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THE INNER SPARK: A BIBLIOMETRIC JOURNEY  
THROUGH INTRINSIC MOTIVATION IN  
ENTREPRENEURIAL RESEARCH


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**Abstract:**

Research on entrepreneurship has increasingly emphasised the relevance of intrinsic motivation, as it explains entrepreneurial action beyond financial incentives and necessity-based opportunity recognition. Previous reviews have focused on entrepreneurial motivation, social entrepreneurship, entrepreneurial intention, and other frameworks grounded in motivation. However, most of these reviews have used conceptual or systematic synthesis methods. Therefore, minimal attention has been given to mapping the intellectual and citation landscape of research that directly links intrinsic motivation to entrepreneurship. To fill this gap, this paper offers a bibliometric review of the literature on intrinsic motivation in entrepreneurship published in the Scopus database from 1995 to 2025. In the final stage, the dataset consisted of 323 English-language publications. The analysis included publication growth, document and source types, subject area distribution, source titles, keyword trends, citation metrics, highly cited articles, co-authorship network, and keyword co-occurrence network using VOSviewer and Publish or Perish. The results showed that the field is journal-centric, with 74.61% of publications and 76.16% of source types being articles and journals, respectively. The topic has become more of an academic interest since 2017, and publication production peaked in 2025, showing a clear increase. The citation analysis shows 8,714 citations, an average of 281.10 citations per year. This implies the high citation visibility and intellectual maturity. The network analysis shows the authors' collaboration. The co-occurrence

of the keywords emphasises significant thematic clusters, such as entrepreneurial motivation, social entrepreneurship, entrepreneurial intention and prosocial motivation. These findings suggest that intrinsic motivation is key to autonomy, competence, intention formation, self-efficacy and entrepreneurial agency across social, institutional and sectoral contexts. Overall, this study contributes to the literature by examining the conceptual, citation, collaborative and theoretical landscape of intrinsic motivation research in entrepreneurship. It also suggests future directions for longitudinal, cross-cultural, theory-driven and mechanism-focused research.

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**Keywords:**

Bibliometric Analysis, Entrepreneurship, Entrepreneurial Intention, Intrinsic Motivation, Self-Determination Theory



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## Introduction

Interest in entrepreneurial motivation from a scholarly perspective has exploded in the last few decades. The focus of research has shifted from general motivational traits to highly contextualised research on hybrid entrepreneurship, social venturing, academic spin-offs, and entrepreneurship education (Civera et al., 2024; Khan et al., 2025). Traditional economic theories tend to focus on extrinsic rewards (e.g., profit maximisation, market share) as the main drivers of venture creation. However, a growing body of psychological and management research reveals that the importance of intrinsic motivation in the entrepreneurial process should not be overlooked.

Intrinsic motivation, the motivation to perform an activity for its own sake, out of interest, curiosity or personal fulfilment, is the inner spark that keeps entrepreneurs moving through the high uncertainty and volatility of new venture creation (Duong, 2025; Hsieh & Pittaway, 2025). The increasing complexity of entrepreneurial contexts has stimulated the study of the interactions among personal, social and environmental factors in motivation and decision-making processes. Intrinsic motivation has been indicated to affect opportunity recognition and innovation, as well as persistence, resilience, and ethical considerations in ventures. This underscores its multifaceted impact on entrepreneurial outcomes (Hsieh & Pittaway, 2025).

The topic is gaining increasing interest by scholars in numerous areas such as psychology, education, sociology, and business management. A systematic mapping of its intellectual structure is increasingly needed. Bibliometric analysis offers a systematic way of identifying key contributions, mapping conceptual clusters, and studying the thematic evolution of entrepreneurship research (Civera et al., 2024; Valencia-Arias et al., 2025). It is valuable both for synthesising a fragmented body of scholarship and for understanding the evolution of

certain research streams and the direction of future inquiry. The role of intrinsic motivation as an antecedent to entrepreneurial action is increasingly recognised, but numerous areas remain under-developed. Previous studies have focused little on cross-cultural variation, the combined influence of intrinsic and extrinsic motivational factors, and longitudinal approaches that can explain how entrepreneurial motivation changes across different stages of the entrepreneurial lifecycle (Khan et al., 2025).

This study tries to address these gaps by analysing the development of research on intrinsic motivation in the entrepreneurial literature. More specifically, it presents a comprehensive overview of the conceptualisation of intrinsic motivation in entrepreneurship research by analysing publication trends, subject-area distribution and frequently cited journal articles. The study integrates extant literature and highlights persistent gaps to promote a more comprehensive understanding of the theoretical and practical impact of intrinsic motivation in entrepreneurial action. By doing so, it defines the existing state of knowledge but also provides future research directions and contributes to ongoing scholarly discussions and more informed entrepreneurship practices.

## Literature Review

Entrepreneurship study has emerged as a construct of intrinsic motivation was theoretically important. It's significant because it shows that entrepreneurs act not just because of money, pressure from others, or the need for opportunities, but because they are truly motivated from within. Recent Scopus-indexed research indicates that intrinsic motivation is increasingly explored in many entrepreneurial fields. These domains include entrepreneurial intention, entrepreneurship education, sustainable entrepreneurship, social entrepreneurship, hybrid entrepreneurship, women's entrepreneurship, digital entrepreneurship, and entrepreneurial leadership. The expansion demonstrates that intrinsic motivation is no longer a marginal variable in psychological studies. It also offers an important explanatory instrument to explain why individuals initiate, continue and change entrepreneurial activity.

Furthermore, the Theory of Planned Behaviour is notable in this field, especially in research on entrepreneurial intention. Still, recent research increasingly extends this theory by incorporating intrinsic motivation as a psychological mechanism that strengthens or qualifies the intention formation process. Waqas et al. (2025) revealed that attitude, subjective norms and perceived behavioural control had significant effects on self-employment intention. Moreover, intrinsic motivation further strengthened the link between intention and self-employment behaviour. Similarly, Zhou et al. (2025) combined Self-Determination Theory and Social Support Theory in an extended Theory of Planned Behaviour model. They identified that intrinsic motivation and interpersonal social support were among the most powerful determinants of entrepreneurial intention in the context of rural revitalisation. These findings suggest that traditional intention models are more predictive when they account for the internal motivational conditions that underlie the translation of entrepreneurial intention into behaviour.

Research on sustainable entrepreneurship also considers the role of intrinsic motivation. Recent research indicates that sustainability-oriented entrepreneurship is driven by external policy incentives or market pressures, as well as by internalised commitments to environmental and social values. Satar et al. (2025) discovered that intrinsic motivation can reduce the stress associated with sustainability orientation. This finding posited that entrepreneurs who internalise sustainability values may experience less psychological conflict when adopting

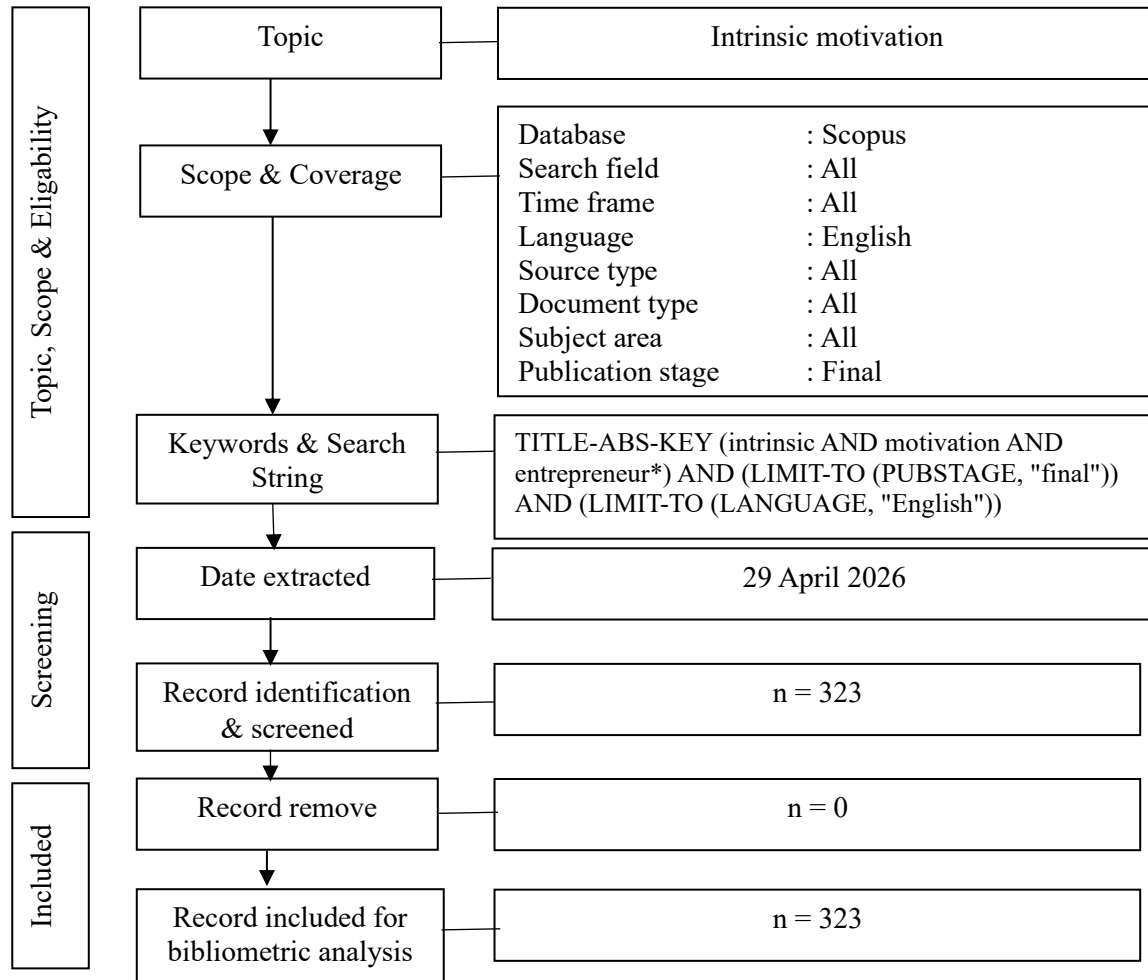
responsible business practices. Singh and Singh (2025) identified intrinsic motivation as one of the critical success factors for value creation in social entrepreneurship, including social salience, mission, entrepreneurial capabilities, resource mobilisation and capacity building. Au et al. (2024) further discussed by applying a dual-motivation framework and demonstrating that intrinsic motivation strengthens the link between prosocial motivation and social enterprise outcomes. In contrast, extrinsic motivation might weaken some business outcomes. The literature has also been extended to gendered, rural and marginalised entrepreneurial contexts. These studies demonstrate that intrinsic motivation is individual and socially situated. Valero et al. (2025) revealed that intrinsic motivation and career counselling significantly influence the entrepreneurial career satisfaction of rural women entrepreneurs in Spain. Following this, Durrah et al. (2024) reported that intrinsic and extrinsic motivations, such as self-efficacy, social support, financial need and job dissatisfaction, influence rural women entrepreneurs in Oman. These studies point to intrinsic motivation as a frequent form of agency, especially for those entrepreneurial paths constrained by gender, rurality, or social exclusion.

In addition, intrinsic motivation is influenced by socio-demographic and contextual factors and has a unique role in different entrepreneurial paths and industries. Entrepreneurial motivation differs across national, occupational, educational, agricultural, tourism and academic-commercialisation contexts. Choo and Wong (2006) identified that intrinsic rewards, autonomy and extrinsic rewards were significant antecedents of entrepreneurial intention in Singapore. On the other hand, Benzing et al. (2009) revealed that entrepreneurs in Turkey were driven by income, job security and independence. Barbieri and Mahoney (2009) further demonstrated that diversification among farmers and ranchers is influenced by economic adaptation and broader contextual motivations. Wang et al. (2019) underscored that tourism and hospitality entrepreneurship are influenced by cognitive beliefs, intrinsic needs, demographic factors, and environmental facilitators. Lam (2011) highlighted that in knowledge-intensive contexts, the commercialisation of studies through academic scientists affected by the interaction of monetary rewards, reputational advantages and intrinsic satisfaction. These findings display that intrinsic motivation isn't a general, insulated psychological force but a contextual aspect formed through person goals, sectoral conditions and institutional contexts. Thus, the article gave a holistic view of how inner psychological forces have an effect on entrepreneurial action in different settings.

## Method

The search strategy and screening procedure used to construct the final bibliometric dataset on intrinsic motivation and entrepreneurship are illustrated in Figure 1. The search was carried out on the Scopus database using the field TITLE-ABS-KEY and the search terms intrinsic motivation AND entrepreneur\*. The search string was: TITLE-ABS-KEY (intrinsic AND motivation AND entrepreneur\*) AND (LIMIT TO (PUBSTAGE, "final")) AND (LIMIT-TO (LANGUAGE, "English")). Using the title, abstract, and keyword fields increased the chances of retrieving publications where intrinsic motivation and entrepreneurship were a central or explicitly stated research focus. The search was limited to publications and records in English and at the last stage of publication. All source types, document types, and subject areas were retained to allow for broad disciplinary coverage of the field. Despite the data being extracted on 29th April 2026, the publication time frame was restricted to studies published up to 2025. Records from 2026 were excluded because they were from an incomplete publication year at the time of extraction. This decision enhances the temporal coherence of the analysis by

avoiding the distortion of annual publication trends, growth patterns, and interpretations of the field's evolution by partial-year data.



**Figure 1: Flow Diagram of The Search Strategy**

Source: Zakaria et al. (2020)

A first search yielded 323 records. No records were excluded during screening. Finally, all the retrieved publications were included for bibliometric analysis. The total data set consisted of 323 documents. The search method is transparently and reproducibly described in the flow diagram presented in Figure 1. Its methodological strength lies in the clear reporting of the database, search field, keyword structure, language criterion, publication-stage filter, extraction date, and final inclusion outcome. The strategy aimed at a comprehensive mapping of the literature across disciplinary and temporal boundaries, maintaining a broad coverage across source types, document types and subject areas.

Some limits to the methodology should be specified. Firstly, this study was only based on the Scopus database. This platform was selected because it has a wide multidisciplinary coverage, includes a significant number of high-quality peer-reviewed articles and has reliable citation monitoring. This makes it appropriate for bibliometric analysis in an interdisciplinary area such as intrinsic motivation and entrepreneurship. Its coverage across business, management, psychology, social sciences, education and related disciplines means that the coverage of

publication trends, citation patterns and topic changes may be mapped through the compilation of a reliable dataset. However, the use of Scopus only may restrict inclusion of relevant publications indexed in other databases such as Web of Science, Education Resources Information Center (ERIC), PubMed, PsycINFO, and regional databases. This can limit the scope of the dataset, notably for research in education, psychology, and entrepreneurship. Correspondingly, future research may further analyse the literature by including other databases for a more complete representation. Secondly, restricting the search to English-language articles enhances linguistic consistency but may increase language bias by omitting studies published in other languages. This is significant as culture, institutions and socio-economic settings have an influence on motivation and entrepreneurship. Third, the search phrases “intrinsic”, “motivation” and “entrepreneur”<sup>\*</sup> are directly relevant to the topic of the study, but the search string may not include all conceptual variations related to this topic. Studies using terms such as self-determination, autonomous motivation, entrepreneurial intention, entrepreneurial learning, startup motivation, or opportunity recognition may have been excluded unless they also contained the selected keywords. Fourth, the lack of removal of records suggests that all retrieved documents fulfilled the established criteria. This notwithstanding, it also suggests that additional refinement techniques are clearly stated where applicable, including duplicate checking, manual relevance screening and elimination of marginally related records. These measures are crucial to improve the dataset precision and to reduce the bibliometric noise. Finally, restricting the dataset to final-stage publications improves publication dependability, but excludes early access articles, conference-first outputs, preprints and other emergent research. Similarly, excluding 2026 improves the longitudinal analysis, but reduces the ability to catch the most recent advancements in the field. To address this, future studies could improve the search technique by merging Scopus with other databases. This, in turn, extends the keyword structure to include adjacent theoretical constructs, incorporates multilingual records, and applies a more detailed screening protocol.

## Result

In this section, the distribution of publications, growth of publications, languages, classification of subject areas, active source titles, patterns of keywords, and mapping of keyword co-occurrence to identify thematic clusters are comprehensively discussed. It ends with citation analysis, highly cited papers and co-authorship networks to assess the intellectual impact and collaborative structure of the area.

### *Distribution of Publications by Document Type and Source Type*

The distribution of publications by document type in Table 1 demonstrates that the field is mostly driven by original research articles. Articles constitute the greatest share of the corpus, accounting for 74.61% of the overall output. This preponderance points to the fact that scientific production in this domain is largely made up of empirical, theoretical or conceptual research published in peer-reviewed journals, which also suggests the institutionalisation of the topic within formal academic discourse. The second popular type of publication is conference papers, with 40 publications which account for 12.38% of total publications. This suggests that conferences have been an important means of initial dissemination of research findings, methodological advances and emergent debates. It is particularly pertinent in fast-moving fields, where conference venues are often used as a forum for rapid scholarly exchange before journal publication. Moreover, the subject has been covered in edited volumes and broader academic collections, as shown by 36 publications or 11.15% of the sample that are book

chapters. This indicates its importance in multidisciplinary or thematic academic settings. Book chapters are generally more synthetic, conceptual or pedagogical treatments of the subject than journal articles.

**Table 1: Document Type**

Document Type	Total Publications (TP)	Percentage (%)
Article	241	74.61
Conference Paper	40	12.38
Book Chapter	36	11.15
Conference Review	2	0.62
Review	2	0.62
Book	1	0.31
Data Paper	1	0.31

Other types of documents appear only marginally. Conference reviews and review articles are each two publications, accounting for 0.62%, respectively. The limited number of review publications indicates that this field might still be evolving to a stage where large-scale synthesis and systematic consolidation would become more common. Similarly, the low number of conference reviews suggests a small amount of publication activity focused on summarised conference proceedings. Books and data articles are under-represented with 1 publication each, representing 0.31% of the overall output. This shows that full monographs and stand-alone data-oriented publications are still relatively rare in this field of research. The presence of a data paper may indicate an increased focus on data transparency, reproducibility, or the provision of reusable research resources. The distribution of document types in this context posits a literature which is largely dominated by journal articles, with a lower but still significant number of conference papers and book chapters. This pattern suggests a field that has attained substantial visibility in peer-reviewed journals and also benefits from conference-based dissemination and chapter-oriented scholarly dialogue.

**Table 2: Source Type**

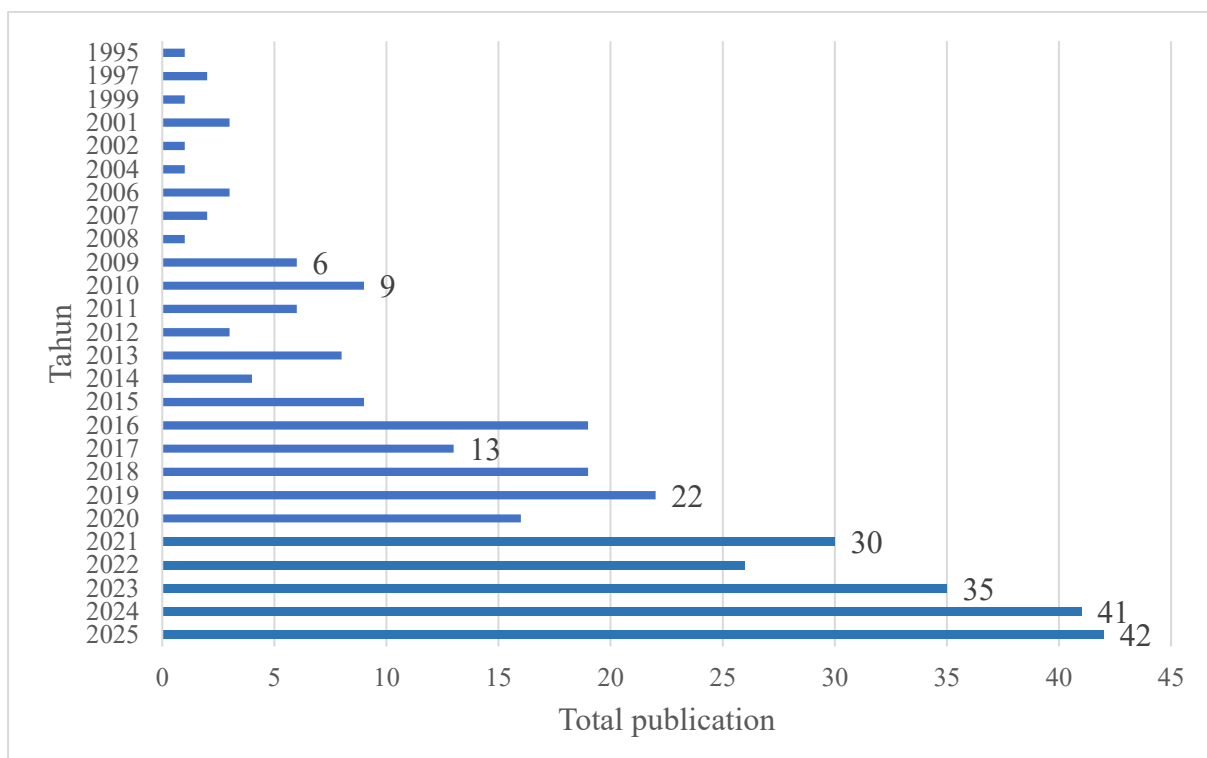
Document Type	Total Publications (TP)	Percentage (%)
Journal	246	76.16
Conference Proceeding	35	10.84
Book Series	24	7.43
Book	18	5.57

Table 2 presents the distribution of publication sources. The most frequent type of publication outlet in the corpus is journals with 246 articles (76.16%). The prevalence of journal outlets suggests that the research field is largely conveyed via peer-reviewed scholarly journals. It also suggests that the field has a reasonably developed academic profile, with formalised, peer-reviewed research contributions that are incorporated in disciplinary conversations. The second most common type of source is conference proceedings, with 35 publications (10.84% of the total output). While this proportion is significantly smaller than that of journal publications, it still signifies that conferences are a significant venue for the presentation of emerging findings, methodological developments, and early-stage research. Conference proceedings attest to the lively scholarly exchange in the field, especially in domains where rapid dissemination and

academic networking are essential. The corpus has 24 publications (7.43%) in book series. This contribution resonates with the role of edited academic series in providing a space for thematic, interdisciplinary or conceptually oriented discussions. Book series typically provide a wider analytical perspective than journal articles and conference proceedings and place the topic in a broader theoretical or applied context. Books, 18 publications (5.57 per cent of the total production). This is the smallest category, but its presence indicates that there is enough intellectual depth in the field to sustain more extensive and comprehensive treatments. Books can be significant sources of conceptual consolidation, pedagogical framing and theoretical development in depth. The distribution of sources shows a strong orientation toward journals. More than three-quarters of the publications appear in journals. This shows the great recognition of the area in formal academic publishing. On the other hand, conference proceedings, book series and books provide additional opportunities for early dissemination, multidisciplinary discussion and comprehensive scholarly synthesis.

### ***Publication Growth***

Figure 2 illustrates the evolution of publication output over time, from 1995 to 2025. The trend is one of steady increase in scholarly activity, but the pattern of growth is not consistent throughout the study period. The first period, from 1995 to the end of the 2000s, is characterised by a relatively low publication output. This suggests that the development of this research area was in an initial phase and did not reach high academic visibility. The increase was more pronounced from 2009, when the number of publications increased to 6 in 2009 and 9 in 2010.



**Figure 2: Annual Publication Growth from 1995 to 2025**

This trend indicates a growing academic interest in the topic. Still, publishing activity was inconsistent over this period, suggesting that the field had not yet entered a phase of sustained growth. The amount of research output has increased substantially since 2016. Publications grew rapidly to 13 in 2017, indicative of a move from an emerging research area to a more established and active one. This upward trend continued in the following years, with the number of publications increasing to 22 (6.81%) in 2019 and 30 (9.29%) in 2021. The fastest growth was in the period 2021-2025. In 2023, the number of publications was 35 (10.84%) and reached a peak of 42 publications in 2025 (13.00%). This rapid increase indicates that the topic has achieved significant momentum and is becoming more and more prominent in the academic discourse of today. Figure 2 shows a clear path from little early research activity, steady growth, and then rapid expansion after 2017. The general trend is toward greater scholarly relevance, visibility and maturity of the research area across the three decades.

### *Languages of Selected Documents*

The language distribution shows that 100.00% of the total number of publications in the dataset are in English, with all 323 publications being in English. The use of English was justified by the desire for consistency, comparability and for scholarly access to the literature analysed. English remains the dominant language of international academic discourse. Indexed databases often publish peer-reviewed journals, proceedings of conferences, book series and academic publications for a worldwide readership. In addition, the restriction of the review to articles written in English contributes to the methodological consistency of the study. It also restricts potential variations arising from translation problems, variations in nomenclature or changes in indexing practices between languages. The significance of this emphasis is particularly pronounced in bibliometric and systematic studies, where consistent language is a prerequisite for the correct identification of keywords, citations, thematic mapping, and comparison of sources. The fact that all the retrieved documents were written in English indicates that research in this area is mainly disseminated through international publication channels. This pattern suggests the global visibility of the topic and that the intellectual conversation in the field is mainly led by academic publications in the English language. However, this coalescence of language should be taken with caution, since it may limit the inclusion of relevant studies published in other languages or in regional databases.

### *Subject Area*

The distribution of the publications by subject area contributing at least 5% of the total is presented in Table 3. The results reveal that the literature is highly centred on the Business, Management and Accounting with 193 articles (59.75% of the total output). This overwhelming share indicates that the topic has been predominantly explored from organisational, managerial, strategic and accounting perspectives.

**Table 3: Subject Area**

<b>Subject Area</b>	<b>Total (TP)</b>	<b>Publications</b>	<b>Percentage (%)</b>
Business, Management and Accounting	193		59.75%
Social Sciences	117		36.22%
Economics, Econometrics and Finance	80		24.77%

Computer Science	43	13.31%
Engineering	37	11.46%
Decision Sciences	25	7.74%
Psychology	22	6.81%
Arts and Humanities	18	5.57%

The importance of this area of study means that the field is directly tied to business practices, institutional decision-making, performance improvement, and management-related applications. It is the second largest subject area, with 117 articles, or 36.22% of the corpus. This is an important addition, which indicates that the topic is not confined to technical or management domains. It also has close links with social, educational, behavioural, institutional and policy-oriented discussions. The strong presence of Social Sciences reflects the significant interest that academics have in the human, organisational and societal dimensions of the field.

The distribution by subject area reveals that the literature is multidisciplinary with a clear dominance of Business, Management and Accounting, followed by considerable contributions from Social Sciences and Economics, Econometrics and Finance. The presence of Computer Science, Engineering, Decision Sciences, Psychology and Arts and Humanities further suggests that the topic has emerged as a cross-disciplinary research field bringing together managerial, social, economic, technological, behavioural and interpretive perspectives. Due to the possibility of overlapping subject-area classifications among indexed articles, these percentages should be interpreted as indicators of disciplinary representation rather than mutually exclusive categories.

### ***Source Titles with the Highest Publication Contributions***

Table 4 lists the most active source titles, which combined account for more than 1% of the overall publication output. The results reveal that the literature is distributed across a diverse set of publication sources, without any single source contributing a substantial proportion to the corpus. The pattern shows that the research field is not confined to a small number of journals or proceedings but is scattered across interdisciplinary outlets that concentrate on entrepreneurship, business, education, psychology, ethics, sustainability and management. The most productive source is the Conference Proceedings of the American Society for Engineering Education (ASEE) Annual Conference and Exposition, with 9 publications and a share of 2.79%. The leading position highlights that the contribution of conference-based dissemination has led to the development of the field. This is especially for education, engineering education, pedagogical innovation and applied academic practice. The fact that this is the most active source also hints that early findings and new research directions have been widely disseminated through academic conferences. Additionally, *Frontiers in Psychology* ranks second with seven publications or 2.17% of the total output. This contribution highlights the importance of psychological perspectives in the field, especially in terms of individual behaviour, motivation, cognition, perception, learning processes and human responses. Its position as one of the most active sources indicates that the topic has gained recognition outside business and management, in behavioural and social-scientific research.

**Table 4: Most Active Source Titles**

Source Title	Total Publications (TP)	Percentage (%)
ASEE Annual Conference and Exposition Conference Proceedings	9	2.79
Frontiers in Psychology	7	2.17
International Journal of Entrepreneurial Behaviour and Research	5	1.55
International Journal of Gender and Entrepreneurship	5	1.55
Proceedings Frontiers in Education Conference FIE	5	1.55
International Entrepreneurship and Management Journal	4	1.24
International Studies in Entrepreneurship	4	1.24
Journal of Business Ethics	4	1.24
Journal of Business Research	4	1.24
Journal of Developmental Entrepreneurship	4	1.24
Journal of Entrepreneurship in Emerging Economies	4	1.24
Journal of Small Business Management	4	1.24
Sustainability Switzerland	4	1.24

### ***Keywords Analysis***

The keyword analysis demonstrates that the literature is strongly focused on the concept of intrinsic motivation. The keyword intrinsic motivation has the highest frequency, with 87 occurrences, accounting for 26.93% of the total keyword distribution.

Such a dominance suggests that intrinsic motivation is the core analytical construct of the dataset. The related keyword motivation is similarly frequent, appearing 65 times for a rate of 20.12%. Taken together, these findings point to a great deal of focus in the literature on the psychological foundations of entrepreneurial behaviour. This is especially true for the internal motivations that shape entrepreneurial intention, persistence, creativity and action. The presence of entrepreneurship (52 occurrences, 16.10%) validates the disciplinary focus of the dataset. Moreover, entrepreneurship-related terms (Entrepreneur, Entrepreneurial Intention, Entrepreneurial Motivation, Entrepreneurship Education) indicate that the literature links motivation to venture creation, entrepreneurial intention, and entrepreneurial learning. This pattern suggests that motivation is not addressed as an isolated psychological variable. Instead, it functions as a central mechanism for explaining entrepreneurial processes.

It is also worth noting that among the most frequent keywords, there is the existence of Self-Determination Theory, which has theoretical relevance. Its appearance suggests that scholars often explain entrepreneurial motivation using psychological frameworks, in particular the requirements for autonomy, competence and relatedness. This is indicative of the fact that study into entrepreneurship has shifted from limited economic explanations towards a growing recognition of the relevance of internalised motivation, personal meaning and self-directed behaviour.



**Figure 3: Keyword Analysis**

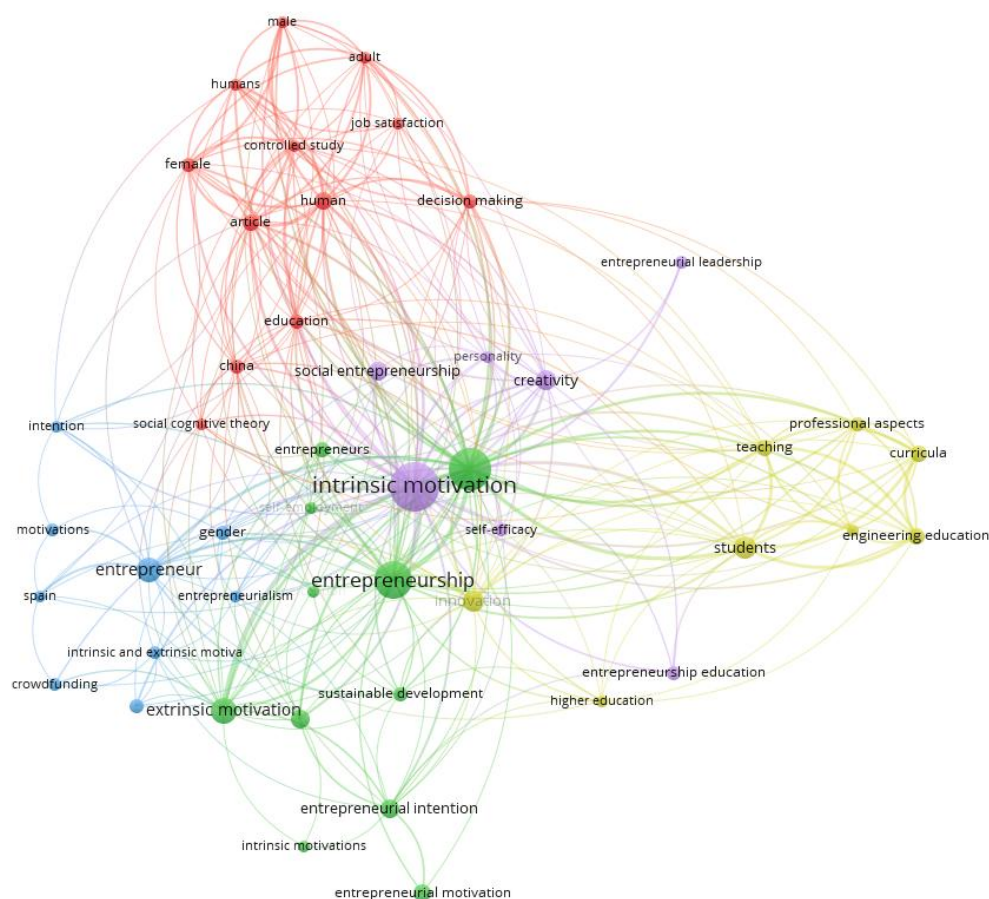
WordArt was used to visualise the keyword analysis in Figure 3 because it provides a clear visual representation of the keywords' prominence. The analysis is based on frequency and percentage figures. Therefore, a word cloud is ideal for visualising the relative weights of the keywords. The bigger the word, the more often it occurs, and the smaller the word, the less often it occurs. The visual arrangement allows readers to easily discover the prominent themes within the dataset. WordArt (2026) is also an acceptable choice because it allows for customisation of words, shapes, fonts, colours and layouts. This provides a clear and easily understandable visual overview of the keyword structure. WordArt.com is a descriptive tool to supplement, not a complete method of analysis.

### **Keywords Co-occurrence Mapping**

The co-occurrence map in Figure 4 offers an understanding of the major themes in research on intrinsic motivation and entrepreneurship. The size of the nodes represents the more frequent keywords, and the lines between the nodes represent the frequency of the keywords appearing together. The closer and thicker the connections, the stronger the relationships between the keywords. The different colours represent thematic clusters in the literature. The map generated by VOSviewer shows that “intrinsic motivation” is located at the centre of the network. This centrality indicates it is the key concept linking different fields of entrepreneurship research. It is strongly correlated with keywords such as “entrepreneurship”, “entrepreneurial motivation”, “entrepreneurial intention”, “self-efficacy”, “innovation”, “social entrepreneurship”, “prosocial motivation” and “self-determination theory”. These associations indicate that intrinsic motivation has been extensively studied in the context of entrepreneurial behaviour, entrepreneurial intention formation, innovation, social value creation, and psychological mechanisms.

The keyword clusters suggest that research on intrinsic motivation and entrepreneurship is structured around five basic themes. The green cluster focuses on the core of entrepreneurship and motivation with a special focus on entrepreneurial intention, self-efficacy, innovation and sustainable development. The yellow cluster points to entrepreneurship education, especially

the role of students, higher education, teaching and curricula in the creation of entrepreneurial attitudes and competencies. The red cluster includes psychological and demographic factors, such as individual traits, decision-making, job satisfaction, and human subjects studies. The blue cluster represents the motivational and contextual aspects, and it shows the way intrinsic motivation is being explored in relation to the extrinsic motivation, gender, crowdfunding and resource mobilisation. The purple cluster pertains to creativity, personality, leadership and academic commercialisation and indicates an increasing interest in innovation, information transfer and the development of entrepreneurial skills. These groupings indicate a move from a broad focus on the motivating drivers of entrepreneurship to more focused subjects, including social value creation, entrepreneurial conduct, venture funding, innovation and psychological mechanisms. The central position of “intrinsic motivation” indicates its role as a bridging concept between these concepts. The map also points to areas for future study. This is particularly through longitudinal, cross-cultural, theory-driven, and mechanism-focused studies.



**Figure 4: Keyword Co-occurrence**

### ***Citation Analysis***

Citation analysis was done using Publish or Perish, Version 8.19.5300. It provides a systematic environment for retrieving citation records and producing standard bibliometric indicators. Publish or Perish computes metrics such as total publications, total citations, citation years, citations per year, citations per paper, citations per author, papers per author, h-index and

related measures. This makes it useful for the measurement of both productivity and citation impact.

**Table 5: Citation Metrics**

Metrics	Data
Publication years	1995 - 2025
Citation years	31
Papers	323
Citations	8714
Citations/year	281.10
Citations/paper	26.98
Citations/author	4082.04
Papers/author	146.92
h-index	43
g-index	87

The studied corpus spans the years 1995-2025 and includes 323 publications distributed over 31 citation years, as presented in Table 5. The set of publications has been cited 8,714 times, with an average of 281.10 citations per year and 26.98 citations per paper, showing the continuing scientific interest in the topic and the established academic importance of the topic. 43 is the h-index, indicating a solid core of influential publications. 87 is the g-index, implying the presence of very highly cited articles with a significant intellectual weight. Together, the citation profile shows that the field is mature, productive and well established. And at the same time, the use of Publish or Perish enhances the transparency and replicability of the bibliometric technique, as it provides a uniform set of citation indicators that can be exported, examined and confirmed during the data-cleaning process.

### ***Highly Cited Articles Analysis***

The highly cited articles in Table 6 clarify the conceptual foundations of the field, with more than 100 citations recorded. The most cited paper in the dataset is the work of Frese and Fay (2001) on personal initiative, with 1,144 citations. Its importance lies in the fact that personal initiative encompasses proactive, self-starting and persistent behaviour which overlaps strongly with the motivational conditions needed for entrepreneurial action. Although the article is not limited to entrepreneurship, its high citation count reveals that entrepreneurship scholars draw heavily on broader organisational psychology to explain initiative-taking under uncertainty. This implies that intrinsic motivation in entrepreneurship is not a personality trait. Instead, the best way to describe it is as a performance process. Several other highly cited articles also shed light on the ongoing tension between intrinsic and extrinsic motivation. The second most cited article is Allison et al. (2015), who examined intrinsic versus extrinsic cues in prosocial microlending and found that entrepreneurial support is partly contingent upon the interpretation of motivational signals. Lam (2011) also makes a distinction between "gold," "ribbon," and "puzzle" motives in his study of commercialisation behaviour amongst academic scientists. It shows co-occurrences of financial and reputational rewards, as well as of intrinsic motives for problem-solving. A complementary account was provided by Amabile's (1997) article on entrepreneurial creativity through motivational synergy. Thus, intrinsic motivation can be usefully combined with extrinsic incentives when external rewards support rather than control

the creative engagement. These studies challenge the simple assumption that intrinsic and extrinsic motivations are opposites. A more compelling interpretation is that entrepreneurial outcomes depend on the configuration of motives, the meaning attached to rewards, and the institutional context in which action takes place.

**Table 6: Highly Cited Articles**

No.	Authors	Title	Year	Cites	Cites per Year
1	Frese, M., & Fay, D.	Personal initiative: An active performance concept for work in the 21st century	2001	1144	45.76
2	Allison, T. H., Davis, B. C., Short, J. C., & Webb, J. W.	Crowdfunding in a prosocial microlending environment: Examining the role of intrinsic versus extrinsic cues	2015	585	53.18
3	Lam, A.	What motivates academic scientists to engage in research commercialization: 'Gold', 'ribbon' or 'puzzle'?	2011	441	29.4
4	Kuratko, D. F., Hornsby, J. S., & Naffziger, D. W.	An examination of owner's goals in sustaining entrepreneurship	1997	408	14.07
5	Amabile, T. M.	Entrepreneurial creativity through motivational synergy	1997	348	12
6	Barbieri, C., & Mahoney, E.	Why is diversification an attractive farm adjustment strategy? Insights from Texas farmers and ranchers	2009	315	18.53
7	Benzing, C., Chu, H. M., & Kara, O.	Entrepreneurs in Turkey: A factor analysis of motivations, success factors, and problems	2009	249	14.65
8	Yamakawa, Y., Peng, M. W., & Deeds, D. L.	Rising from the ashes: Cognitive determinants of venture growth after entrepreneurial failure	2015	153	13.91
9	Wang, S., Hung, K., & Huang, W. J.	Motivations for entrepreneurship in the tourism and hospitality sector: A social cognitive theory perspective	2019	152	21.71

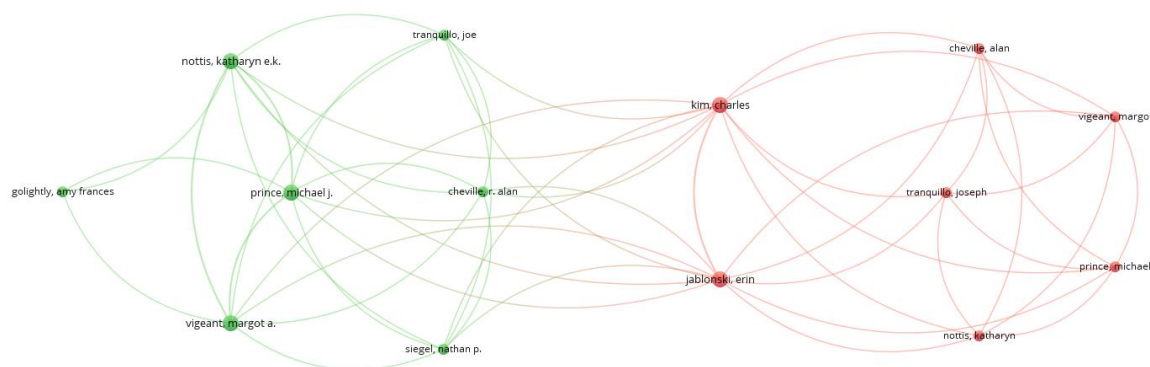
10	Choo, S., & Wong, M.	Entrepreneurial intention: Triggers and barriers to new venture creations in Singapore	2006	147	7.35
11	Carree, M. A., & Verheul, I.	What makes entrepreneurs happy? Determinants of satisfaction among founders	2012	137	9.79
12	Hytti, U., Stenholm, P., Heinonen, J., & Seikkula-Leino, J.	Perceived learning outcomes in entrepreneurship education: The impact of student motivation and team behaviour	2010	124	7.75
13	Kibler, E., Wincent, J., Kautonen, T., Cacciotti, G., & Obschonka, M.	Can prosocial motivation harm entrepreneurs' subjective well-being?	2019	121	17.29
14	Guzmán, J., & Javier Santos, F.	The booster function and the entrepreneurial quality: An application to the province of Seville	2001	108	4.32
15	Chan, H. F., Moy, N., Schaffner, M., & Torgler, B.	The effects of money saliency and sustainability orientation on reward based crowdfunding success	2021	101	20.2

The findings also imply that intrinsic motivation is contextually embedded. Highly cited studies include academic commercialisation, farm diversification, Turkish entrepreneurs, tourism and hospitality entrepreneurship, entrepreneurship education, crowdfunding, and venture recovery after failure. The diversity of studies shows that intrinsic motivation does not work the same way in every sector. For instance, Lam (2011) found that academic scientists commercialise research through a combination of puzzle-solving, reputation and financial motives. Barbieri and Mahoney (2009) demonstrate that farm diversification reflected an adaptive response to rural economic and lifestyle contexts. Wang et al. (2019) highlighted social cognitive mechanisms to explain tourism and hospitality entrepreneurship. As Benzing et al. (2009) pointed out, Turkish entrepreneurs are shaped by the specific motivations, success factors and contextual problems of their institutional environment. Collectively, the findings suggest that intrinsic motivation is not a universal psychological constant. It is shaped by sector, culture, institutional opportunity, social status, education and perceived constraints.

### ***Co-Authorship Network***

The co-authorship network in Figure 5 displays the collaborative structure of the most connected authors in the literature on intrinsic motivation and entrepreneurship. In this map, each node is an author, and the links between nodes are co-authorship relationships. The larger and more central nodes are those with a stronger collaborative presence, and the density of links is a reflection of the intensity of scholarly collaboration. The different colours represent

different collaboration clusters representing groups of authors who have collaborated more closely. The map has one feature that stands out, there are connecting links between the two clusters. These cross-cluster links indicate that collaboration is not entirely fragmented. Rather, selected authors act as bridges between different research groups. Authors close to the centre of the network, such as Kim, Jablonski, Cheville and Prince, seemed to play important intermediary roles by linking otherwise distinct collaborative communities. Such bridging positions are important as they facilitate the circulation of ideas, methods and theoretical perspectives across the field. The co-authorship network generally indicates that research on intrinsic motivation and entrepreneurship is characterised by both clustered collaboration and connectivity across groups. While several authors collaborate within relatively stable research groups, the presence of links across clusters indicates opportunities for broader scholarly integration. This pattern reflects a developing research community in which collaboration is concentrated among identifiable author groups, while bridging authors help connect different intellectual and institutional networks. For future development, the field would benefit from broader international, interdisciplinary, and cross-institutional collaboration to strengthen theoretical diversity, methodological innovation, and cumulative knowledge production.



**Figure 5: The Co-authorship Network**

## Discussion

The bibliometric results indicate that research on intrinsic motivation in entrepreneurship has shifted from a marginal, conceptually dispersed topic to a mature, journal-centred, and interdisciplinary research domain. The corpus consists of 323 publications, published between 1995 and 2025, where journal articles are the most frequent document type, and journals constitute more than three-quarters of the source venues. This pattern suggests that the area has been widely embedded in formal peer-reviewed academia, not only conference-based or exploratory conversation. The publication and citation trends also indicate the growing importance of intrinsic motivation for entrepreneurial research in academia. In recent years, entrepreneurship research has increasingly acknowledged the relevance of psychological drivers in the formation of venture creation, innovation and long-term sustainability. Understanding the decision to engage in entrepreneurial activity and the persistence of entrepreneurial engagement is particularly relevant for psychological constructs such as motivation (Hoang et al., 2024; Hsieh & Pittaway, 2025). Li and Sanusi (2025) demonstrated that pull motivation enhances mental well-being and, thus, improves the business performance of female entrepreneurs when social capital is high. Furthermore, Patel et al. (2025) found that

work enjoyment, together with intrinsic work motivation, mediated the association between perceived ageism and psychological distress among older self-employed people.

These findings suggest that intrinsic motivation affects entrepreneurial outcomes through psychological well-being. However, its impact may vary by the specific type of intrinsic motivation and the social or occupational context of entrepreneurship. The keyword co-occurrence analysis provides further insight into the field's conceptual structure. The map illustrates that "intrinsic motivation" is in the middle and related to words like "entrepreneurship," "entrepreneurial motivation," "entrepreneurial intention," "self-efficacy," "innovation," "social entrepreneurship," "prosocial motivation," and "self-determination theory." These connections suggest that intrinsic motivation is a linking concept across a variety of research streams. The thematic clusters indicate that the field has moved from a general focus on motivational drivers of entrepreneurship to more specialised areas. These include entrepreneurial intention formation, entrepreneurship education, social value creation, innovation, venture financing, psychological mechanisms, and knowledge commercialisation. This structure demonstrates that intrinsic motivation is no longer treated only as an individual psychological attribute. Instead, it is increasingly treated as a mechanism that connects autonomy, competence, creativity, self-efficacy, entrepreneurial agency, and venture-related outcomes.

The co-authorship network also provides an additional perspective to these results by visualising the collaborative structure of the field. The network shows several recognisable clusters of authors, indicating that research on intrinsic motivation and entrepreneurship is shaped by very cohesive groups of scholars. At the same time, the existence of cross-cluster links means that some authors act as bridges between different collaborative groups. This pattern reflects a developing research field in which knowledge generation is concentrated in some research groups, but is gradually expanding through inter-group collaboration. At the same time, the network also implies that broader international, interdisciplinary and cross-institutional collaboration is still needed to strengthen theoretical diversity, methodological innovation and the growth of cumulative knowledge. The results have substantial practical implications for entrepreneurship educators, business incubators, government entrepreneurship agencies, startup accelerators and university entrepreneurship centres. The importance of intrinsic motivation, entrepreneurial intention, self-efficacy and entrepreneurship education in entrepreneurship education highlights a need for entrepreneurship educators to design learning environments that extend beyond technical business skills. Entrepreneurial curricula should promote autonomy, creativity, confidence in problem solving and personal meaning, as these might boost students' entrepreneurial intentions and persistence. Experiential learning, reflection exercises, opportunity-development projects and purpose-driven entrepreneurship modules may be particularly useful to increase students' internal motivation. The findings also indicate that support for entrepreneurs should not be limited to financial resources, market access or business strategy. Business incubators should also assess and improve entrepreneurs' intrinsic motivation, resilience, self-efficacy and commitment to venture development. Mentoring programmes that support entrepreneurs to align their ventures with personal values, social purpose, innovative goals and long-term aspirations may improve entrepreneurial persistence and reduce early-stage disengagement. Building entrepreneurial ecosystems requires entrepreneurship policy to take motivation into account as a vital element. Policies that offer merely grants, subsidies or regulatory support from government entrepreneurship agencies may not be sufficient if they do not also develop entrepreneurial confidence, autonomy and awareness of opportunity.

Therefore, public entrepreneurship programs should incorporate motivational training, exposure to role models, and inclusive assistance for under-represented entrepreneurs and cross-cultural sensitivity to foster sustained entrepreneurial participation. Finally, insights from this research can be used by startup accelerators to design coaching models that promote founder purpose, creativity, leadership and psychological readiness. This approach is particularly important in high-pressure acceleration environments where intrinsic motivation can help founders sustain effort, adapt to uncertainty, and remain committed during rapid venture development. The relationship among intrinsic motivation, academic commercialisation, entrepreneurship education, and innovation underscores the significance of promoting student entrepreneurship and research-based venture creation.

University centres should develop programmes that motivate students, academics and researchers to transform knowledge into entrepreneurial results through mentoring that nurtures autonomy, innovation labs, commercialisation training and interdisciplinary collaboration. Such initiatives can serve to further strengthen the link between intrinsic motivation, transfer of knowledge and development of entrepreneurial capability. In sum, the results show that intrinsic motivation in entrepreneurship has developed into a substantial, multidisciplinary field with a strong citation impact, a clear conceptual nucleus and a growing empirical scope. The field's greatest strength is its ability to link psychological theory to entrepreneurial behaviour in a wide variety of contexts. But there are still some limitations. There is a strong journal and English language bias in the literature, which may limit the visibility of non-English and regional scholarship. Review articles remain scarce. This suggests a limited synthesis given the size of the corpus. Keyword co-occurrence analysis also determines the conceptual prominence of keywords. However, it cannot stand alone in explaining causal mechanisms, and citation counts indicate scholarly influence but not necessarily conceptual precision or methodological quality. These limitations justify future research that transcends descriptive bibliometrics to include theory-driven synthesis, longitudinal analysis, cross-cultural comparison, and causal examination of how intrinsic motivation influences entrepreneurial action, well-being, innovation, and venture outcomes.

## Conclusion

This study evaluated the bibliometric structure of the research on intrinsic motivation in entrepreneurship from 1995 to 2025. Results showed the significant growth of the sector, notably after 2017, reaching the peak of publication production in 2025. Journal articles and journal sources dominate the corpus, suggesting that the topics have become well-established in peer-reviewed academic debate. This article makes several contributions. First, it offers a comprehensive bibliometric review of intrinsic motivation in entrepreneurship for three decades. The study maps the publication trends, document types, source types, subject areas, keywords, citation indicators and highly cited articles to clarify the development of the field and its intellectual centre. Secondly, the study demonstrates that intrinsic motivation has emerged as a prominent theoretical concept in entrepreneurship research. In the keyword analysis, intrinsic motivation is shown as very important in the field. The field is increasingly recognising that internal psychological drivers are vital to entrepreneurial intention, creativity, persistence, education, sustainability, and social value creation.

This finding strengthens the argument that entrepreneurship should not be understood only in terms of economic incentives or profit maximisation. Third, the study identifies the interdisciplinary character. The results show that the research on the intrinsic motivation in

entrepreneurship was performed in the management, social sciences, economics, psychology, education, engineering and technology-related fields. This interdisciplinary profile suggests that further theory development should integrate psychological theories such as Self-Determination Theory and the Theory of Planned Behaviour with sector-specific and institutional perspectives (Ajzen, 1991; Ryan & Deci, 2000). Fourth, the study highlights the conceptual importance of the relationship between intrinsic and extrinsic motivation. Highly cited works have shown that the drivers of entrepreneurial motivation are often interactive, and include financial, reputational, prosocial, creative, and self-directed factors (Allison et al., 2015; Amabile, 1997; Lam, 2011). The importance of this contribution is its challenge to binary interpretations of motivation and its proposition that venture outcomes depend on the combination, framing and experience of different motives. Future research should move beyond describing the growth of publications and thematic patterns to the mechanisms through which intrinsic motivation influences entrepreneurial outcomes. Longitudinal research is needed in particular to understand the variation of intrinsic motivation across the entrepreneurial life cycle, from intention formation and opportunity recognition to venture creation, growth, failure, recovery, and exit.

Such research would demonstrate whether intrinsic motivation is stable or varies in response to uncertainty, resource constraints, market pressures, and changes in entrepreneurs' personal goals over time. The existing research indicates that intrinsic and extrinsic motivations can complement, counteract or complicate each other depending on context (Allison et al., 2015; Amabile, 1997; Lam, 2011). Thus, future research should investigate when extrinsic incentives promote intrinsic engagement and when they threaten autonomy, creativity, psychological well-being, and persistence in entrepreneurship. Entrepreneurial motivation is embedded socially, culturally and institutionally, and therefore comparative studies can help clarify the role of intrinsic motivation in entrepreneurship under different economic conditions, policy environments, cultural values and support systems. Research on emerging economies, rural communities and marginalised entrepreneurial groups is of particular importance. Thus, these contexts might expose motivational patterns that are not fully captured by studies from developed economies. In response, future bibliometric and systematic reviews should consider regional databases and multilingual sources to increase the global validity of motivational theories in entrepreneurship. Further, more attention should be paid to gender-based analyses. While intrinsic motivation can enhance entrepreneurial intention, persistence, and well-being, its impact may be different for male and female entrepreneurs. These differences may be shaped by differential access to resources, social expectations, family responsibilities, networks and institutional support. Future research should investigate how gender moderates the relationship between intrinsic motivation and entrepreneurial outcomes, especially among women entrepreneurs, older self-employed adults, and under-represented founders. This kind of research would contribute to a more inclusive understanding of entrepreneurial motivation. Further research should also investigate intrinsic motivation in new forms of entrepreneurship, such as digital entrepreneurship and Artificial Intelligence (AI) entrepreneurship. Digital platforms, remote work, online venture creation and AI are changing the way entrepreneurs find opportunities, mobilise resources and scale their ventures. Researchers should explore how intrinsic motivation can improve creativity, experimentation and opportunity recognition within digital and AI-enabled entrepreneurial settings. Similarly, scholars need to investigate whether automation, algorithmic decision-making, platform dependency, and technological uncertainty create new challenges for entrepreneurial autonomy and well-being. Another area of importance for future research is green and sustainable entrepreneurship. Intrinsic motivation might be especially important for sustainability-oriented ventures since

entrepreneurs are frequently motivated by personal values, environmental concerns, social purpose, and a desire for greater societal impact.

Future research may explore the role of intrinsic motivation in sustainable opportunity recognition, green innovation, social value creation and long-term commitment to environmental goals. Studies should further consider the potential tension of intrinsic sustainability motives with external commercial pressures. While intrinsic motivation can support persistence, creativity, meaning and resilience, it may also lead to stress, emotional strain and overcommitment in circumstances where entrepreneurs are under severe resource constraints or face conflicting social and commercial objectives (Carree & Verheul, 2012; Kibler et al., 2019). Consequently, a more balanced research agenda should explore both the productive and potentially harmful effects of intrinsic motivation in different entrepreneurial contexts. In general, future studies should be longitudinal, cross-cultural, gender-sensitive, technology-oriented, sustainability-focused and theory-driven. Such approaches would provide a more in-depth understanding of the effect of intrinsic motivation on entrepreneurial action, well-being, innovation and venture performance.

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