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Henrik G.S. Arvidsson, Ruslana Arvidsson

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Personality traits and their impact on entrepreneurial processes and venture performance in the Nordic IT industry

Henrik G.S. Arvidsson*

University of Tartu,
Ülikooli 18, 50090 Tartu, Estonia
Email: henrik.arvidsson@viamareconsulting.com
*Corresponding author

Ruslana Arvidsson

Institute of Innovative Governance,
Tohu 3-10a, 12012 Tallinn, Estonia
Email: ruslanadiadiun@gmail.com

Abstract: The objective of this study is to examine the association between personality traits and the inclination to adopt the iterative methodology of venture creation expounded in entrepreneurial process theory and the subsequent effect on entrepreneurial success. In doing so, the study interlinks entrepreneurial process theory with personality psychology, aiming to discern the impact of personality traits on both the entrepreneurial process and subsequent venture performance. The study reveals a significant relationship between the Big 5 personality traits and the dynamics of the entrepreneurial process, affirming the results of earlier studies which elucidate the connection between openness to experience, extraversion, conscientiousness, and entrepreneurial success. Noteworthy is the departure from an Anglo-Saxon context, as the study unfolds in the Nordic countries, a region existing in a research vacuum in terms of the IT industry in an entrepreneurial sense, and not as commonly, in a north American or British context. Utilising a mixed-method approach and drawing on responses from 70 Nordic IT entrepreneurs, this research contributes nuanced insights into the complex relationship between personality traits, entrepreneurial process theory, and venture outcomes.

Keywords: entrepreneurial process theory; personality traits; Nordic; IT-industry; venture performance; entrepreneurship.

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Biographical notes: Henrik G.S. Arvidsson is a business consultant with experience mainly from the cruise and leisure industry as well as the IT sector. He has been an entrepreneur and CEO for over 30 years spanning a variety of industries. He is also a lecturer and researcher specialised in entrepreneurship and innovation. He has been teaching and conducting research at universities in northern and central Europe.

Ruslana Arvidsson is a business consultant and researcher into innovation management and entrepreneurship. She helps startups gain funding and is a director at the Institute of innovative governance.

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1 Introduction

Entrepreneurship, a multifaceted and dynamic research domain, has garnered scholarly attention for its intricate mechanisms and challenges (Mets, 2015). However, despite a surge in academic literature over the past two decades, a pronounced limitation endures, with many articles narrowly focusing on specific aspects or adopting particular perspectives, impeding a comprehensive understanding of the phenomenon (Anderson and Stevenson, 2008). Noteworthy studies by Brandstätter (2011) and Zhou et al. (2019) have explored the relationship between personality traits and entrepreneurial outcomes. Nevertheless, these investigations primarily concentrate on the outcomes of the entrepreneurial process, neglecting a crucial aspect – how adherence to the process itself is influenced by individual traits (Montgomery and Dacin, 1999).

In the realm of entrepreneurship literature, existing reviews have played a pivotal role, yet they often focus on specific themes, such as opportunity identification (Gaglio, 1997), or adopt distinct psychological and sociological perspectives (Shapero and Sokol, 1982; Cunningham and Lischeron, 1991; Thornton, 1999; Arvidsson and Xu, 2001). This prevailing trend highlights a significant gap in the literature – a lack of a comprehensive understanding of the holistic relationship between personality traits and the entrepreneurial process. It is within this gap that our study finds purpose and aims to contribute. The historical trajectory of entrepreneurship research initially centred on the individual entrepreneur and the attributes contributing to success or failure (Davidsson, 2005). However, recent decades have witnessed a paradigm shift towards a more process-centric view, encompassing cognitive and behavioural steps from ideation to the establishment and operation of a new venture (Davidsson, 2005; Coudounaris and Arvidsson, 2021; Arvidsson, 2024).

Various models, including Bhave's (1994), have been applied to scrutinise the entrepreneurial process from different perspectives. Singh et al. (2008) explored the influence of race, while Coudounaris and Arvidsson (2021) investigated the interplay between personality traits, decision-making logics, and their impact on the entrepreneurial process. Baron (2008) examined the role of emotions, while Arvidsson and Coudounaris (2020) and Arvidsson et al. (2020) delved into the attitudinal component and its correlation with decision-making logic, consequently shaping the entrepreneurial process.

Zapkau et al. (2017) argue for connecting entrepreneurial process theory with overlooked research areas, including personality psychology. While Coudounaris and Arvidsson (2021) explored personality traits in relation to decision-making logic, the empirical testing of the relationship between entrepreneur personality traits and adherence to the sequential steps in the model proposed by Mets (2015) remains unexplored.

This study seeks the answer to the question how the entrepreneur's personality traits influence their adherence to the sequential steps of the entrepreneurial process, as proposed by Mets (2015), and what are the potential implications for venture performance, particularly in the context of IT companies operating in the Nordic countries.

The study seeks to contribute to the existing entrepreneurship literature by addressing a significant gap in understanding the holistic relationship between personality traits and the entrepreneurial process. While previous research, such as that by Brandstätter (2011) and Zhou et al. (2019), has explored entrepreneurial success in relation to personality traits, this study aims to shift the focus towards understanding how individual traits influence the adherence to the sequential steps of the entrepreneurial process, as outlined by Mets (2015) and not only focus on the relationship between personality traits and venture performance but hierarchical relationship between personality traits, adherence to the descriptive model and venture performance. By synthesising insights from foundational works and building upon existing literature, the research aims to provide a systematic examination of this relationship.

Furthermore, the study contributes to the literature by investigating this relationship in the specific context of IT companies in the Nordic countries, an area that has been relatively underexplored despite its significance in Nordic society. The setting in the Nordic region in contrast to countries like Estonia (Coudounaris and Arvidsson, 2021), adds depth to the research by highlighting potential regional variations in the nexus of personality traits, the entrepreneurial process, and venture performance. Additionally, by empirically testing the relationship between entrepreneur personality traits, adherence to the sequential steps proposed by Mets (2015) and venture performance, the study aims to fill a research vacuum in the Nordic region, providing valuable insights for scholars, practitioners, and policymakers interested in the entrepreneurial dynamics of the IT sector in this specific geographical context.

2 Literature study

2.1 Entrepreneurship and the entrepreneurial process

Entrepreneurship theory, as elucidated by Virtanen (1997), is a domain of extensive research marked by its heterogeneity rather than homogeneity. Diverse facets are explored, spanning disciplines such as psychology (McClelland and Winter, 1971; Brockhaus, 1982), international entrepreneurship, notably McDougall's (1989) investigation discerning differences between domestic and international entrepreneurial endeavours (Arvidsson, 2021, 2002, 2003; Arvidsson and Arvidsson, 2019). Additional domains include sociology (Reynolds, 1991), decision-making logics (Sarasvathy, 2001), and innovation, where Schumpeter's (1934) seminal work on creative destruction stands as a pioneering contribution.

Schumpeter (1934) is widely acknowledged as the progenitor of entrepreneurship studies, conceptualising entrepreneurs as entities exploiting market opportunities through technical and organisational innovation. Schumpeterian entrepreneurs, as articulated by Schumpeter (1934), are dynamic economic actors disrupting stasis and propelling the economy towards development, distinct from mere economic growth, encapsulating fundamental changes (Vaz-Curado and Mueller, 2019).

Kirzner (1973) provides an alternative perspective, positing the Kirznerian entrepreneur as a decision-maker attuned to overlooked opportunities, contrasting Schumpeter's disruptive entrepreneur. While traditional entrepreneurship primarily focuses on the individual entrepreneur (Davidsson, 2005), the landscape began evolving in the late 1980s, particularly following Bhave's (1994) seminal study delineating a sequential process in venture creation.

Central to entrepreneurship, often presented as a distinct theory, is entrepreneurial process theory (Shane, 2012; Moroz and Hindle, 2012; Singh et al., 2008; Smithson, 2017), with seminal contributions from Churchill and Bygrave (1989) and Bygrave and Hofer (1991). This theory serves as the theoretical foundation due to its provision of structural elements and identifiable actions requisite for venture creation. Additionally, it incorporates preconditions derived from diverse aspects of entrepreneurship theory. Effectuation theory (Sarasvathy, 2001) within entrepreneurial process theory posits that entrepreneurs predominantly eschew causal logic, focusing on means-driven logic. This is exemplified in the study by Coudounaris and Arvidsson (2021) and Arvidsson (2001), revealing a connection between personality traits and decision-making logic. Conscientiousness was found to positively predict causation logic, whereas openness, conscientiousness, extraversion, and agreeableness positively predicted effectuation logic, excluding neuroticism.

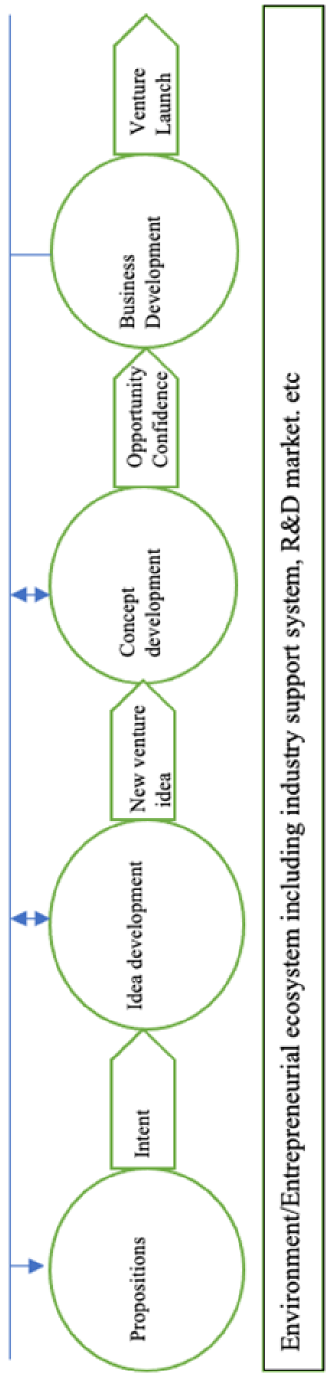
A model delineating the entrepreneurial process is proffered by Mets et al. (2022), building upon prior work by Mets (2014, 2015) and Mets et al. (2019). It outlines the venture creation journey from proposition through idea and concept development to business development, often culminating in venture launch.

The entrepreneurial process is characterised as a dynamic and sequential phenomenon, intricately woven with inherent feedback loops. Sarasvathy (2001) contends that the initial phase of this process, specifically propositions, is profoundly influenced by the entrepreneur's self-perception, encompassing facets such as identity, connections, and knowledge. To illustrate, an individual devoid of technical skills and a passion for automobiles would be improbable to embark on establishing an automotive repair shop.

The literature on entrepreneurship and the entrepreneurial process has witnessed significant developments in understanding the role of personality traits, particularly in recent studies. Personality traits play a crucial role in shaping entrepreneurial behaviour and decision-making, intertwining with various elements of process theory. The integration of these studies into the existing framework provides valuable insights into the nuanced relationship between personality traits and the entrepreneurial journey.

Recent research has delved into the intricate connection between personality traits and the entrepreneurial process. Alves and Fernandes (2021) conducted a systematic review exploring the nexus between entrepreneurship and psychological traits. Their comprehensive analysis contributes to understanding how personality traits influence entrepreneurial actions, providing a foundation for the subsequent exploration of their impact on the entrepreneurial process.

Figure 1 The entrepreneurial process (see online version for colours)



Source: Adapted from Mets (2015)

Baker et al. (2021) present a conceptual framework that delves into the relationship between personality traits, institutional context, and entrepreneurial exit. Their work sheds light on the dynamic interplay of personality traits within the broader entrepreneurial context, offering a nuanced perspective on how individual characteristics influence critical decisions throughout the entrepreneurial journey.

Carter and Wagner (2021) focus on entrepreneurial aspirations, investigating the influence of family business exposure and human capital. This study provides valuable insights into the early stages of the entrepreneurial process, emphasising the significance of individual characteristics and background in shaping entrepreneurial goals and motivations.

Ding et al. (2021) explore entrepreneurial passion and its impact on firm performance, introducing mediating factors such as entrepreneurial orientation and moderating factors like environmental dynamism. This study enriches our understanding of how personality traits, specifically passion, contribute to shaping strategic orientations and, consequently, the outcomes of the entrepreneurial process.

Giudici and Nava (2021) contribute to the literature by conducting a meta-analysis on personality and new venture performance. Their work synthesises findings from diverse studies, offering a comprehensive overview of the relationship between personality traits and the ultimate success of entrepreneurial ventures. Hornsby et al. (2021) delve into the role of resources, dynamic capabilities, and entrepreneurial opportunity evaluation. By examining how individual traits interact with resources and capabilities, this study contributes to elucidating the mechanisms through which personality influences the evaluation and exploitation of entrepreneurial opportunities. These recent studies collectively enhance our understanding of the complex interplay between personality traits and the entrepreneurial process.

If we further examine this nexus, the personality traits of the entrepreneur, elucidated by Coudounaris and Arvidsson (2019, 2021, 2022), alongside external structures, notably policies, exert considerable influence on the holistic entrepreneurial process. As underscored by Reynolds et al. (1994) and Davidsson (2005), approximately 70% of venture existence can be ascribed to surrounding structures, spanning government incentives, public policies facilitating entrepreneurial endeavours, and the availability of resources, encompassing capital and competencies.

Nonetheless, the principal thrust of this study is not an exhaustive exploration of the myriad components constituting the entrepreneurial process. Rather, the study seeks to scrutinise the adherence of entrepreneurs to the linear model proposed by Mets et al. (2022). It will also delve into the impact of personality traits and the perceived favourability of the institutional environment on the trajectory through the entrepreneurial process.

2.2 Personality traits: the big five and entrepreneurship

A longstanding debate and critique in academia, particularly within the field of entrepreneurship, revolve around the definition of personality traits and the potential inclusion of sub-traits. Influential studies by Eysenck, (1967), Gartner (1989) and Aldrich and Widenmayer (1993), among others, argue that entrepreneurship encompasses a broad spectrum of behaviours, making it challenging to associate with specific personality traits. Despite these debates, the Big Five model of personality, presented by McCrae and

Costa (1985), remains the most influential and widely accepted model to date, despite subsequent attempts such as the HEXACO-60 model by Ashton and Lee (2009).

The Big Five model comprises five distinctive dimensions. *Conscientiousness*, the initial trait, reflects an individual's capacity for self-disciplinary behaviour. Those with high conscientiousness are known for completing tasks, reliability, and going beyond expectations. *Openness to experience* involves an appreciation for beauty, emotions, art, adventure, innovative ideas, and a curiosity about the world. Open individuals are intellectually curious, open to emotions, and often generate innovative business ideas (McCrae and Costa, 1985).

Extraversion describes an individual's engagement with the external world as indicated in the study by McCrae and Costa (1985). Extraverted individuals enjoy interactions, exude energy, and are perceived as enthusiastic. This is something that also influences the ability to form friendships and to participate in network activities (Birley, 1985). *Agreeableness* reflects concern for social harmony, valuing getting along with others. Agreeable individuals are seen as kind, generous, considerate, trusting, trustworthy, and helpful, making them effective team players as described by McCrae and Costa (1985, 1999).

Neuroticism indicates a predisposition to negative emotions like anger, anxiety, or depression. Individuals scoring high on neuroticism experience heightened discomfort and emotional instability, often seeking psychological help. Neuroticism significantly impacts well-being, leading to persistent negative affective reactions, a pessimistic approach, and difficulties in personal relations and decision-making (Costa and McCrae, 1992; Sauer-Zavala et al., 2017).

A study by De Jong et al. (2019) posits that personality traits play a pivotal role in delineating occupational suitability, encompassing both cognitive aptitudes and emotional proclivities, thus impacting work satisfaction and business orientation. Individuals characterised by low agreeableness and heightened neuroticism exhibit reduced efficacy in vocations demanding substantial social engagement, while those with diminished conscientiousness are ill-suited for roles requiring meticulous scrutiny, such as auditing. This assertion resonates with antecedent investigations by Ackerman (1996, 1999), Schmidt (2014), Brockhaus and Horwitz (1986) and Arvidsson (2024).

Entrepreneurs demonstrating attenuated levels of extraversion and a proclivity for continuous learning, encapsulated by openness to experience, tend to accrue an extensive repertoire of general knowledge and skills over temporal progression. This phenomenon, coined as crystallised intelligence, stands in contradistinction to fluid intelligence, which governs adaptive learning and problem-solving capacities. This nuanced revelation underscores the nuanced interplay of business-specific determinants on entrepreneurial performance. Notably, traits such as openness to experience, conscientiousness, and extraversion exhibit affirmative correlations with venture performance, whilst agreeableness remains a subject of contention within scholarly discourse. Concomitantly, neuroticism emerges as a trait inversely linked to entrepreneurial performance, as indicated by the seminal work of Schmitt-Rodermund (2001).

Exploring the nexus between personality traits, particularly the Big Five – openness, conscientiousness, extraversion, agreeableness, and neuroticism – and the entrepreneurial process is a burgeoning area of research that has garnered significant attention in recent years. This review highlights key findings from contemporary studies that elucidate the intricate relationship between these personality dimensions and entrepreneurial behaviour.

Research by Zhao and Seibert (2006) posits a positive association between conscientiousness and entrepreneurial performance. High levels of conscientiousness have been linked to enhanced planning, organisation, and goal persistence, crucial factors in the multifaceted entrepreneurial journey. Moreover, studies such as those conducted by Brandstätter (2011) affirm the relevance of extraversion in predicting entrepreneurial intention. Individuals exhibiting high extraversion scores tend to be more sociable and assertive, qualities that can positively impact entrepreneurial initiation and leadership (Rauch and Frese, 2007).

Contrastingly, neuroticism has been identified as a potential hindrance in the entrepreneurial context. Research by Zhao and Seibert (2006) suggests that high Neuroticism may be associated with heightened stress and emotional instability, potentially impeding an entrepreneur's ability to navigate the uncertainties inherent in venture creation.

As the entrepreneurial landscape evolves, recent studies, including those by Ucbasaran et al. (2010), Coudounaris and Arvidsson (2021) and Obschonka et al. (2017) have delved into the nuanced interactions between personality traits and various stages of the entrepreneurial process. These investigations contribute to a richer understanding of how individual differences shape entrepreneurial behaviours and outcomes. Coudounaris and Arvidsson (2021), building on the research of Arvidsson et al. (2020) also highlighted the connection between the personality traits of the entrepreneur and the decision-making logic applied.

In synthesising these findings, it becomes evident that the relationship between the Big Five personality traits and the entrepreneurial process is multifaceted, with contextual nuances influencing the nature and strength of these associations. Continued research in this area holds promise for refining entrepreneurial training programs and providing tailored support for individuals with diverse personality profiles.

3 Methodology

3.1 Research design

The study adopts a mixed-method research design to comprehensively investigate the relationship between personality traits, entrepreneurial methodologies, and venture outcomes. This design allows for both quantitative and qualitative data collection, offering a holistic understanding of the complex interplay.

3.2 Participant selection

Participants consist of 70 Nordic IT entrepreneurs, selected through purposive sampling. This sector-specific focus ensures relevance to contemporary business contexts, particularly in the Nordic countries.

3.3 Instrumentation

For quantitative data, a structured survey questionnaire is developed based on established measures of the Big 5 personality traits, drawing from validated scales used in prior research (e.g., McCrae and Costa, 1985, 1999). Additionally, questions related to adherence to the entrepreneurial process theory as described by Mets (2015) and subsequent venture performance are incorporated.

3.4 Data collection

Quantitative data is collected through the survey (see Appendix) administered to the selected IT-entrepreneurs; the survey utilised the Likert scale. The survey is distributed electronically, ensuring efficiency and timely data retrieval. Simultaneously, qualitative insights are gathered through in-depth interviews with a subset of participants, providing a richer understanding of the nuanced aspects of their entrepreneurial experiences.

3.5 Variables and measures

3.5.1 Independent variables

Big 5 personality traits (openness to experience, extraversion, conscientiousness, agreeableness, neuroticism).

Adherence to the linear and iterative methodology of venture creation (entrepreneurial process theory as described by Mets, 2015).

3.5.2 Dependent variables

Venture performance (profit) outcomes.

3.6 Data analysis

Qualitative data is subjected to thematic analysis, allowing for the identification of patterns and themes in entrepreneurs' narratives. Quantitative data is analysed and grouped according to the method of Gioia et al. (2013).

3.7 Validity and reliability

To enhance the validity of the findings, the survey instrument is pilot-tested with a small group of entrepreneurs before the main data collection. The study also employs established measures for personality traits and entrepreneurial process adherence to ensure reliability across different contexts.

3.8 Ethical considerations

The research adheres to the ethical guidelines by APA (Campbell et al., 2010) ensuring the confidentiality and anonymity of participants. Informed consent is obtained from all participants, and the study is conducted with due consideration for the well-being and rights of the individuals involved.

3.9 Results

The findings from this investigation reveal that the majority of successful business proprietors demonstrate personality traits associated with openness to experience (*n* = 62), extraversion (*n* = 59), and conscientiousness (*n* = 57). This aligns with prior research by scholars such as Brandstätter (2011), Shane et al. (2010), Zhao et al. (2010), and Hsieh et al. (2011), emphasising the requisite traits for heightened innovation. Notably, these earlier studies were predominantly conducted in a North American context, diverging significantly from the geographical and industrial context of this study. Despite these differences, the outcomes of this study corroborate the findings of prior research, suggesting that the observed traits transcend geographical, cultural, and industry boundaries.

Table 1 Personality traits and success

Trait	*Frequency (n=)/(total)=%*	*Relation with business success*
Openness to experience	62/65 = 95%	Positive
Extraversion	59/63 = 94%	Positive
Conscientiousness	57/63 = 90%	Positive
Agreeableness	12/35 = 34%	Inconclusive
Neuroticism	2/6 = 33%	Negative

The investigation further suggests that entrepreneurs endowed with the personality trait of conscientiousness exhibit a pronounced inclination to adhere to established patterns (*n* = 55) in their venture creation process, while concurrently integrating feedback consistently. Similarly, though to a lesser extent, respondents scoring high on openness to experience (*n* = 56) also demonstrate a tendency in this regard. However, the outcomes for extraversion and agreeableness were more ambiguous (*n* = 34) and (*n* = 19) respectively. Notably, the correlation for neuroticism was consistently negative (*n* = 2).

Table 2 Personality and tendency to apply the stage model

Trait	*Frequency (n=)/(total)=%*	*Relationship with application of stage model*
Openness to experience	56/65 = 86%	Positive
Extraversion	34/63 = 54%	Inconclusive
Conscientiousness	55/63 = 87%	Positive
Agreeableness	22/35 = 58%	Inconclusive
Neuroticism	2/6 = 33%	Negative

These findings suggest a robust correlation between conscientiousness, openness to experience, and, to some extent, extraversion and agreeableness in engaging with a dynamic and feedback-driven venture creation process. Conversely, respondents displaying the trait of neuroticism exhibit a negative correlation, indicative of a venture creation process characterised by intertwined stages and a lower propensity to integrate feedback.

Furthermore, this underscores that the nexus between personality traits and performance within the Nordic IT industry aligns with prior research (Brandstätter, 2011; Shane et al., 2010; Zhao et al., 2010; Hsieh et al., 2011), substantiating the overarching conclusion that personality traits wield influence over venture performance, transcending cultural and industry boundaries.

Of particular interest is the insight that personality traits shape the progression through the entrepreneurial process, thereby impacting venture performance.

In this context, the positive relationship between openness to experience and conscientiousness with adherence to a sequential path and the integration of feedback is evident. Extraversion, a consistent predictor of venture performance across studies, does not, however, elucidate how entrepreneurs navigate the entrepreneurial process. Intriguingly, even concerning venture performance (Table 2), extraversion emerges as the indicator with the weakest correlation at 54%, compared to the more robust 86% and 87% correlations for openness and conscientiousness, respectively.

4 Discussion

The intricacies of the entrepreneurial process, its dynamics, and the influencing factors are paramount for comprehending venture performance and its determinants. Traditionally, our investigations often compartmentalise analyses into industry structures and individual-specific factors such as education, networks, and personal attributes. Existing literature has discerned the nexus between personality traits, decision-making logic, and venture performance, predominantly within an Anglo-Saxon context.

This context, however, diverges culturally and in terms of industry specifics when compared to other regional and industry settings. The IT industry, distinguished by short product cycles, high complexity, and intense co-creation with customers, warrants special scrutiny, as indicated by Karami et al. (2020), and this study contributes to that discourse.

Personality traits play a dual role, serving as indicators of both venture performance, as corroborated by extant literature, and as influential determinants shaping the trajectory chosen during the entrepreneurial process (Eysenck, 1967). Unfortunately, this aspect has been historically neglected, yet it is pivotal in determining the success of nascent businesses. Entrepreneurs who overlook the incorporation of ‘lessons learned’ are more susceptible to failure compared to those who glean insights from their mistakes, integrating that knowledge into their venture creation process and beyond. To facilitate this, entrepreneurs must embody openness to experience and conscientiousness while avoiding manifestations of neuroticism.

Neuroticism, marked by heightened anxiety, self-doubt, and general mental discomfort, poses challenges in social interactions and, critically, hampers the structuring of activities and the assimilation of feedback into future plans. However, this study sheds light on the nuanced relationship between different ventures and distinct personality traits. Ackerman’s (1996, 1999) and Schmidt’s (2014) studies suggest that entrepreneurs with low scores in extraversion and a lesser inclination towards learning (openness to experience) tend to amass extensive knowledge and skills over time, denoted as crystallised intelligence. This underscores the influence of business-specific factors on performance.

In certain domains like small software development firms, extraversion does not exhibit a positive correlation with venture performance, contrary to general trends. Moreover, personality traits wield influence not only on decisions made in the entrepreneurial process but also serve as determinants shaping the applied decision-making logic. In the context of internationalised firms, these traits extend their impact to the internationalisation strategy and, consequently, firm performance. The failure of entrepreneurs to adhere to a structured path through the entrepreneurial process, as indicated by this study, is likely to lead to either failure or suboptimal performance. Neglecting to incorporate lessons learned jeopardises the nascent business, impeding its responsiveness to market signals and stakeholder preferences, rendering it incongruent with the evolving needs of customers and stakeholders.

5 Conclusions

A discernible relationship emerges between venture performance and the inclination to adhere to a defined pattern, encompassing the integration of acquired feedback into the entrepreneurial process, intimately tied to the entrepreneur's personality traits. Entrepreneurs embodying traits of openness to experience, conscientiousness, and, to a certain extent, extraversion exhibit a proclivity for following the sequential stages of the entrepreneurial process, thereby correlating with heightened levels of venture performance.

Intriguingly, the industrial and geographical context appears inconsequential regarding which personality traits exhibit positive or negative correlations with venture performance. However, it is imperative to acknowledge the absence of prior studies, to the best of the author's knowledge, delving into the intricate interplay between personality traits, the entrepreneurial process, and venture performance. Consequently, extrapolating universal conclusions from this study demands caution.

6 Limitations

The study acknowledges several limitations that may impact the generalisability and robustness of the findings. Firstly, the focus on IT entrepreneurs in the Nordic countries may limit the external validity of the results to other industries or regions. Additionally, the reliance on self-reported data introduces the possibility of response bias and may not capture objective measures of entrepreneurial success.

Furthermore, the study's sample size of 70 participants may not fully represent the diversity within the entrepreneurial landscape. The limited number of respondents may affect the generalisability of the findings to the broader population of Nordic IT entrepreneurs. The sample also does not distinguish between different countries due to the fact that the sample was too small.

The mixed method approach, combining quantitative analysis with qualitative analysis and grouping according to the method of Gioia et al. (2013) also limits the study due to the fact that the authors subjectively group the open-ended answers into categories. The methodology reduces the inherent risk for subjectivity.

These limitations underscore the need for cautious interpretation of the study's outcomes. The industry-specific and regional focus necessitates careful extrapolation to different contexts. The reliance on self-reported data calls for awareness of potential biases, and future research might benefit from incorporating objective performance metrics. The modest sample size signals the preliminary nature of the study, prompting consideration for future studies with larger and more diverse samples to strengthen the generalisability of findings. Through this structured methodology, the study aims to contribute nuanced insights into the intricate relationship between personality traits, entrepreneurial methodologies, and venture outcomes, extending the current understanding of entrepreneurship in the Nordic context.

7 Future studies

Prospective investigations ought to incorporate comparative analyses spanning various industries and diverse geographical locations. The exploration of the trajectory through the entrepreneurial process in conjunction with personality traits remains an understudied facet, warranting thorough examination through comparative studies across distinct geographical, cultural, and industrial contexts. Such endeavours would significantly contribute to advancing our understanding of the intricate interplay between entrepreneurial pathways and individual traits across diverse settings.

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Appendix

Questionnaire

Personality traits

The operationalisation of personality traits in the questionnaire was adapted from the seminal work of Costa and McCrae (1992) and the more recent study by Coudounaris and Arvidsson (2021). The formulation of questions was meticulously designed to capture distinct facets of each personality trait:

Openness

- I exhibit a positive inclination to explore new technologies or phenomena.
- I generate innovative ideas and express curiosity when transforming them into entrepreneurial ventures.
- I derive satisfaction from adventure and appreciation of aesthetically pleasing things.
- My interests span a diverse array of fields.
- Encounter with new things, experiences, or ideas evokes excitement in me.
- I align my values with the prevailing societal norms.

Conscientiousness

- I perceive myself as a competent individual, taking pride in my abilities.
- Commencing a task typically translates into its successful completion for me.
- Goal orientation is a fundamental aspect of my personality.
- Others often perceive me as efficient, and I take pride in maintaining order.
- Discipline is a hallmark of my character, and I disdain laziness, either in myself or others.
- Impulsivity is not a characteristic I identify with.

Extraversion

- High energy levels characterise my disposition.
- Experiencing excitement is of paramount importance to me.
- Positivity and enthusiasm are overarching traits in my emotional spectrum.
- Assertiveness is an integral part of my personality.
- Social interaction is something I genuinely enjoy.

Agreeableness

- Compassion and an understanding of others' needs define my interpersonal approach.
- Forgiveness comes easily to me.
- I am forthright in expressing my thoughts.
- A warm and compliant personality is intrinsic to me.
- Adherence to instructions is a characteristic I embody.
- Modesty prevails in my interactions; I tend not to 'show off'.

Neuroticism

- Feelings of vulnerability, anxiety, and depression are emotions I often contend with.
- Anger, directed towards myself or others, is a recurring experience.
- Shyness is a part of my self-perception.
- Moody and impulsive tendencies are identifiable traits.

Entrepreneurial process and performance

- Relevance of the model in venture creation

  Following the exposition of the entrepreneurial process model by Mets (2015), do you align your venture creation process with the multi-stage model presented or something akin to it?
- Incorporation of feedback

  At regular intervals during the venture creation process, do you integrate information or feedback obtained from earlier stages of venture creation?
- Performance

  In gauging the performance of your firm (profit), do you perceive it as aligning well with your predefined goals and in comparison, to other comparable entities within the industry?