



Uncovering dominant characteristics for entrepreneurial intention and success in the last decade: systematic literature review

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Abstract

This study presents a systematic literature review to identify dominant characteristics that predict entrepreneurial intention and entrepreneurial success in the twenty-first century. The aim was to provide insights to entrepreneurs, academicians, policy makers, counsellors and all those charged with the responsibility of entrepreneurship development. The study applied a systematic review of the literature contained in the two databases, namely Semantic Scholar and Google Scholar. The analysis of the literature identified self-efficacy, conscientiousness, locus of control, need for achievement and innovativeness as the indisputably and unarguably key top personal characteristics that predict both entrepreneurial intention and guarantee entrepreneurial success. The study also finds that characteristics that predict entrepreneurial intention also guarantee entrepreneurial success. The review of the existing literature shows that there are gaps in it. For example, there are not many countries where studies have been done in the area of interest, and the research methods used in those studies are not balanced because they are mostly quantitative. The major contribution of the study was the identification of key dominant personal characteristics that predict both entrepreneurial intention and lead to entrepreneurial success in today's dynamic environment. The other key contribution is stages, methodology and the analysis that can be replicated and employed by other researchers (scholars and practitioners) to conduct other studies or better still, similar studies in the future.

Keywords Systematic literature review · Characteristics · Entrepreneurial success · Entrepreneurial intention · Research gap

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Introduction

Entrepreneurship is the major source of technological growth, economic growth, employment, competition, promotion of product and service quality, innovation and economic flexibility in today's society (Hisrich et al., 2007; Kuratko, 2007). Apart from being a driving force for job creation and economic development, entrepreneurship contributes to personal development (Sarri & Trihopoulou, 2005). An entrepreneur is referred to as an individual who undertakes creative and innovative initiatives. "Why some individuals are more successful in business than others is among the influential questions in entrepreneurship research" (Isaga, 2012). Since the late 1980s, the pace of research on personality traits and entrepreneurial intention has slowed down (Sousa et al., 2018) because of inconsistency in theory and mixed empirical findings (Llewellyn & Wilson, 2003; Zhao & Seibert, 2006).

Studies have presented that successful entrepreneurs have similar characteristics to each other (see Timmons et al., 2004; Carland et al., 1984; Desai et al., 2009; Ehigie et al., 2003; Bulu et al., 2005; Hui et al., 2006; Djankov et al., 2007; Papzan et al., 2008; Abdullah et al., 2009; Di Zhang et al., 2011) with some studies arguing that some characteristics presented by other studies do not lead to entrepreneurial success or/and intention (see Ahmed et al., 2019, 2022; Awwad et al., 2021; Biswas & Verma, 2021a, 2021b; Sarwoko & Nurfarida, 2021; Mhlanga, 2019; Franco & Prata, 2019; Zhou et al., 2019; Setia, 2018; Djankov et al., 2007).

Purpose of study

The twenty-first century is a century that is unique from other centuries because its environment is dynamic, coupled with tense, fierce competition on a daily basis. Because not everyone can or will become an entrepreneur, it is critical to identify who will be entrepreneurs sooner rather than later (Majková & Kljunikov, 2017). Many researchers and authors are of the view that entrepreneurial success largely depends upon the traits of the entrepreneur but have a difference of opinion with respect to the degree of importance of various traits (Singh & Rahman, 2013a, 2013b).

There is an increasing curiosity in today's twenty-first century as to why there are variations in the success rates of entrepreneurs and how to determine the relevant characteristics/traits required for entrepreneurial success. Moreover, little is known about the profiles of personal characteristics of individuals who express a high level of entrepreneurial intention (Şahin et al., 2019). It has become difficult for policy makers, counsellors, academicians and other relevant authorities who are charged with responsibilities of entrepreneurship development to determine the most relevant dominant characteristics required for an entrepreneur to succeed in the twenty-first century or better still, predict who would be an entrepreneur

based on an individual's characteristics. Amid researcher inconsistency and mixed and inconclusive literature results regarding characteristics for entrepreneurial success and intention, it became necessary to conduct a study that would determine the most dominant characteristics related to entrepreneurial success and intention in the twenty-first century using a systematic literature review of the previous decade literature.

This study focused on two areas. The first was to identify characteristics linked to entrepreneurial success and the second was to identify characteristic factors that are related to entrepreneurial intentions in the twenty-first century by systematic review of the literature from the last decade.

Literature review

This section presents studies carried out in the last decade (2012–2022) relating to studies that focused on the impact of individual characteristics on entrepreneurial success and intention.

Entrepreneurial success

Entrepreneurial success is measured in both non-financial and financial parameters. Nag and Das (2017) used measures of success in employment and growth in profit. It can also be referred to as growth in turnover sales, growth in profit after tax and return on net worth.

Entrepreneurial intention

Entrepreneurial intention is an indication that an individual intends to choose entrepreneurship as a career and s/he is ready to gather resources, take risks and establish their own business (Karabulut, 2016). Entrepreneurial intention plays a very decisive role in the process of becoming an entrepreneur, and it is not only the prerequisite for establishing a business, but it also influences an individual's behaviour (Soni & Bakhru, 2021).

Table 1 summarises studies that present a positive association between some characteristics and entrepreneurial success and intentions from 2012 to 2022.

Studies that delinked some characteristics from entrepreneurial success and intention

Table 1 has the following literature, which is based on studies done from 2012 to 2022.

Ahmed et al. (2022) conducted a study in Pakistan on the influence of the big five personality traits on entrepreneurial intentions. The study found that extroversion, neuroticism, openness to experience and agreeableness do not have a big effect on whether or not someone wants to start their own business.

Table 1 Summary of studies on characteristics for entrepreneurial success and intention from 2012 to 2022

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
1	Role of Entrepreneur's Personality Traits on Start-ups motivation and growth of Start-ups and SMEs	Desire for Achievement and Desire for Independence	2022	Tanzania	Quantitative	SMEs' Owners	Ismail (2022)
2	Personality Traits, Entrepreneurial Intention and Risk Aversion	Risk Aversion, Neuroticism, Conscientiousness and Openness	2022	Pakistan	Quantitative	University Students	Ahmed et al. (2022)
3	Women Entrepreneurial Innovativeness and Self-Efficacy	Emotional Intelligence, Entrepreneurial Alertness, Internal Locus of Control and Self-Efficacy	2022	Tunisia	Qualitative	SMEs' Owners	Jazir and Sakly (2022)
4	Impact of Big Five Personality Traits on Entrepreneurial Intention and the Role of Entrepreneurial Alertness	Conscientiousness, Alertness and Openness	2022	Jordan	Quantitative	University Students	Awwad and Al-Aseer (2021)
5	Personality Traits and Entrepreneurial Intention	Entrepreneurial Education, Need for Achievement, Locus of Control, Conscientiousness and Innovativeness	2021	India	Quantitative	University Students	Biswas and Verma (2021a, 2021b)
6	Entrepreneurial Personality Traits and Performance	Conscientiousness, Extraversion and Openness to Experience	2021	Indonesia	Quantitative	SMEs' Owners/Managers	Sarwoko and Nurfarida (2021)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
7	Alertness and Attitude a path way to Entrepreneurial Intentions	Need for Achievement, Self-Efficacy, Locus of Control, Perseverance, Risk-Taking, Innovativeness, Reactiveness, Alertness and Entrepreneurial Attitude	2021	India	Quantitative	University Students	Biswas and Verma (2021a, 2021b)
8	Traits, Entrepreneurial Attitude, Self-Efficacy and Entrepreneurial Intention	Attitude and self-efficacy	2021	India	Quantitative	Students	Anwar et al. (2021)
9	Entrepreneurial Intention and Entrepreneurial Status	Risk-Taking Propensity, Innovativeness, Proactiveness and Emotional Intelligence	2021	Germany, Russia and USA	Quantitative	University Students	Schlaegel et al. (2021)
10	Personality Traits and Sustainability-Oriented Entrepreneurial Intentions	Agreeableness, Extraversion, Neuroticism, Openness and Conscientiousness	2021	Pakistan	Quantitative	SMEs' Owners	Khan et al.(2021)
11	Personality Traits and Entrepreneurial Intention	Passion, Creativity and Self-Efficacy	2021	India	Quantitative	University Students	Soni and Bakhru (2021)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
12	Entrepreneurs' Personality Traits For Start-Ups	Narcissism, Internal Locus of Control, Extraversion, Neuroticism, Agreeableness, Innovation, Efficiency, Conscientiousness, Openness to experience and External Locus of Control	2020	Italy	Quantitative	Tourism	Prezenza et al. (2020)
13	Personality Traits and prediction of entrepreneurship intention, leadership, emergence and success	Openness, Extraversion, Conscientiousness, Agreeableness and Stability Emotional	2020	Austria	Quantitative	University Students	Bergner et al. (2020)
14	Entrepreneurial Personality and Competitiveness	Positive Thinking, Consciousness, Open-minded, Leadership and Friendly	2020	Indonesia	Quantitative	Chocolate Agents	Chaniago (2020)
15	Best Traits of Entrepreneurs	Self-Confidence, Honesty, Innovativeness, Risk Taking, Ability for Marketing, Leadership, Sense of Responsibility, Creativity, Utilising the Opportunities and Determination	2020	Turkey	Literature Review	SMEs' Owners	Genç (2020)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
16	Factors of Entrepreneurial Intention	Self-Efficacy, Entrepreneurial Attitude, Openness, Extraversion, Independent, Risk Taking, Conscientiousness, Agreeableness and Emotional Stability	2020	Portugal and Brazil	Quantitative	University Students	Fragoso et al. (2020)
17	Entrepreneurship Success Traits	Openness to Experience, Self-Efficacy Neuroticism, Conscientiousness and Locus Of Control	2020	China	Quantitative	Online Business Ventures	Shimoli et al. (2020)
18	Big Five Personality Traits, Entrepreneurial Self-Efficacy and Entrepreneurial Intention	Self-Efficacy, Openness to Experience, Self-Efficacy Neuroticism, Conscientiousness and Locus of Control	2019	Turkey	Qualitative	SMEs' Owners	Şahin et al (2019)
19	Personality Traits and Entrepreneurial Performance	Extraversion, Conscientiousness and Openness	2019	South Africa	Mixed Method	Tourism	Mhlanga (2019)
20	The Personality Traits of Steve Jobs'	Self-Efficacy, Need for Achievement, Risk-Taking, Autonomy, Innovativeness and Internal Locus of Control	2019	South Africa	Qualitative	Successful entrepreneur (Steve Jobs)	Ndoro and Van Niekerk (2019)
21	Entrepreneurial Passion and Personality	Passion, Behaviours	2019	Germany	Quantitative	Scientists	Obschonka (2019)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
22	The influence of individual Personality Traits and Characteristics of founder on Performance of family SMEs	Conscientiousness, Extraversion and Openness to Experience	2019	Portugal	Quantitative	Family SMEs	Franco and Prata (2019)
23	Personality Fit and Entrepreneurial Success	Conscientiousness	2019	China	Quantitative	City	Zhou et al. (2019)
24	Personality and Entrepreneurial Intentions	Innovativeness, Risk Propensity, Stress Tolerance	2019	Pakistan	Quantitative	University Students	Ahmed et al.(2019)
25	The Main Traits Essential for Successful Performance of a Firm	Self-Efficacy and Entrepreneurial Orientation	2019	Pakistan	Quantitative	Firms	Imran et al. (2019)
26	The Personality Traits and Risk Attitudes of Entrepreneurs and Venture Team Members	Tolerance of Risk, Internal Locus of Control, Self-Efficacy and Need for Achievement	2019	USA	Quantitative	Firms	Kerr et al. (2019)
27	Personality Traits on Entrepreneurial Intention	Need for Achievement, Locus of Control, Innovativeness and Risk-Taking	2019	Pakistan	Quantitative	University Students	Yasir et al. (2019)
28	Psychological Resilience and Personality Traits	Openness, Self-Regulation	2019	Indonesia	Quantitative	firms	Farradina et al. (2019)
29	Keys to Entrepreneurial Success	Curiosity, Creativity and Commitment	2019	USA	Literature Review	SMEs' Owners	Raine and Pandya (2019)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
30	Effects of Self-efficacy and Entrepreneurial Tenacity across industries	Self-Efficacy for Service Industry, While Tenacity For Manufacturing Industry	2019	USA	Quantitative	Manufacturing, Retail and Service Industries	Van Scotter and Gang (2019)
31	Personal Traits on Performance of Agri Business	Understanding Market Environment, Punctuality, Healthy Client Relationship, Trustworthiness, Transparency and Commitment	2019	South Africa	Quantitative	Agri business	Iwara and Netshandama (2019)
32	Personality Traits of Entrepreneurial and New Venture Performance	Extraversion, Conscientiousness, Agreeableness and Openness	2019	China	Quantitative	SMEs' Owners	Dai and Zhang (2019)
33	The Leverage of Entrepreneur Traits and Skills to Business Success	Managerial, Resiliency and Strategic	2018	Pakistan	Quantitative	Manufacturing	Hadi and Abdullah (2018)
34	Profile (Personality) of Successful Entrepreneurs	Conscientiousness	2018	Indonesia	Quantitative	Educational Field	Setia (2018)
35	The Indirect and Direct Effect of Personality Traits on Commitment of Entrepreneurs	Conscientiousness, Extraversion and Agreeableness	2018	Nigeria	Quantitative	SMEs' Owners	Ayoade et al. (2018)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
36	Self-Efficacy, Personality and Anticipatory Cognitions of Potential Entrepreneurs	Self-Efficacy	2018	USA	Quantitative	University Students	Fuller et al. (2018)
37	The Biographical Analysis of Successful Entrepreneurs	The Parents' Behaviour and Entrepreneurial Learning, Experience, Work Attitudes and Behaviours	2018	Germany	Qualitative	SMEs' Owners	Duchek (2018)
38	Mediating role of Self Efficacy in developing Entrepreneurial Behaviour	Self-efficacy	2018	Indonesia	Quantitative	University Students	Darmanto and Yuliani (2018)
39	Persistence and Entrepreneurial Success	Persistence	2018	Canada	Quantitative	SMEs' Owners	Erdle (2018)
40	The Grit influence on Entrepreneurial Intent Students	Grit (perseverance and passion)	2018	USA	Quantitative	University Students	Butz et al. (2018)
41	Performance, Entrepreneurial Leadership and Sustainability	Accountability, Responsibility and Emotional Intelligence	2018	Malaysia	Quantitative	SMEs	Al Mamun (2018)
42	Entrepreneurial Personality in New Ventures	Emotional Intelligence, Warmth, Hardiness and Self-Efficacy	2018	China	Literature Review	SMEs' Owners	Xie et al. (2018)
43	The Entrepreneurial Intentions	Attitude, Perceived Behaviour Control and Extraversion	2018	Portugal	Quantitative	University Students	Sousa et al. (2018)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
44	Entrepreneurial Intentions Among Students	Openness, Extraversion and Agreeableness	2018	Italy	Quantitative	University Students	Israr and Saleem (2018)
45	Influence of Self-Efficacy and Big Five Personality Traits and on Entrepreneurial Intention	Openness, Neuroticism, Agreeableness and Self-Efficacy	2017	India	Quantitative	University Students	Murugesan and Jayavelu, (2017)
46	Personality Traits and Entrepreneurial Intention	Self-Efficacy, Perseverance, Ability to detect Opportunity and Social Skills	2017	Turkey	Quantitative	Academician	Demirtas et al. (2017)
47	Entrepreneurial Drivers and performance	Persistent, Cautious in taking Risks, Enthusiastic, Education and Experience	2017	USA	Quantitative	SMEs' Owners	Sriram and Mersha (2017)
48	Personality, Demographic Factors and Entrepreneurial Inclination	Locus of Control, Self-Confidence, Tolerance for Ambiguity and Innovativeness	2017	India	Quantitative	University Students	Chaudhary (2017)
49	The Entrepreneurial Traits and Success of Microenterprises	Self-efficacy, Need for Achievement and Locus of Control	2017	India	Quantitative	SMEs	Nag and Das (2017)
50	The Character Traits of Young Entrepreneurs	Creativity, Risk Taking, Confident	2017	Slovakia	Quantitative	SMEs	Majková and Kijičnikov (2017)
51	Personality Traits and Furniture Sector Performance	Need for Achievement, Locus of Control, Self-Efficacy, Persistence, Alertness, Style and Start-up Motive	2017	Tanzania	Quantitative	Furniture Sector,	Isaga (2017)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
52	Entrepreneurial Intention	Self-Efficacy	2017	India	Quantitative	University Students	Roy et al.(2017)
53	Personality Traits and Entrepreneurial Intention	Risk Tolerance, Internal Locus of Control, Need for Achievement and Entrepreneurial Alertness	2016	Turkey	Quantitative	University Students	Karabulut (2016)
54	Entrepreneurial Characteristics and Successful Entrepreneurs in Islam	Trustworthy, Honesty, Truthfulness, Good Intentions, Respecting Religious Duty, Dealing With Halal Market/Products, Avoiding Corruption, Proficiency, Fair Dealing in Business with others, Respecting Workers and Fair Treatment, Being Patience, Emotional Stability, Optimism, Risks Taking Behaviour, Managing Abilities	2016	Malaysia	Literature Review		Baqutayan (2016)
55	Personality Traits and Entrepreneurial Intention	Openness to Experience and Extraversion	2016	India	Quantitative	Technical companies (Telecom, IT, Infrastructure, Power sectors)	Soumyaja and Alexander (2016)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
56	Self-efficacy, Personality Traits and Entrepreneurial Intention	Self-Efficacy, Extraversion, Openness, Conscientiousness and Agreeableness	2016	China	Quantitative	University Students	Wang et al. (2016)
57	Entrepreneurial Motivation and Performance of SMEs (clothing centre)	Motivation	2016	Indonesia	Quantitative	SMEs (clothing centre)	Machmud and Sidharta (2016)
58	Personality Traits and Entrepreneurial Satisfaction	Locus of Control and Need for Achievement	2015	Pakistan	Quantitative	SMEs' Owners	Abbas et al. (2015)
59	Creativity, Entrepreneurial Orientation, Self-Efficacy and Performance	Entrepreneurial Orientation, Self-Efficacy	2015	France	Quantitative	SMEs	Khedhaouria et al. (2015)
60	Personality Traits and Enterprise Performance	Agreeableness	2015	China	Quantitative	SMEs	Liang et al. (2015)
61	The Association between Entrepreneurial personality and Big Five personality Traits	Extraversion and Agreeableness	2014	UK	Quantitative	SMEs' Owners	Leutner a.(2014)
62	Affectively Committed and Entrepreneurial Performance	Affective Commitment	2014	Malaysia	Qualitative	SMEs' Owners	Tasnim et al. (2014)
63	Psychological Traits and Business success	Vision and Foresight, Industriousness, Integrity, Perseverance, High Confidence and Ambition	2014	Malaysia	Qualitative	Real Estate	Jaafar et al. (2014)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
64	Predictions Of Entrepreneurial Intention and Performance	Proactiveness	2014	South Africa	Quantitative	SMEs	Mould (2014)
65	Entrepreneurial Traits and Motivations	Responsibility and Materialism, Open-Mindedness, Enthusiasm, low in Risk-taking and Trust	2014	Vietnam	Quantitative	SMEs' Owners	Nguyen and Phan (2014)
66	Emotional intelligence, entrepreneurial intention and self-efficacy	Emotional Intelligence and Self-efficacy	2014	Portugal and Spain	Quantitative	University Students	Mortan et al. (2014)
67	Personality Traits and Success	Self-Efficacy, Internal Locus of Control, Risk Taking Ability, Goal Oriented, Ability to Make Decisions, Flexibility	2013	India	Quantitative	Food Processing	Singh and Rahman (2013a, 2013b)
68	Entrepreneur's Personality Traits and Enterprise Success	Extraversion, Conscientiousness	2013	Uganda	Quantitative	Tourism	Katongole et al. (2013)
69	Personality Traits, Self-Efficacy and Entrepreneurial Intention	Parents Occupation, Extraversion, Agreeableness, Conscientiousness, Neuroticism, Openness and Self-Efficacy	2013	Nigeria	Quantitative	University Students	Akanbi (2013)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
70	Traits of Successful Entrepreneurs	Innovation, Futuristic Mindset, Risk Taking Ability, Adaptability and Commitment	2013	India	Quantitative	SMEs' Owners	Singh and Rahman (2013a, 2013b)
71	Entrepreneurial Characteristics and Success	Avoid Taking Unnecessary Risks and Self-Believing	2013	Kenya	Quantitative	Second Hand Car dealers	Suter and Bwisa (2013)
72	Psychological Characteristics and Entrepreneurial Intentions	Self-Confidence and Need for Achievement	2013	Portugal	Quantitative	High School student	Dinis et al. (2013)
73	Identification of Entrepreneurs' Traits	Innovative, Propensity to Take Risk, Internal Locus of Control, Energy Levels	2012	Saudi Arabian	Quantitative	University students	Al-Habib (2012)
74	Impact of Positive Reciprocity, Trust and Negative Reciprocity on Entrepreneurship	Trust	2012	Germany	Quantitative	SMEs' Owners	Caliendo et al. (2012)
75	Entrepreneurial Orientation	Innovativeness, Risk-Taking and Reactiveness	2012	USA	Quantitative	University Students	Bolton and Lane (2012)
76	Family Tradition, Psychological Traits and Entrepreneurial Intention	Innovation	2012	UK	Quantitative	University Students	Altinay et al. (2012)
77	Emotional Intelligence on Successful and Unsuccessful Entrepreneurs	Emotional Intelligence	2012	Iran	Quantitative	SMEs' Owners	Karimi et al. (2012)
78	Personality Matter and Business Success	Openness, Extraversion, Conscientiousness	2012	South Africa	Quantitative	SMEs	Farrington (2012)

Table 1 (continued)

No	Area addressed	Characteristics/Traits found	Year	Country	Method	Study on ...	Authors
79	Determinants of Entrepreneurial Intention	Need for Achievement and Taking Risk,	2012	Bangladesh	Quantitative	University Students	Uddin and Bose (2012)
80	Differential Distribution of Entrepreneurial Traits	Seeking Entrepreneurship Success, Risk Taker	2012	Iran	Quantitative	University Students	Alipour et al. (2012)
81	Factors Influencing Entrepreneurial Success	Need to Achieve and Self-Reliant and Independence	2012	Sri Lanka	Quantitative	SMEs	Ummah and Gunapalan. (2012)

Source: literature review

Awwad et al., (2021) investigated the impact of the big five personality traits on entrepreneurial intention in Jordan. The results indicated that neuroticism and agreeableness were not related to entrepreneurial intention. A study that investigated the engine of entrepreneurial intentions in India, conducted by Biswas and Verma (2021a, 2021b), revealed that neuroticism has a negative significant impact on entrepreneurial intentions. In Indonesia, the study carried out by Sarwoko and Nurfarida (2021) on personality traits and the performance of business revealed that agreeableness and neuroticism have no effect on business performance.

Mhlanga (2019) conducted a study in South Africa's hospitality sector to identify personality traits that affect entrepreneurial performance. The results indicate that neuroticism has a significant negative impact on the performance of entrepreneurs. In Portugal, Franco and Prata (2019) conducted a study on the influence of individual characteristics and traits on the performance of family SMEs. The study revealed that neuroticism has a negative influence on performance. In China, Zhou et al. (2019) conducted a study on city personality fit and entrepreneurial success. The study found that neuroticism and agreeableness had a negative effect on entrepreneurial success. Ahmed et al. (2019) in Pakistan investigated the impact of personal traits on entrepreneurial intention on students. The results showed that the need for stress tolerance and the need for autonomy have no significant impact on entrepreneurial intention.

The study conducted by Setia (2018) found that out of all five big personality traits, four (extraversion, agreeableness, openness to experience and neuroticism) were not related to entrepreneurial success. The study conducted by Dinis et al. (2013) shows that risk propensity negatively influences entrepreneurial intentions, whereas Wang et al. (2016) and Jing and Sung (2012) found neuroticism to have a negative significant effect on entrepreneurship. Murugesan and Jayavelu (2017) found that extraversion did not have an influence on entrepreneurial intention.

Research design and methodology

A systematic review of published papers on entrepreneurial characteristics, entrepreneurial success and entrepreneurial intention was employed as the methodology in this research study. Systematic review is a tool used for enhancing debate and disseminating academic results from different researchers (Tranfield et al., 2003). Systematic review is usually used as an approach to identify, evaluate and analyse the contributions that have already been published while being guided by a specific research question (Manatos et al., 2017). This research study presents a systematic review of the association between individual characteristics and entrepreneurial success and entrepreneurial intention. This study did adopt the strategy and methodology of Tranfield et al. (2003), which include: review planning, carrying out review and reporting and dissemination of the results, based upon the fact that they are bias free, reliable and transparent (Papaioannou et al, 2010). To carry out this review, the following steps were used: first a review plan was carried out, followed by the actual review and finally reporting and dissemination of the results.

Review planning

The study used two databases to carry out the review, namely Google Scholar and Semantic Scholar. This review was restricted to only English peer reviewed publication materials from 2012 to 2022 to obtain a clear broad view.

Conducting the review

During this second stage the following strict criteria were applied:

- Only peer reviewed published materials were considered
- The paper was to be composed of: characteristics/traits and entrepreneurial success or/and intention or and business performance
- The paper was to be an empirical, theoretical or conceptual study

Upon obtaining published copies electronically, studies that met and passed initial screening criteria were verified and screened again for the second time to ascertain if they did meet criteria for inclusion. For inclusion, titles and abstracts were strictly verified and evaluated. Based on the related area of interest of this study, Google Scholar had 10,100 search results and Semantic Scholar had 1580 search results. However, after thorough strict evaluation criteria described above during the review process (conducting the review) and the reasons outlined below, the suitable identified studies were reduced to 81 studies as presented in Table 1 in the literature review section. Some papers found in the two search databases were removed for the following reasons:

- Being a duplicate (appearing in both databases)
- Wrong title and abstract
- No critical review on the area under focus
- Not focused on characteristics/traits and entrepreneurial success or/and intention or/and business performance in spite of having a correct title.

Reporting and dissemination

Based on Table 2, Figs. 1 and 2 the most ten dominant characteristics that predict entrepreneurial success and entrepreneurial intention according to the recent literature in the last decade according to their ranking are self-efficacy, conscientiousness, open to experience, risk taking propensity, locus of control, extraversion, need for achievement, innovativeness, agreeableness and neuroticism.

Self-efficacy was revealed in 24 studies, out of which 11 of those studies were on entrepreneurial success and 13 were on entrepreneurial intention. Out of the 24 studies, 20 employed quantitative method, 3 employed qualitative and 1 was a literature review. Conscientiousness was found in 22 studies out of which 13 were studies on entrepreneurial success and 9 on entrepreneurial intention. Of

Table 2 Summary overview of the characteristics linked to entrepreneurial intention and success by research approach

	Characteristics/ Traits	Method/Approach				Total	Studies on Entre- preneurial ...	
		Lit- erature review	Mixed method	Qualitative	Quantitative		Success	Intention
1	Self-Efficacy	1		3	20	24	11	13
2	Conscientious- ness		1	1	20	22	13	9
3	Open to Experi- ence		1	1	19	21	10	11
4	Risk-Taking Propensity	2		1	14	17	8	9
5	Locus of Control			3	13	16	9	7
6	Extraversion		1		15	16	8	8
7	Need for Achievement			1	12	13	7	6
8	Innovativeness	1		1	10	12	3	9
9	Agreeableness				12	12	6	6
10	Neuroticism	1		1	9	11	5	6
11	Emotional Intelligence	1		1	3	5	4	1
12	Self-Confidence	1		1	3	5	3	2
13	Entrepreneurial Alertness			1	3	4	1	3
14	Perseverance			1	3	4	1	3
15	Creativity	2			2	4	3	1
16	Commitment	1		1	2	4	4	
17	Trust	1			3	4	4	
18	Risk Aversion				3	3	2	1
19	Need for Inde- pendence				3	3	1	2
20	Entrepreneurial Attitude			1	2	3	1	2
21	Passion				3	3		3
22	Persistence				3	3	3	
23	Reactiveness				2	2		2
24	Proactive				2	2	1	1
25	Leadership	1			1	2	2	
26	Determination	1			1	2	2	
27	Reactiveness				2	2		2
28	Enthusiastic				2	2	2	
29	Behaviours			1	1	2	2	
30	Transparency				2	2	2	
31	Truthfulness	2				2	2	

Table 2 (continued)

	Characteristics/ Traits	Method/Approach				Studies on Entre- preneurial ...	
		Lit- erature review	Mixed method	Qualitative	Quantitative	Total	Success
32	Self-Reliant				1	1	1
33	Autonomy			1		1	1
34	Narcissism				1	1	1
35	Ability for Marketing	1				1	1
36	Sense of Responsibil- ity	1				1	1
37	Utilising the Opportunities	1				1	1
38	Stress Toler- ance				1		1
39	Curiosity	1				1	1
40	Energy Levels				1		1
41	Vision and Foresight		1			1	1
42	Adaptability				1	1	1
43	Goal Oriented				1	1	1
44	Flexibility				1	1	1
45	Ability to Make Decisions				1	1	1
46	Ambition		1			1	1
47	Integrity		1			1	1
48	Industriousness		1			1	1
49	Motivation				1	1	1
50	Good Intentions	1				1	1
51	Respecting Religious Duty	1				1	1
52	Avoiding Cor- ruption	1				1	1
53	Proficiency	1				1	1
54	Patience	1				1	1
55	Optimism	1				1	1
56	Start-up Motive				1	1	1
57	Style				1	1	1
58	Resiliency				1	1	1
59	Punctuality				1	1	1

Source: literature review

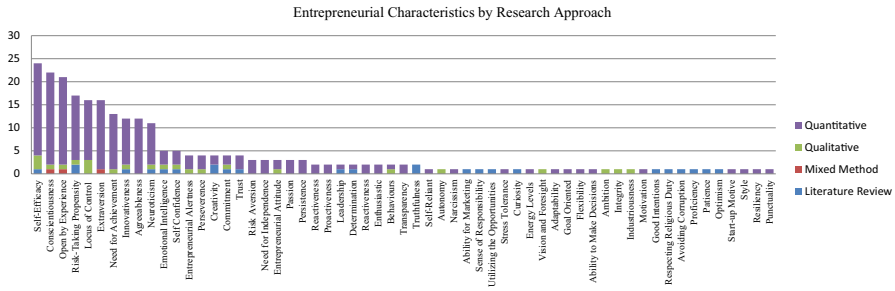


Fig. 1 Entrepreneurial Characteristic by Research Approach

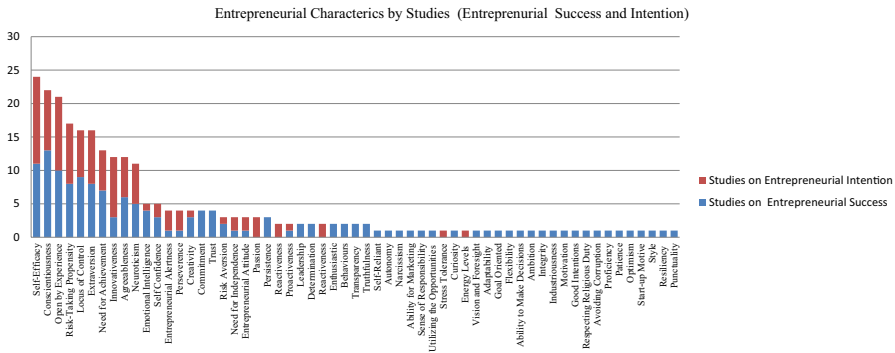


Fig. 2 Entrepreneurial Characteristics by Studies (Entrepreneurial Success and Intention)

the 22 studies, 1 employed mixed method, 1 qualitative method and 20 quantitative methods. Open to experience was recorded in 21 studies, out of which 10 are those studies on entrepreneurial success and 11 on entrepreneurial intention. Of the 21 studies, 1 employed mixed methods, 1 applied qualitative method, and 19 applied quantitative approach. Risk taking propensity was found in 17 studies, out of which 8 are studies on entrepreneurial success and 9 on entrepreneurial intention. Of the 17 studies, 2 employed literature review, 1 applied qualitative method and 14 applied quantitative method. Locus control was revealed in 16 studies, out of which 9 are studies on entrepreneurial success and 7 on entrepreneurial intention. Of the 16 studies, 2 employed qualitative method and 13 employed quantitative method. Extraversion was found in 16 studies, out of which 8 are studies on entrepreneurial success and another 8 on entrepreneurial intention. Of the 16 studies, 1 employed mixed method and 15 applied quantitative method. Need for Achievement was discovered in 13 studies, 7 of which investigated entrepreneurial success and 6 of which investigated entrepreneurial intention. Of the 13 studies, 1 employed qualitative method and 12 applied quantitative method. Innovativeness was revealed in 12 studies, out of which 3 are studies on entrepreneurial success and 9 on entrepreneurial intention. Of the 12 studies, 1 was a literature

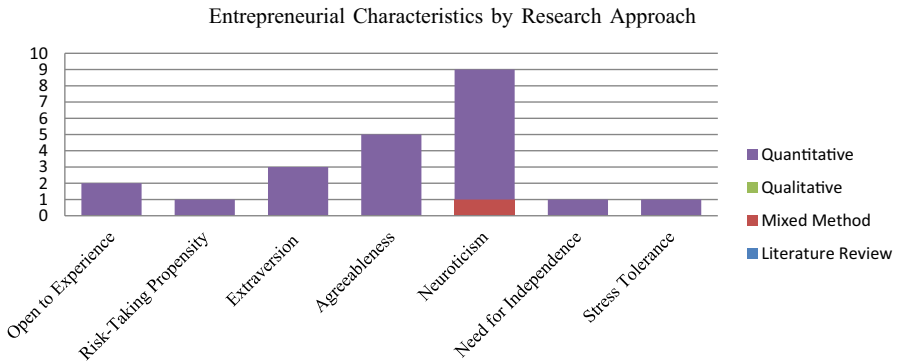


Fig. 3 Entrepreneurial Characteristics delinked from Entrepreneurial Success and Intention

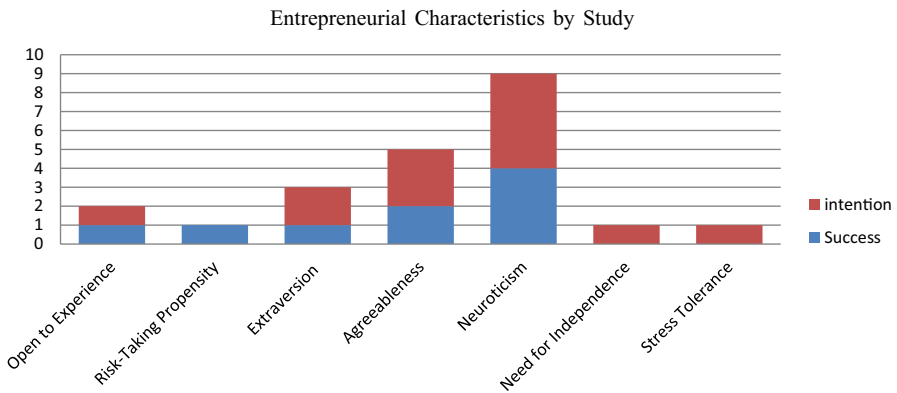


Fig. 4 Entrepreneurial Characteristics delinked from Entrepreneurial Success and Intention

review, 1 applied qualitative method and 10 applied quantitative method. Agreeableness was found in 12 studies, out of which 6 are studies on entrepreneurial success and 6 on entrepreneurial intention. Of the 12 studies, all applied quantitative method. Neuroticism was found in 11 studies out of which 5 are studies on entrepreneurial success and 6 on entrepreneurial intention. Of the 11 studies, 1 was a literature review, 1 employed a qualitative method and 9 employed a quantitative method. On the other hand, from the very 81 studies reviewed, there are some characteristics that have been found not to predict entrepreneurial success and entrepreneurial intention. These characteristics have been presented in the literature review section and are presented in Figs. 3 and 4.

The characteristics that have been delinked from entrepreneurial success and intention despite being linked to success and intention in other studies include: neuroticism, agreeableness, extraversion, openness to experience, risk-taking propensity, need for independency and stress tolerance. Neuroticism was found in 9 studies, out of which 4 are studies on entrepreneurial success and 5 on entrepreneurial

intention. Of the 9 studies, 1 applied a mixed method and 8 employed quantitative methods. Agreeableness was found in 5 studies, out of which 2 are studies on entrepreneurial success and 3 on entrepreneurial intention. Of the 5 studies, all applied quantitative methods. Extraversion was revealed in 3 studies, of which 1 was a study on entrepreneurial success and the other 2 were on entrepreneurial intention. Of the 3 studies, all applied quantitative methods. Open to experience was found in 2 studies, out of which 1 was a study on entrepreneurial success and the other was on entrepreneurial intention. Of the 2 studies, all applied quantitative methods. Risk-Taking Propensity was found in only 1 study on entrepreneurial success that applied a quantitative method. One study on entrepreneurial intention, which used a quantitative approach, discovered the need for independence and stress tolerance.

Table 3 and Figs. 5 and 6 show that the number of studies under review was increasing especially from 2015 to 2019. The drop in 2020 in number of research studies was attributed to the negative impact of COVID 19 pandemic that affected authorship (Kibbe, 2020; Raynaud et al., 2021). In fact, from 2020 to 2022 there was an increase in the number of studies with 2022 recording already 3 studies in the first quarter at the time this research was being conducted. Table 3 and Fig. 7 show the number of studies carried out by a particular country with the study research method used. Figure 7 and Table 3 show that, over the last decade, India recorded the most studies (11 out of 81), followed by the USA and Pakistan with 7 studies each, Indonesia and China with 6 studies each, South Africa with 5 studies, Turkey and Malaysia with 4 studies each, and Germany and Portugal with 3 studies each. Nigeria, Iran, Italy, UK and Tanzania recorded 2 studies each while, 15 other countries recorded 1 study each. Table 3 and Fig. 7 show that out of the 81 studies, the highest research method applied by those studies was quantitative approach which recorded 70 number of studies accounting for 86% of the total studies, followed by qualitative method with 6 accounting for 7.4% of total studies, then 4 literature review accounting 4.9% and then mixed method which recorded 1 study accounting for 1.23%.

Table 3 and Fig. 8 show that in the last decade, India, Pakistan, the USA, Indonesia, China, Turkey, Portugal, Germany, Nigeria, Iran, Italy and UK conducted studies relating individual characteristics to both entrepreneurial success and intention, whereas South Africa, Malaysia, Tanzania, Kenya, France, Sri Lanka, Vietnam, Canada, Uganda, Slovakia and Austria focused solely on studies relating entrepreneurial characteristics to success. Bangladesh, Saudi Arabia, Jordan, Spain, Brazil and Russia focused on characteristics linked to entrepreneurial intention only.

Discussion

Based upon the 81 articles included in the review under this research study, it is worth noting that there has been an increase in the number of articles in the area under focus from 2012 to 2022, with a slow pace of authorship recorded in 2020 due to other factors such as the COVID 19 pandemic. The review has shown that the ten most dominant characteristics that predict entrepreneurial success and entrepreneurial intention include self-efficacy, conscientiousness, openness to experience,

Table 3 Overview of studies by country and research method

No	Countries	Method				Total	Studies on Entrepreneurial ...	
		Mixed	Quantitative	Qualitative	Lit- erature review		Success	Intention
1	India		11			11	3	8
2	Pakistan		7			7	3	4
3	USA		6		1	7	4	3
4	Indonesia		6			6	5	1
5	China		5		1	6	5	1
6	South Africa	1	3	1		5	5	0
7	Turkey		2	1	1	4	1	3
8	Malaysia		1	2	1	4	4	0
9	Portugal		3			3	1	2
10	Germany		2	1		3	2	1
11	Nigeria		2			2	1	1
12	Iran		2			2	1	1
13	Italy		2			2	1	1
14	UK		2			2	1	1
15	Tanzania		2			2	2	0
16	Kenya		1			1	1	0
17	Portugal and Spain		1			1	0	1
18	Portugal and Brazil		1			1	0	1
19	Germany, Russia and USA		1			1	0	1
20	Jordan		1			1	0	1
21	France		1			1	1	0
22	Bangladesh		1			1	0	1
23	Saudi Arabia		1			1	0	1
24	Sri Lanka		1			1	1	0
25	Vietnam		1			1	1	0
26	Canada		1			1	1	0
27	Tunisia			1		1	1	0
28	Uganda		1			1	1	0
29	Slovakia		1			1	1	0
30	Austria		1			1	1	0
	Total	1	70	6	4	81	48	33

Source: literature review

risk taking propensity, locus of control, extraversion, need for achievement, innovativeness, agreeableness and neuroticism. However, some studies within the reviewed articles have shown that some characteristics, such as neuroticism, agreeableness and extraversion, open to experience, fail to both predict entrepreneurial success

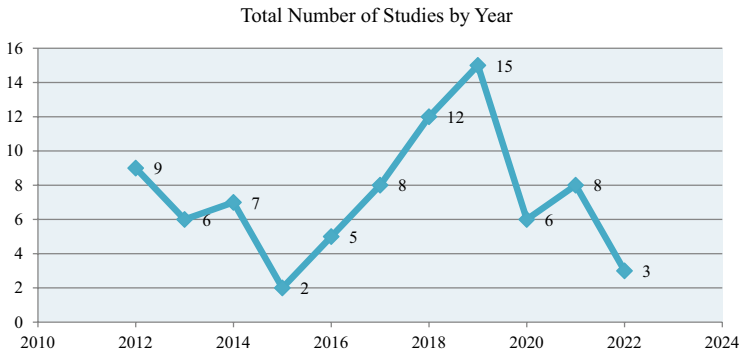


Fig. 5 Number of Studies by Year

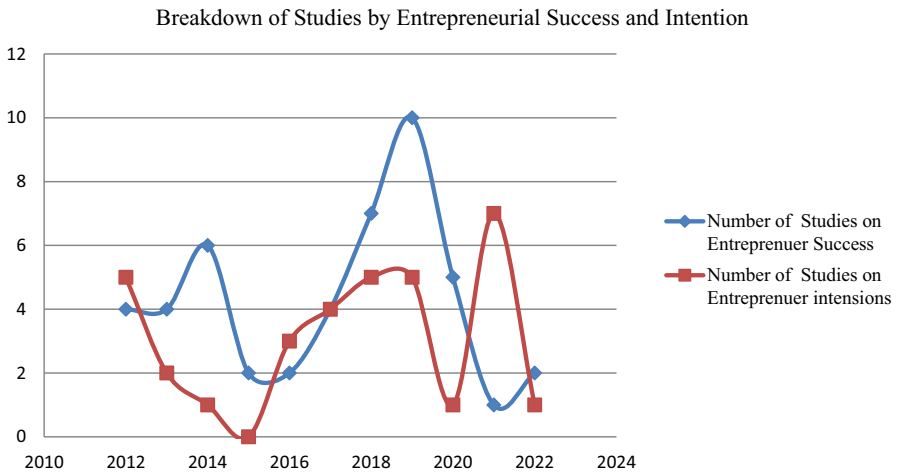


Fig. 6 Breakdown of Studies by Year

and entrepreneurial intension. Risk taking propensity fails to predict entrepreneurial intention, whereas a need for independence and stress tolerance fails to predict entrepreneurial success. This implies that of the ten most dominant characteristics identified, self-efficacy, conscientiousness, locus of control, need for achievement and innovativeness are the undisputed and unarguable key personal characteristics that predict both entrepreneurial intention and guarantee entrepreneurial success. The locus of control, however, needs to be subjected to further research that would apply other research approaches apart from the quantitative approach, the only approach on which research was carried out in the last decade. On the other hand, the characteristics that have been positively and negatively associated with entrepreneurial success and intention also need to be subjected to further research that would employ other research approaches apart from quantitative methods. This is because, apart from neuroticism, all characteristics that presented negative results

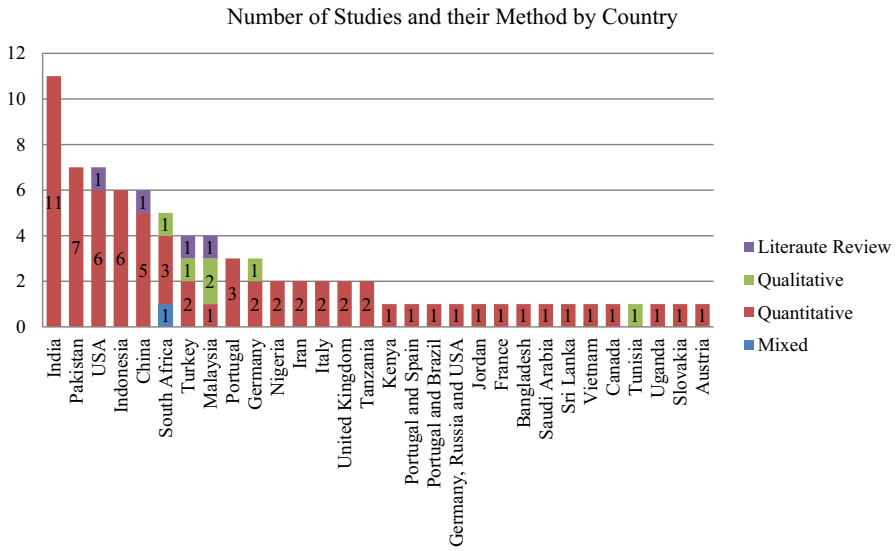


Fig. 7 Number of Studies and their Approach by Country

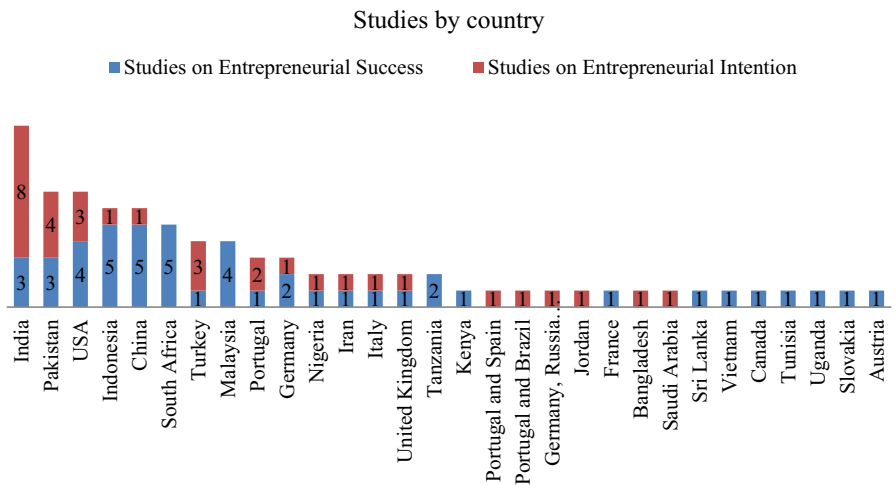


Fig. 8 Studies by Country

were conducted in studies that applied a quantitative research approach only. This study review has also shown that the characteristics that have an impact on entrepreneurial intension have the same impact on entrepreneurial success. This is based on the fact that the same characteristics identified to predict entrepreneurial intension also guarantee entrepreneurial success. This implies that, in most cases, the same characteristics that predict entrepreneurial intension also guarantee entrepreneurial success and vice versa. The importance of entrepreneurship in any country

cannot be over emphasised. This is because it is a major source of technological growth, employment, economic growth, competition, innovation, product and service quality, and economic flexibility in society today. It is, however, unfortunately that worldwide, only 30 countries conducted studies under focus in the last decade. In Africa, for instance, only 5 countries (South Africa, Nigeria, Uganda, Kenya and Tunisia) out of 54 countries had conducted studies in the area under focus in the last decade. This is a gap that needs to be addressed by researchers in different countries since entrepreneurs play a critical role in the economies of nations. The gap in research methodological approach is also alarming. Out of the 81 studies, only 1 in South Africa applied mixed methods, 4 were literature reviews, 6 applied qualitative methods, and the rest 70 studies employed quantitative approach. India the country that recorded the highest studies in the area under focus had all 11 being quantitative studies. Out of the 30 countries, 23 countries had studies that only employed quantitative approach representing 76.67%. This shows that there is an imbalance in research. There is a need to have well-balanced research in this area of focus. It is clear that studies that focused on entrepreneurial success had their studies conducted on various SMEs dealing with different businesses. However, studies that focused on entrepreneurial intentions had their primary targets as academic institutions. The focus on only academic institutions shows how biased these studies are, because people with business intentions are not only found in academic institutions. There are a lot of successful businessmen today who have never been enrolled in high school or university. This is also a gap that needs to be addressed by future researchers. Communities, religious organisations and youth community groups, among others, may be other places that can be a source of primary targets for studies focusing on entrepreneurial intention. There is need to address the gaps identified. First, having further research studies carried out through replication in other countries would legitimise the method to determine the validity, reliability and generalisability of studies in the area under focus. Scientists rely too much on trust instead of verification, thereby harming science and humanity (Economist, 2013). Replication of research studies is the core key activity in scientific endeavours (Plucker & Makel, 2021), and it is one of the approaches researchers use to build confidence in the validity of research results. Second, despite the fact that qualitative and quantitative research approaches each have weaknesses and strengths; they can be effective when they are combined. In future studies, a mixed research approach would allow researchers to gain both breadth and depth on characteristics associated with entrepreneurial success and intention through triangulation, thereby strengthening the study findings. A study carried out in Tunisia demonstrates that an applied qualitative research approach only cannot gain the benefits that come with the quantitative research method of replicating and generalising the study findings to either a larger population or other countries. According to Bernstein (1974), the subjective method applied by qualitative method scholars may be wrong, inaccurate and misleading. On the other hand, research conducted in 23 countries that applied a quantitative research approach only may also not gain from the benefits that come with a qualitative research method. According to Berg and Howard (2012), the sample data obtained based on experiences in quantitative research approach may not be that of the respondent's opinion and mind (p. 61). The qualitative research method does

allow an investigator to further explore in great detail the experiences and concepts that cannot be easily set into numbers to understand the human experience. In fact, the association that exists between the respondents and participants in a qualitative research approach makes it easy for respondents (participants) to contribute directly to shaping the study (Eyisi, 2016).

Conclusion

This study finds that self-efficacy, conscientiousness, locus of control, need for achievement and innovativeness are indisputably and unarguably key personal characteristics that predict both entrepreneurial intention and guarantee entrepreneurial success. The study also finds that characteristics that predict entrepreneurial intention also guarantee entrepreneurial success. There is an increase in the number of studies conducted in the last decade relating to the area under focus, though the studies have been conducted in very few countries with unbalanced research approaches skewed towards quantitative methods. More research using a variety of methods is required to gain a better understanding of entrepreneurship success. The study has provided a guide to the identified gaps that need urgent attention in the area under focus. This study greatly contributes to the existing body of knowledge on entrepreneurship success and intention and will definitely help in developing entrepreneurship in all sectors. The study will also help those who are involved in the development of entrepreneurship by channelling the needed curricula to the prospective entrepreneurs in today's twenty-first century. The major contribution of this study is the identification of key dominant personal characteristics that predict both entrepreneurial intention and lead to entrepreneurial success in today's dynamic environment. The other key contribution is stages, methodology and the analysis that can be replicated and employed by other researchers (scholars and practitioners) to carry out other studies or, better still, similar studies in the future. Since studies have proved that personality traits and characteristics are learnable and can be developed (Katongole et al., 2013; Remeikiene et al., 2013) during a process of studying or mentoring, this study will also help those who are involved in the development of entrepreneurship by channelling the needed right curricula to the prospective entrepreneurs in today's twenty-first century. In Africa, for instance, there is no proper career guidance both at primary and secondary school level. This is evident by the fact that many students and pupils study courses/subjects contrary to what they will become in the future. Other students/pupils manage to pursue careers related to what they have been studying up until they graduate from university and later realise they are in the wrong field.

Limitation of study

It is acknowledged that the research study has two limitations. First, the literature review utilised in this study was from two databases, namely Semantic Scholar and Google Scholar. Therefore, it is hoped that this research will spark further debate

and yield more evidence, which will undoubtedly shed more insights on the area under study and provide a more comprehensive understanding of entrepreneurial success in today's dynamic environment. Second, the review applied in this study was limited only to publications in the English language. It is suggested that more papers that have been published in languages other than English be used in future research studies.

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Availability of data and materials All materials are obtained from the literature, and there is no primary data used.

Declarations

Conflict of interest Not Applicable.

Consent for publication We give our consent for publication of this article in full.

Ethics approval and consent to participate Note Applicable.

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