Pulasinghe, K.M., De silva, G.H.S.P., Vihindhuni, A.A.D.A.T. and Lokuge, A., 2026. The mind behind the machine: Mapping personality-based traits to entrepreneurial decision-making in construction SMES. In: Waidyasekara, K.G.A.S., Jayasena, H.S., Chandanie, H. and Tennakoon, G.A. (eds). *Proceedings of the 14th World Construction Symposium*, 10-11 July 2026, Sri Lanka. pp. 1735-1746. DOI: https://doi.org/10.31705/WCS.2026.126. Available from: https://ciobwcs.com/papers/

THE MIND BEHIND THE MACHINE: MAPPING PERSONALITY-BASED TRAITS TO ENTREPRENEURIAL DECISION-MAKING IN CONSTRUCTION SMES.

K.M. Pulasinghe[1], G.H.S.P. De Silva[2], A.A.D.A.T. Vihindhuni[3] and A. Lokuge[4]

ABSTRACT

The management of entrepreneurial decisions is a factor of successful and sustainable entrepreneurial construction SMEs and is especially important in markets which are highly uncertain and competitive. But there are few studies that have studied the effect of personality-based traits on entrepreneurial decisions in construction SMEs. Therefor, this study investigates the influence of Big Five personality-based traits, (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism), on entrepreneurial decision-making processes within Small and Medium Enterprises (SMEs) construction organisations in Sri Lanka. Following a comprehensive literature review, the data were collected from 45 managerial-level professionals in Sri Lankan construction SMEs by administrating a questionnaire survey assessing participants' Big Five personality profiles and entrepreneurial decision-making styles (creative thinking, information dependence, risk-taking, monitoring/evaluation, and decision framing). Data were analysed using descriptive statistics and Pearson's correlation coefficient. Key findings revealed that construction SME leaders exhibit high levels of Openness, Agreeableness, Extraversion and Conscientiousness, with comparatively lower Neuroticism. In decision-making, a strong reliance on information dependence and active monitoring was evident, with moderate engagement in creative thinking and risk-taking. Correlation analysis revealed that Conscientiousness demonstrated the strongest relationship with information dependence while Openness and Agreeableness showed moderate correlations with creative thinking. These findings confirm that specific personality configurations are prevalent among SME leaders and significantly shape their decision-making approaches. The insights offer valuable implications for developing targeted leadership training programmes and enhancing strategic planning in Sri Lankan construction SMEs.

Keywords: *Construction Industry; Entrepreneurial Decision-Making; Personality Traits; SME.*

1. INTRODUCTION

The construction industry claims an instrumental role in economic, environmental, and social sustainability, contributing significantly to the national infrastructure growth (Ali,

[1] Quantity Surveyor, Savinda Entreprises , Sri Lanka, manudileepulasinghe2001@gmail.com
[2] Senior Lecturer, Dept. of QS,SLIIT, Sri Lanka, Priyanwada.d@sliit.lk
[3] Student, Liverpool John Moores University, Sri Lanka, qs23890428@my.sliit.lk
[4] Academic Instructor, Dept. of QS,SLIIT, Sri Lanka, angel.o@sliit.lk

2021; Ardakani, 2013) with Small and Medium Enterprises (SMEs) making the primary influence. In the construction sector, SMEs account for the most business ventures in most regions (Mazzarol & Reboud, 2020). They are also recognised as key drivers of innovation, employment, and economic expansion (Stel et al., 2005; Bosma et al., 2018; Mazzarol & Reboud, 2020).

However, regardless of the context, these SMEs often operate in a resource-constrained, highly dynamic environment, making effective decision-making a critical factor for achieving competitive advantage. Therefore, in these organisations, where entrepreneurs often assume multiple leadership roles under high-pressure, uncertain conditions, understanding the internal drivers of decision-making has been treated as essential for their survival and success as decision making is widely recognised as a central and inseparable component of entrepreneurial activity.

The growing body of knowledge recognises decision-making as a core aspect of entrepreneurship, driving activities, goals, and performance outcomes (Ardakani, 2013). Ardakani and Avorgani (2021), say decision-making is the process by which entrepreneurs choose a course of action, and that is, based on internal judgement and external analysis, out of a number of possibilities, they select the way forward. It is defined as the process of selecting a specific solution (Easton, 1973), often characterised by complexity and sensitivity (Sidney et al., 2012). In the entrepreneurial context, decision-making is often high-stakes and time-sensitive, especially in dynamic environments such as SMEs in the construction sector.

There are various factors that influence decision-making. Among these factors, one that can significantly impact the success or failure of the entrepreneurial venture is the decision maker's personality traits. Personality is a defining characteristic that distinguishes individuals, encompassing personal qualities, emotional responses, and situational reactions (Matthews et al., 2003). Personality is often classified using "trait theories," which suggest that individual personalities are composed of broad dispositions. Among these theories, the Big Five model (OCEAN) categorises personality traits into five dimensions: *openness*, *conscientiousness*, *extraversion*, *agreeableness*, and *neuroticism* (McCrae & Costa, 1987).

Similar to the large-scale construction organisations, SMEs also face financial risks, project uncertainties, tight deadlines, and competing demands and therefore, the personality traits are the most important resource to fine tune the strategic decisions and increase business resilience and success. In this way, it is essential to comprehend how the individual characteristics of the personalities can affect decision-making in such situations because various traits can affect risk tolerance, ways of solving problems and coping with changing situations.

Despite the recognised importance of personality-based traits in entrepreneurship, there is limited evidence on their specific relationship with entrepreneurial decision-making in construction SMEs. Given the dynamic and uncertain nature of the construction industry, identifying the personality traits most beneficial to effective decision-making is critical for better leadership development in SMEs, strategic planning, and business performance. Furthermore, understanding the unique characteristics of individuals who create and manage these enterprises is crucial for supporting entrepreneurial activities and ensuring their success (Markman & Baron, 2003).

The significance of personality dimensions and entrepreneurial behaviours in the context of business in general has been explored in the previous studies, but there are very few empirical studies specially conducted on construction SMEs in developing countries like Sri Lanka. In addition, most studies have not investigated how the dimension of personality traits are related to each of the entrepreneurial decision making aspects such as creative thinking, dependence on information, risk taking, information monitoring and evaluation, and entrepreneurial decision framing Therefore, this research aims to explore the impact of personality-based traits on entrepreneurial decision-making processes in construction SMEs. The specific objectives are to: *(1)* review the different personality-based traits and their impacts on entrepreneurial decision-making processes in the construction industry; *(2)* examine the impact of each personality-based trait on the entrepreneurial decision-making processes in construction SMEs; and *(3)* establish a relationship between the impact of personality-based traits and entrepreneurial decision-making processes to improve the entrepreneurial success of construction SMEs.

2. LITERATURE REVIEW

2.1 ENTREPRENEURIAL DECISION-MAKING IN CONSTRUCTION SMES

Making the decisions involve choosing certain solution among possible alternatives (Easton, 1973, as cited in Ardakani and Avorgani, 2021). It is an essential element of professional and managerial work, which is often complex and sensitive as the issues at work are multifaceted (Sidney et al., 2012). Decision-making, as a cognitive phenomenon, is a complex process of collecting information, consulting, and assessing the possible results and uncertainties and concluding (Mooler et al., 2009).

In entrepreneurial contexts, this process becomes even more critical, as entrepreneurs must often make rapid and impactful decisions in high-pressure environments with limited resources. Decisions are widely recognised as a central and inseparable component of entrepreneurial activity, directly influencing the goals, direction, and performance of the business (Ardakani, 2013). Entrepreneurial decision making includes formulating sense of ambiguity, calculating risk and responding promptly to the arising chances or challenges characteristics that are very crucial in dynamic industries like construction.

Even decision making itself as a core entrepreneurial activity has been identified by many previous studies, but different factors have been identified for the influence on decision quality. Analytical reasoning, information availability and behaviours/personality are often emphasised by different researchers. This lacks consistency and this indicates the need for further study in specific industrial contexts, e.g., Construction SMEs.

2.2 THE BIG FIVE PERSONALITY TRAITS FRAMEWORK

The development of the Big Five personality traits was the result of research spanning several decades, with multiple studies contributing to the model. It is recognised as a robust framework for understanding personality structure (Goldberg, 1990; McCrae & John, 1992) and is instrumental in studying entrepreneurial behaviour. They are personality characteristics, both nature and nurtured, which provide useful information on individual behaviour and decision-making differences. This is because it has become one of the most elaborate and empirically evidenced theories of human personality.

These five traits represent basic dimensions of personality based on four key criteria: *temporal stability, cross-observer validity, cross-cultural presence*, and *biological foundations (*Costa & McCrae, 1992). Openness to Experience: this tendency is correlated with intellectual interest, creativeness, and readiness to be open to new concepts. Within the construction context, people who have a high level of openness are likely to adopt change and innovation (Lee and Foo, 2022)-conscientiousness: organised, disciplined and goal-oriented.

Within construction, this trait links with risk-averse behaviour and structured, well-planned approaches. *Extraversion:* describes energetic, sociable, and assertive individuals. Extraverted construction professionals are more likely to engage in risk-taking due to confidence and optimism. *Agreeableness*: Refers to being cooperative, empathetic, and compassionate.

Personality traits are more enduringly established traits which lead to behaviour in different situations. Entrepreneurial decision-making styles, on the other hand, have to do with the way people make business decisions. Personality qualities influence behavioural extractions, but decision-making styles are manifestations of the behavioural trends. It can thus be inferred those personals characteristics can be regarded as antecedents of entrepreneurial decision-making styles.

2.3 PERSONALITY TRAITS AND ENTREPRENEURIAL DECISION-MAKING

While personal factors influence the identification of problems or opportunities, choices are made in the decision-making process (Jones et al., 2018). Entrepreneurial decisions are unrestrained decisions or planned reactions concerning objects that affect an organisation's survival (Ardakani, 2013). Individuals engaging in entrepreneurial behaviour often exhibit specific personality traits, such as being opportunity-seeking, taking initiative, and making intuitive decisions (Jones et al., 2018). The author also identifies independence, locus of control, risk-taking, creativity, need for achievement, and self-confidence as determinants of entrepreneurial motivation (Jones et al., 2018).

Various personality traits are linked to entrepreneurial behaviour and decision-making, influencing everything from motivation and venture creation to opportunity recognition and firm performance. While specific studies show varied impacts depending on context and methodology, the consensus is that personality plays a crucial role in the entrepreneurial process (Zarnadze et al., 2022). In their study, Ardakani and Avorgani (2021) argued that decision-making is the core of entrepreneurial activities, which is reflected in entrepreneurs' behaviour. Furthermore, in their study of 65 entrepreneurs from SMEs in Iran, they found that access to and use of information had a statistically significant effect on decision-making. At the same time, risk-taking and creative thinking had no significant impact on decision-making in the Iranian context. Similarly, another study on the personality traits and risk attitudes among construction project practitioners in the Malaysian construction industry, Lee and Foo (2022), found that traits exist on a continuum and influence individuals' emotional and cognitive processing of risk. The authors also highlighted that extraversion and *neuroticism*, emotional instability, anxiety, and stress susceptibility involve strong affective elements, which align with emotional components of risk perception. Moreover, they highlighted that Individuals high in neuroticism are less likely to take risks, as they are more sensitive to potential negative outcomes.

There are limited studies that identify a relationship between personality characteristics mentioned and entrepreneurial decision making, but the results are varied. For instance, Ardakani and Avorgani (2021) reported that creative thinking and risk taking did not affect decision making while Lee and Foo (2022) noted that openness and risk attitude were crucial in the construction domain. The town and city results were contrasted, possibly suggesting that personality and decision-making are shaped by different contextual variables like industry characteristics and organisational size for towns compared to cities.

3. METHODOLOGY

3.1 RESEARCH DESIGN AND APPROACH

The author initiated the research with a comprehensive literature review of personality traits, their theoretical frameworks, and their influence on entrepreneurial decision-making in the construction industry referring to journal articles, books, conference papers, and other sources.

This research adopted a quantitative research design to investigate the influence of personality-based traits on entrepreneurial decision-making in construction SMEs. In light of literature findings, the author administered a questionnaire survey among managerial-level professionals in construction SMEs in Sri Lanka. These individuals include owners, directors, project managers, site managers, and other decision-makers actively involved in strategic and operational functions. The rationale for selecting this group is their direct engagement in entrepreneurial decision-making processes, which makes them highly relevant to the study's objectives. Out of the 65 questionnaires distributed, only 45 complete responses were received by the author and included in the analysis. The collected data were then analysed using descriptive statistical tools, such as weighted averages, percentage counts, means, etc., through 5-point Likert Scales and Pearson's correlation coefficient to examine relationships between variables.

The entrepreneurship and decision-making literature guided the selection of the entrepreneurial decision-making variables (creative thinking, information dependence, risk-taking, monitoring and evaluation, and decision framing) which are common variables used to measure entrepreneurial decision-making behaviour.

According to Kusmaryono et al. (2022), 90% of research uses Likert scales, which are recognised tools for measuring attitudes, concepts, and values. As shown in Table 1. The 5-point Likert scale enables the quantification of individual traits and decision-making styles. These Likert scales are based on two assumptions. These assumptions are the distance between "*strongly disagree/never*" and "*disagree/rarely"* is the same as the distance between "strongly agree/always" and "agree/often". Thereby, the distance between "*strongly disagree/never*" and "*disagree/rarely*" is five times less than the distance between "*strongly agree/always*" and "agree/often" respectively.

Table 1: Likert scales

Table 1a: Likert Scale for existence of Big Five personality traits			**Table 1b: Likert Scale for decision making**		
Value	***Range***	***Scale***	***Value***	***Range***	***Scale***
1	1.00-1.08	Strongly disagree	1	1.00-1.08	Never

Table 1a: Likert Scale for existence of Big Five personality traits			Table 1b: Likert Scale for decision making		
Value	***Range***	***Scale***	***Value***	***Range***	***Scale***
2	1.81-2.60	Disagree	2	1.81-2.60	Rarely
3	2.61-3.40	Neutral	3	2.61-3.40	Occasionally
4	3.41-4.20	Agree	4	3.41-4.20	Often
5	4.21-5.00	Strongly agree	5	4.21-5.00	Always

The interpretation scale for Pearson's correlation coefficient (r) was: $0 < r \leq 0.19$ = Very Low Correlation; $0.2 \leq r \leq 0.39$ = Low Correlation; $0.4 \leq r \leq 0.59$ = Moderate Correlation; $0.6 \leq r \leq 0.79$ = High Correlation; $0.8 \leq r \leq 1.0$ = Very High Correlation.

The sample size of 45 respondents was found to be satisfactory for exploratory analysis, but the results might not be entirely representative of the Sri Lankan construction SME population. Therefore, the results should be linked with the selected sample.

4. DATA ANALYSIS AND DISCUSSION

4.1 PARTICIPANT DEMOGRAPHICS

A total of 45 construction sector professionals of the Sri Lankan SMEs participated in filling in the questionnaire. The respondents were categorised into different positions such as directors, project and site managers, planning and operations managers, quantity surveyors, engineers (electrical, maintenance and systems) [PD3.1] and also architects. This diversity of participants achieved sufficient coverage of managerial and decision-making views of the industry. Majority of the respondents (60%) had 1 to 5 years' experience of managerial or entrepreneurial position, 21% had 6 to 10 years' experience. The SMEs reported were mainly of the 11-50 and 51-300 number of employee categories.

4.2 PERSONALITY-BASED TRAITS IN THE CONSTRUCTION CONTEXT

Table 2 presents the average scores for the Big Five personality traits among respondents.

Table 1:Average scores for Big Five personality traits

Trait	Average Score
Openness to Experience	4.36
Conscientiousness	4.34
Extraversion	4.36
Agreeableness	4.36
Neuroticism	3.20

Among all personality-based traits, openness to experience, extraversion and Agreeableness recorded the highest average score of 4.36, indicating that participants strongly agree that they tend to be creative, curious, and open to innovation, while also being cooperative, empathetic, and respectful toward others. The mentioned traits are especially useful and implemented and amused in the construction industry, where flexibility, cooperation, and problem-solving are needed. In the same way, participants established a strong agreement with an average of 4.34 that Conscientiousness came in second, and this implies that respondents tend to be always reliable, well organised and

goal oriented. Extraversion also scored relatively high with an average of 4.36, reflecting a strong tendency toward sociability, enthusiasm, and assertiveness.

The lowest average score was recorded in neuroticism with 3.20, which showed that the majority of the participants were at the neutral level which confirms that they possess emotional control and are not easily stressed and anxious. Low neuroticism is a good entrepreneurial and management characteristic especially in a demanding business such as construction since it helps to stay focused and more decisive in the face of uncertainty. The discussion demonstrates that the traits of the respondents are largely personality-based and able to influence successful entrepreneurial decision-making. This congruence supports the idea that these were the frequent attributes attributed to efficient entrepreneurial decision-making, especially in the construction SME industry, in line with the results presented by Salmony and Kanbach (2021).The findings align closely with prior research by Lee and Foo (2022), who examined the relationship between Big Five personality traits of pressure and risk attitudes in construction project practitioners in Malaysia. Their analysis has shown that openness to experience, conscientiousness and extraversion had a positive effect on risk-taking behaviour, but neuroticism had a negative effect on it. These patterns are consistent with the present study's results, which show that participants with higher scores in openness, conscientiousness, and extraversion demonstrated more confident and adaptive decision-making behaviours.

4.3 ENTREPRENEURIAL DECISION-MAKING STYLES

Table 3 presents the average scores for entrepreneurial decision-making qualities among respondents.

Table 2:Average scores for entrepreneurial decision-making qualities

Decision-Making Quality	Average Score	Interpretation
Creative Thinking	3.71	Often rely on creative ideas
Information Dependence	4.44	Always seek relevant information
Risk-Taking	3.56	Often take risks
Monitoring, Modifying, and Evaluating	4.34	Often revise decisions after reflection
Decision Framing	3.83	Often influenced by how situations are framed

As the data shows, the population confirmed that the managerial-level professionals of SMEs always want to find relevant information prior to decision-making, or are information-dependent, and this measure stands at the top of all the measured qualities. It indicates that there is a high tendency of the participants to obtain correct and useful information prior to the decision-making process of the business. This informed decision preference within the high- risk and details driven construction business improves the planning, risk management and performance reliability. The information also revealed that Sri Lankan professionals usually change their mind after consideration, and this fact demonstrates their potential to become better with the experience. It will imply that the participants actively evaluate the outcomes of decisions and are willing to change the strategies when it is needed. Moreover, such professionals are prone to framing situations, being guided by creative ideas and risk-taking, and average scores of 3.83, 3.71 and 3.56 respectively. reliance on critical ideas. Both studies heavily depend on the role of

information dependence in the decision-making process as compared to the study by Ardakani and Avorgani (2021) in the construction industry in Malaysia. The current study has shown that the mean level of the selected participants was 4.44, which corresponds to a conclusion made by Ardakani and Avorgani according to which information plays a significant role in the process of making entrepreneurial decisions. Nonetheless, there are differences that can be observed on the creative thinking. Although the results of the article by Ardakani and Avorgani (2021) revealed that the effect of creative thinking on the decision-making process was not significant, the respondents in the present study achieved the mean score of 3.71, which indicates that they frequently refer to creative methods. Similarly, the dimension of risk-taking had different results, with the current results showing moderate uncertainty comfort.

4.4 PERCEIVED INFLUENCE OF BIG FIVE TRAITS ON DECISION-MAKING

Table 4 presents the average scores for perceived influence of Big Five traits on decision-making.

Table 3:Average scores for perceived influence of Big Five traits

Trait	Average Score	Interpretation
Openness to Experience	4.34	Considered highly influential
Conscientiousness	4.41	Most influential trait
Extraversion	4.20	Important for proactive leadership
Agreeableness	4.29	Valued for promoting harmony
Neuroticism	3.22	Least influential

Conscientiousness has the highest average of 4.41, reflecting strong agreement that organisation, diligence, and goal-oriented behaviour play a critical role in entrepreneurial decisions. Given the structured and deadline-sensitive nature of construction projects, this result aligns with expectations. Extraversion (4.20), Openness to Experience (4.34) and Agreeableness (4.29) were highly rated, as well. Neuroticism is the least average score with 3.22 which showed that a substantial number of respondents consider emotional instability and stress sensitivity to not help or even to be a disadvantage in good decision-making.

4.5 RELATIONSHIP BETWEEN PERSONALITY TRAITS AND DECISION-MAKING STYLES IN SRI LANKAN SMES

Table 5 presents Pearson's correlation coefficients between personality traits and entrepreneurial decision-making factors.

Table 4:Pearson's correlation coefficients between personality traits and decision-making factors

Trait	Creative Thinking	Information Dependence	Risk-Taking
Openness to Experience	0.49 (moderate)	0.25 (low)	0.11 (very low)
Conscientiousness	0.07 (very low)	0.52 (moderate)	-0.18 (very low)
Extraversion	0.33(low)	0.30 (low)	0.13 (very low)
Agreeableness	0.41 (moderate)	0.35 (moderate)	-0.09 (very low)

Trait	Creative Thinking	Information Dependence	Risk-Taking
Neuroticism	0.15 (very low)	0.07 (very low)	-0.13 (very low)

The analysis shows that there are moderate positive correlations between a number of personality traits and decision-making variables. The correlation of Openness to Experience with creative thinking is moderate (r = 0.49), which indicates that people with imaginative minds and inclined to new experiences are likely to be more involved in innovative opinion making. This implies a moderate relation between agreeableness and creative thinking (r = 0.41) and information dependence (r = 0.35) albeit in the lower category of correlation. The closest medium correlation is found to exist between the Conscientiousness and information dependence (r = 0.52), which shows that organised and disciplined people depend much on the correct data in making decisions. Extraversion exhibits low correlations with the three decision-making traits namely the creative thinking (r = 0.33), information dependence (r = 0.30), and the risk-taking (r = 0.13), indicating a low intensity of the relationship. Neuroticism poses very low to negative correlations among all the decision - making characteristics especially risk taking (r = -0.13) meaning that emotionally unstable subjects may not be more willing to come up with entrepreneurial risk. The results of correlation evidence the theoretical framework identified by Hillson and Murray-Webster (2007) that stated the risk attitude as a response to uncertainty, which does matter, highly dependent on the individual perception. The Conscientiousness-information dependence positive relationship is consistent with Sadler-Smith et al. (2003), who described the entrepreneurial managerial behaviours as a culture of creativeness and risk-taking with opportunity-focused and adaptive behaviours being heavily conditioned by personality traits.

This implies that highly conscientious SME leaders are better inclined to systematically collect and analyse information before decision making in the business, which yields low level of uncertainty and quality decision making.

Openness, Suggests a moderate correlation between openness and creative thinking enables people to consider new ideas more likely to possibly think of new ways to solve business problems. The negative correlation between neuroticism and risk-taking highlights a tendency for some people to forgo entrepreneurship because of fear of risk and uncertainty.

4.6 DISCUSSION OF FINDINGS

The results prove that the personality traits play an important role in the decision-making process of the entrepreneur of construction SMEs, particularly in times of uncertainty. These scores of *Openness to Experience* and *Conscientiousness* are also too high according to the entrepreneurial personality profile depicted in the literature (Salmony and Kanbach, 2021). The significance of being organised, disciplined in the decision-making process in the construction industry that require paying attention to detail and planning is strengthened by the high correlation between Conscientiousness and information dependence (r = 0.52). The medium-size relationship between Openness and creative thinking (r = 0.49) confirms the argument put forward by Lee and Foo (2022) that the concept of openness pushes people toward facing uncertainty and new experiences. This feature seems to be especially helpful in construction SMEs, and innovative solution should be found to solve complicated project issues. In the same way,

the relationship between agreeableness and creative thinking (r = 0.41) indicates that cooperative and empathetic people might be more willing to hear different points of view, and this approach to creative problem-solving can be improved. The association between Neuroticism and the negative outcomes in the various dimensions of decision making (r = -0.13) of risk-taking, the inference is that emotional constancy is critical in making effective choice in a highly experienced construction setting. This observation is consistent with the results of Lee and Foo (2022) who observed that high neuroticism individuals have low risk-taking because they are sensitive to the possible adverse consequences. The findings indicate that though some personality traits moderate the decision-making styles, others have a less or even negative impact particularly construction SMEs entrepreneurial behaviour. These implications apply to practicability to leadership development processes, meaning that interventions might target improvement of characteristics of positive decision-making performances.

Hence the second aim of the study "Indirect effect of individual personality traits on entrepreneurial decision-making dimensions" was also fulfilled. Moreover, the achievement of Objective 3 was made by using correlation analysis to show the measurable correlation between personality-based traits and entrepreneurial decision-making styles.

5. CONCLUSIONS AND RECOMMENDATIONS

The study examined how attitudes of personality-based traits affect the decision-making of an entrepreneur in construction SMEs in Sri Lanka. The research aimed at achieving the three objectives of the study was achieved. Firstly, the literature review ensured that the Big Five personality dimensions are a resilient construct in explaining entrepreneurial behaviour whereby entrepreneurs have generally high scores on Openness and Conscientiousness and low scores on Neuroticism (*Objective 1*). Second, the quantitative results showed that the Openness, Agreeableness, Extraversion and Conscientiousness are high among construction SME leaders, and the levels of Neuroticism were lower. All of the traits had different effects on the decision-making processes, with Conscientiousness producing the strongest influence on information dependence, and Openness and Agreeableness having connexions to creative thinking (*Objective 2*). Third, correlation analysis has revealed statistically significant correlations of personality characteristics with decision making qualities proving that certain personality set ups are extremely powerful in defining decision-making styles and can be used to formulate strategies in enhancing the entrepreneurial outcomes (*Objective 3*).

The study builds on previous works in the field by expanding the use of the Big Five personality framework into the construction SME sector which is not well studied in entrepreneurship research. In practice, the results will inform entrepreneurial decision-making traits of personality for the user which include SME owners, managers and leadership development programmes.

For the recommendations Suggest that,

For SME Leaders,

- Promote evidence-based decision-making processes.
- Leadership development initiatives – open, conscientious and adaptive thinking.

- Utilise personality assessments in leadership development programs.

For Policymakers

- Provide support SME leadership development initiatives.
- Launch of entrepreneurship building programs focused on decision making skills.
- Organize knowledge sharing forums for management of SMEs.

6. ACKNOWLEDGEMENTS

Authors would express sincere gratitude to the industry professionals who generously contributed their time and expertise by participating in the questionnaire survey. Their practical insights and perspectives provided valuable data and greatly enriched this study. The authors also acknowledge the support of Liverpool John Moores University (LJMU) and SLIIT the affiliated academic partners, LJMU for providing the necessary academic resources and support that enabled the successful completion of this research.

7. REFERENCES

Ali, I. F. (2021). Contribution of construction SMEs to sustainable development in Nigeria. *International Journal of Small Business and Entrepreneurship Research, 9*(3), 22–38.

Ardakani, M. F. (2013). Decision making in entrepreneurship. *Journal of Entrepreneurship and Business Innovation, 5*(1), 1–12.

Ardakani, M. F., & Avorgani, R. K. (2021). Decision making of entrepreneurs in Small and Medium-Sized Enterprises(SMEs). *International Journal of Academic Research in Business and Social Sciences*, *11*(3). https://doi.org/10.6007/ijarbss/v11-i3/8933

Bosma, N., Content, J., Sanders, M., & Stam, E. (2018). Institutions, entrepreneurship, and economic growth in Europe. *Small Business Economics*, *51*(2), 483–499. https://doi.org/10.1007/s11187-018-0012-x

Costa, P. T., & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Differences*, *13*(6), 653–665. https://doi.org/10.1016/0191-8869(92)90236-i

Easton, A. (1973). Complex managerial decisions involving multiple objectives. In *Medical Entomology and Zoology*. http://ci.nii.ac.jp/ncid/BA04472796

Goldberg, L. R. (1990). An alternative "description of personality": The Big-Five factor structure. *Journal of Personality and Social Psychology*, *59*(6), 1216–1229. https://doi.org/10.1037/0022-3514.59.6.1216

Hillson, D., & Murray-Webster, R. (2007). *Understanding and managing risk attitude*. Gower Publishing. https://doi.org/10.4324/9781315235448

Jones, P., Klapper, R., Ratten, V., & Fayolle, A. (2018). Emerging themes in entrepreneurial behaviours, identities and contexts. *International Journal of Entrepreneurship and Innovation, 19*(4), 233–236. https://doi.org/10.1177/1465750318772811

Kusmaryono, I., Wijayanti, D., & Maharani, H. R. (2022). Number of response options, reliability, validity, and potential bias in the use of the Likert Scale Education and Social Science Research: A Literature review. *International Journal of Educational Methodology*, *8*(4), 625–637. https://doi.org/10.12973/ijem.8.4.625

Lee, C. K., & Foo, M. Y. (2022). Risk attitudes and the big five personality traits: a study on construction project practitioners in Malaysia. *International Journal of Construction Management*, *22*(13), 2435–2445. https://doi.org/10.1080/15623599.2020.1793506

Markman, G. D., & Baron, R. A. (2003). Person–entrepreneurship fit: why some people are more successful as entrepreneurs than others. *Human Resource Management Review*, *13*(2), 281–301. https://doi.org/10.1016/s1053-4822(03)00018-4

Matthews, G., Deary, I. J., & Whiteman, M. C. (2003). *Personality traits* (2nd ed.). Cambridge University Press.

Mazzarol, T., & Reboud, S. (2020). *Entrepreneurship and innovation: Theory, practice and context* (4th ed.). Springer.

McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factor model of personality across instruments and observers. *Journal of Personality and Social Psychology, 52*(1), 81–90. https://doi.org/10.1037/0022-3514.52.1.81.

McCrae, R. R., & John, O. P. (1992). An introduction to the Five-Factor model and its applications. *Journal of Personality*, *60*(2), 175–215. https://doi.org/10.1111/j.1467-6494.1992.tb00970.x

Mooler, C., Townsend, M., & Pryor, K. (2009). Entrepreneurial decision-making in SMEs. *Journal of Small Business and Enterprise Development, 16*(3), 399–414.

Sadler–smith, E., Hampson, Y., Chaston, I., & Badger, B. (2003). Managerial behavior, entrepreneurial style, and small firm performance. *Journal of Small Business Management*, *41*(1), 47–67. https://doi.org/10.1111/1540-627x.00066

Salmony, F. U., & Kanbach, D. K. (2021). Personality trait differences across types of entrepreneurs: a systematic literature review. *Review of Managerial Science*, *16*(3), 713–749. https://doi.org/10.1007/s11846-021-00466-9

Sidney, J., Barton, J., & Khan, M. (2012). The complexity of decision-making in construction projects. *Construction Management and Economics, 30*(8), 645–658.

Van Stel, A., Carree, M., & Thurik, R. (2005). The effect of entrepreneurial activity on national economic growth. *Small Business Economics*, *24*(3), 311–321. https://doi.org/10.1007/s11187-005-1996-6

Zarnadze, G., Dika, I., Çera, G., & Ribeiro, H. N. R. (2022). Personality traits and business environment for entrepreneurial motivation. *Administrative Sciences*, *12*(4), 176. https://doi.org/10.3390/admsci12040176