Research*, 10(3), 144-160. <https://doi.org/10.1108/13552550410541027>
- Brice, W. D. (2004). Correlates of the big five personality dimensions: A view from self, spouse, and peers. *Journal of Personality Assessment*, 82(3), 219-230. https://doi.org/10.1207/s15327752jpa8203_02
- Chitra, R., & Ramya Sreedevi, R. (2011). Personality traits of successful entrepreneurs. *International Journal of Management and Business Studies*, 1(2), 21-25.
- Ciavarella, M. A., Buchholtz, A. K., Riordan, C. M., Gatewood, R. D., & Stokes, G. S. (2004). The big five and venture survival: Is there a linkage? *Journal of Business Venturing*, 19(4), 465-483. <https://doi.org/10.1016/j.jbusvent.2003.06.001>
- Cochran, W. G. (1977). *Sampling techniques*. John Wiley & Sons.
- Costa Jr, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and individual differences*, 13(6), 653-665.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage.
- Envick, B. R., & Langford, M. (2000). The five-factor model of personality: Assessing entrepreneurs and managers. *Academy of Entrepreneurship Journal*, 6(1), 6-17.
- Farrukh, M., Abbas, Q., & Aftab, J. (2017). The impact of personality traits on the entrepreneurial intentions of Pakistani university students. *Journal of Entrepreneurship in Emerging Economies*, 9(1), 26-44. <https://doi.org/10.1108/JEEE-06-2016-0022>
- Farrukh, M., Mubeen, R., & Rasheed, H. F. (2018). The effect of personality traits on entrepreneurial intentions and self-employment. *International Journal of Entrepreneurship*, 22(2), 1-12.
- Fini, R., Grimaldi, R., Marzocchi, G. L., & Sobrero, M. (2012). The determinants of corporate entrepreneurial intention within small and newly established firms. *Entrepreneurship Theory and Practice*, 36(2), 387-414. <https://doi.org/10.1111/j.1540-6520.2010.00417.x>
- Freeman, C. (1984). *Strategic management: A stakeholder approach*. Pitman.
- Gartner, W. B. (1990). What are we talking about when we talk about entrepreneurship? *Journal of Business Venturing*, 5(1), 15-28. [https://doi.org/10.1016/0883-9026\(90\)90023-M](https://doi.org/10.1016/0883-9026(90)90023-M)
- Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological Assessment*, 4(1), 26-42. <https://doi.org/10.1037/1040-3590.4.1.26>
- Grey, D. (2013). *Entrepreneurship and economic development*. Routledge.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis: A global perspective (7th ed.)*. Pearson Education.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6(1), 1-55. <https://doi.org/10.1080/10705519909540118>
- Hummels, H., & Argyrou, A. (2021). The role of values, attitudes, and cognitive mechanisms in small business growth and development. *Journal of Small Business Management*, 59(1), 126-146. <https://doi.org/10.1080/00472778.2020.1789477>
- John, O. P., Naumann, L. P., & Soto, C. J. (2008). *Paradigm shift to the integrative big-five trait taxonomy: History, measurement, and conceptual issues*. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research*. Guilford Press.
- Judge, T. A., & Cable, D. M. (1997). Applicant personality, organizational culture, and organization attraction. *Personnel Psychology*, 50(2), 359-394. <https://doi.org/10.1111/j.1744-6570.1997.tb00726.x>
- Keat, O. Y., Selvarajah, C., & Meyer, D. (2011). Entrepreneurship and innovation: The key to national competitiveness and prosperity. *Journal of Innovation Economics & Management*, 8(2), 93-109. <https://doi.org/10.3917/jie.pr1.0007.0093>

- Keogh, W., & Polonsky, M. (1998). Environmental commitment: A basis for environmental entrepreneurship? *Journal of Organizational Change Management*, 11(1), 38-49. <https://doi.org/10.1108/09534819810201390>
- Kiefer, T., Henseling, C., & Lettl, C. (2019). Revisiting the dark side of entrepreneurship: Antecedents and mechanisms of entrepreneurial failure. *Journal of Business Venturing*, 34(2), 311-330. <https://doi.org/10.1016/j.jbusvent.2018.07.004>
- Kirkley, W. W. (2017). The role of personality in entrepreneurship: A review of the literature. *Journal of Small Business and Entrepreneurship Development*, 5(1), 13-28. <https://doi.org/10.11648/j.sbed.20170501.13>
- Kiviluoto, N., Karjaluoto, H., & Hyvönen, S. (2011). Entrepreneurial intentions and self-efficacy among arts and science students. *Education + Training*, 53(8/9), 748-766. <https://doi.org/10.1108/00400911111179428>
- Klewitz, J., & Hansen, E. G. (2014). Sustainability-oriented innovation of SMEs: A systematic review. *Journal of Cleaner Production*, 65, 57-75. <https://doi.org/10.1016/j.jclepro.2013.09.045>
- Kyro, P. (2001). Born global firms: A new international enterprise. *International Journal of Entrepreneurial Behaviour & Research*, 7(3), 136-144. <https://doi.org/10.1108/13552550110396047>
- Landes, D. S., Mokyr, J., & Baumol, W. J. (2012). *The invention of enterprise: Entrepreneurship from ancient Mesopotamia to modern times*. Princeton University Press.
- Locke, E. A. (2000). Self-efficacy, goal setting, and task performance: 1970-1990. *Journal of Applied Psychology*, 87(2), 225-245. <https://doi.org/10.1037/0021-9010.87.2.225>
- Mair, J., & Marti, I. (2006). Social entrepreneurship research: A source of explanation, prediction, and delight. *Journal of World Business*, 41(1), 36-44. <https://doi.org/10.1016/j.jwb.2005.09.002>
- Maxwell, J. A. (2016). *Qualitative research design: An interactive approach (3rd ed.)*. Sage. <https://doi.org/10.4135/9781506335193>
- Miner, J. B. (1963). The rational management of entrepreneurship. *Journal of Small Business Management*, 1(1), 15-22.
- Neck, H. M., & Greene, P. G. (2011). Entrepreneurship education: Known worlds and new frontiers. *Journal of Small Business Management*, 49(1), 55-70. <https://doi.org/10.1111/j.1540-627X.2010.00321.x>
- Obschonka, M., Schmitt-Rodermund, E., Silbereisen, R. K., Gosling, S. D., & Potter, J. (2013). The regional distribution and correlates of an entrepreneurship-prone personality profile in the United States, Germany, and the United Kingdom: a socioecological perspective. *Journal of personality and social psychology*, 105(1), 104.
- Park, S. H. (2017). The effect of big five personality traits on entrepreneurial intention mediated by self-efficacy. *Social Behavior and Personality: An International Journal*, 45(3), 481-494. <https://doi.org/10.2224/sbp.5746>
- Pastakia, A. (1998). The informal economy and microfinance in Africa: A literature review. *International Journal of Entrepreneurial Behaviour & Research*, 4(1), 24-42. <https://doi.org/10.1108/13552559810207480>
- Prahalad, C. K. (2006). *The fortune at the bottom of the pyramid: Eradicating poverty through profits*. Pearson Education.
- Rauch, A., & Frese, M. (2007). Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. *European Journal of Work and Organizational Psychology*, 16(4), 353-385. <https://doi.org/10.1080/13594320701595438>
- Schaltegger, S. (2002). Sustainability as a criterion for corporate decision-making. *Business Strategy and the Environment*, 11(2), 91-99. <https://doi.org/10.1002/bse.323>

- Schaltegger, S., & Burritt, R. (2018). Business cases for sustainability and the role of business model innovation: Developing a conceptual framework. *Journal of Cleaner Production*, 170, 216-224. <https://doi.org/10.1016/j.jclepro.2017.09.179>
- Schaltegger, S., & Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: Categories and interactions. *Business Strategy and the Environment*, 20(4), 222-237. <https://doi.org/10.1002/bse.682>
- Schumacker, R. E., & Lomax, R. G. (2004). *A beginner's guide to structural equation modeling (2nd ed.)*. Routledge.
- Senge, P. M. (1990). *The fifth discipline: The art and practice of the learning organization*. Doubleday/Currency.
- Shepherd, D. A., & Krueger, N. F. (2002). An intentions-based model of entrepreneurial teams' social cognition. *Entrepreneurship Theory and Practice*, 27(2), 167-185. <https://doi.org/10.1111/1540-8520.00006>
- Stewart, W. H., & Roth, P. L. (2001). Risk propensity differences between entrepreneurs and managers: A meta-analytic review. *Journal of Applied Psychology*, 86(1), 145-153. <https://doi.org/10.1037/0021-9010.86.1.145>
- Teran-Yepez, E., Delgado-García, J. B., González-Bustos, J. P., & Vizcaíno-González, J. L. (2020). Sustainable entrepreneurship: A systematic literature review. *Sustainability*, 12(9), 3876. <https://doi.org/10.3390/su12093876>
- Ullman, J. B. (2001). *Structural equation modeling*. In B. G. Tabachnick & L. S. Fidell (Eds.), *Using multivariate statistics* (4th ed.). Allyn & Bacon.
- Wiklund, J. (1999). The sustainability of the entrepreneurial orientation–performance relationship. *Entrepreneurship Theory and Practice*, 24(1), 37-48. <https://doi.org/10.1177/104225879902400104>
- Zhao, H., & Seibert, S. E. (2006). The big five personality dimensions and entrepreneurial status: A meta-analytical review. *Journal of Applied Psychology*, 91(2), 259-271. <https://doi.org/10.1037/0021-9010.91.2.259>
- 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), 1265-1279.