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Research Article

Entrepreneurship Orientation (EO) and Innovation: A Systematic Review

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Abstract.

In today's changing business world, two major drivers of organizational performance and competitive advantage are innovation and entrepreneurial attitude. This article examines current literature and empirical data to give a complete analysis of entrepreneurial orientation, innovation, and the link between them. The study' goal is to synthesize the research on these two structures and their connection. The study technique is based on an examination of literature from 2017 to 2023. Relevant articles were found and classified into three steps. These examples were then evaluated and contextualized, and the notions of innovation and entrepreneurial orientation were discussed, as well as suggestions for further study. Innovation and entrepreneurial orientation are inextricably linked and play an important role in determining an organization's competitiveness and long-term success. Entrepreneurship orientation innovation fosters a proactive, risk-taking mentality, while innovation reinforces entrepreneurial orientation by giving the resources to capitalize on new possibilities and sustain a competitive edge. To achieve long-term development and profitability, businesses must find a balance between encouraging innovation and encouraging an entrepreneurial mindset. This work adds to the literature on EO, innovation, and the link between EO and innovation, hence broadening the scope of future research. Furthermore, the work identifies certain outstanding research problems for further study.

Keywords: innovation, destructive innovation, product innovation, green innovation, exploratory innovation, ecological innovation, innovation ability, corporate model innovation, innovation performance

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1. Introduction

Entrepreneurial Orientation (EO) and innovation are crucial principles in today's corporate climate, promoting organizational success, competitive advantage, and long-term development. Understanding the relationship between innovation and entrepreneurial mindset is becoming more critical for gaining market leadership as firms confront unprecedented unpredictability, complexity, and fast technological advancement. This article explores the link between innovation and entrepreneurial orientation

in depth, with the goal of explaining how these two variables interact to encourage creativity, opportunity-seeking behavior, and long-term sustainability within businesses.

Entrepreneurial orientation is a strategic resource inside a company that has the ability to provide a competitive advantage via entrepreneurial behavior such as business expertise, initiative, risk-taking, and flexibility. This mindset pushes businesses to aggressively seek out new opportunities, embrace change, and question the status quo. EO is linked to a variety of favorable organizational outcomes, including increased levels of creativity, improved financial performance, and competitive advantage [1,2]. Entrepreneurial attitude may greatly affect innovation processes and results by fostering a culture of risk-taking and a willingness to test new ideas.

Entrepreneurs, on the other hand, must combine their entrepreneurial vision and inventive abilities with creativity in order to recognize and capitalize on market possibilities [3]. Innovation involves all areas of a company, including procedures, marketing techniques, and business models, and is not restricted to product or service creation. According to research, the influence of entrepreneurial attitude on innovation may be especially substantial at a given point [4]. This implies a mutually reinforcing connection in which entrepreneurial orientation encourages the pursuit of innovation, which in turn encourages corporate entrepreneurial orientation.

The purpose of this research is to give insight on the dynamic and bidirectional nature of the link between innovation and entrepreneurial attitude. We want to develop a thorough knowledge of how these two structures interact to effect organizational performance, fitness, and competitiveness by evaluating empirical and scholarly studies. Insights acquired from this investigation may assist leaders, managers, and policymakers in developing successful strategies, cultivating a creative and entrepreneurial culture, and ultimately enabling firms to achieve long-term success in today's fast changing business climate.

2. Material and Methods

Recently, scholarly literature summaries on EO, Innovation, and EO and Innovation have been scarce. Scopus is used to find and choose papers for our research, and Google scholar is used to download and read summaries. then proceed:

a) Search papers published between 2017 and 2023 with the following words and word combinations in their titles, abstracts, and keyword lists: entrepreneurship orientation, entrepreneurship, innovation, product innovation, innovation performance, green

innovation, innovation capability, exploratory innovation, business model innovation, ecological innovation;

b) Screening English or Chinese papers published in academic journals in 2017-2023;

c) Add the following Knowledge Areas depending on the paper's Knowledge Area using filters: Business, Management, Accounting; Economics, Econometrics, and Finance; Social Sciences;

d) Select papers that have been cited twice or more.

e) The first sample includes 566,251 Scopus journal entries. Next, we selected intermediate example articles based on abstracts' subject area, document type, keyword, and title.

As a result, 81 relevant publications were eliminated. They look at the influence of EO on product innovation, innovation performance, green innovation, innovation capacity, exploratory innovation, business model innovation, ecological innovation, and business innovation. Because several publications could not be downloaded, the final sample consisted of 65 pieces.

Innovation involves the following aspects:

a) Product Innovation

b) Green Innovation

c) Exploratory Innovation

d) Ecological Innovation

e) Innovation Capability

f) Innovation Performance

As long as published publications examine the link between entrepreneurial attitude and innovation using diverse factors, we will classify them by the most frequent parameters:

a) EO+ Innovation

b) EO+ Product Innovation

c) EO+ Green Innovation

d) EO+ Innovation Ability

e) EO+ Innovation Performance

f) EO+ Exploratory Innovation

g) EO+ Business Model Innovation

h) EO+ Ecological Innovation

3. Literature Review

3.1. Entrepreneurial orientation

Entrepreneurial orientation has received substantial attention from organizational research as a firm-level term broadly established in entrepreneurship literature and a crucial concern in entrepreneurship research. Gupta & Wales [5] agreed, claiming that entrepreneurial orientation has become one of the most well-established and popular components in entrepreneurship literature. At the same time, Shaher & Al [6] concur, claiming that entrepreneurial inclination is one of the most consistent factors in the area of entrepreneurship study. And has gained growing scholarly interest. Entrepreneurial firms tend to react to market conditions via innovation, take risks to try new things, offer services to the greatest degree possible, and increase market share, hence generating new market possibilities. The entrepreneurial orientation is a key part of individual entrepreneurial drive, and businesses with a high degree of entrepreneurial orientation will be able to uncover or exploit opportunities when confronted with competitive business issues. The improvement of marketing performance will be influenced by the increase of entrepreneurial attitude. This is supported by the results of [7]. Entrepreneurial orientation refers to the capacity to identify and capitalize on undiscovered market opportunities, as well as the willingness to take calculated risks in the face of unknown results, which differentiates entrepreneurially oriented firms. Entrepreneurial orientation is an act of connecting firm decision-making procedures with activities that distinguish each business and its rivals.

The degree to which an organization's strategic conduct (becoming an entrepreneur) is defined by innovation, risk-taking choices, and initiative is referred to as entrepreneurial orientation [8]. According to this definition, entrepreneurial orientation refers to the traits of entrepreneurs who never give up, daring to take chances, think quickly, and are flexible, all of which are believed to lead to the success of businesses. Enterprises with an entrepreneurial mindset outperform other firms. Thus, entrepreneurial orientation infuses policy into extra practices that assume entrepreneurial decisions and actions.

Entrepreneurial orientation is a continuous activity that aims to improve innovative skills, risk management, resource efficiency, and value creation in order to retain consumers and benefit the firm [9]. This variable includes the following indicators: autonomy, the ability to make one's own decisions about performance achievements; risk-taking, the courage to seize opportunities in uncertain decision-making environments; and

aggressiveness, entrepreneurial activity is proactive, energetic, and high-minded, and will never be out of the game due to difficulties, obstacles, challenges, and achievement [10]. Gupta & Batra [11] investigate the effect of entrepreneurial orientation (initiative, autonomy, and risk-taking). The findings suggest that top managers who take risks and enjoy innovative activities have a very proactive attitude (the higher the entrepreneurial orientation), which has been found to considerably boost performance. Risk-taking, autonomy, initiative, and invention, all of which are characteristics of entrepreneurial attitude, are seen as important for business success.

Entrepreneurial inclination has three dimensions: creativity, initiative, and risk-taking. These proportions of entrepreneurial propensity have been empirically examined in earlier research. Risk-taking, inventive, and proactive management qualities are referred to as entrepreneurial orientation. Aggressiveness and autonomy as additional aspects in the concept of entrepreneurial attitude. These factors are often used to determine entrepreneurial inclination.

Risk-taking behaviors, such as making substantial resource commitments to achieve high performance, are aspects of entrepreneurial organizational behavior [12]. Danger-taking behavior is a crucial problem that varies from other behaviors in that it involves the risk of loss as well as the performance challenge. Proactivity is the technology used in the business environment, including the market, to grasp the expectations and changes in the game before the event occurs, and to make the necessary organizational adjustments to cope with it. According to Hughes & Morgan [13] proactiveness attempts to identify and utilize possibilities as well as take preventive actions/measures against prospective issues and risks. As a result, proactive enterprises outperform their rivals in terms of calculation because they can respond swiftly to changing market circumstances [12]. Competitive aggressiveness is defined as an organization's proclivity to frequently and aggressively confront its rivals in order to acquire a high-entry position in a market environment [14]. According to some experts, competitive aggressiveness is an organization's reaction to gaining a significant competitive advantage over its rivals in a market context. Table 1 defines the specifics of each EO dimension:

3.2. Innovation

Innovation is critical in corporate rivalry [21]. Schumpeter posited the following linear triangle of phases in the invention process: 1) create, 2) innovate, and 3) mimic (Wach, 2019). An innovation is a knowledge product that may be defined as an idea, a creative act, or a finding. In turn, innovation entails making new ideas and innovations a reality,

TABLE 1: Definition of each dimension of EO.

Author (year)	Innovation	Risk-taking	Proactive	Adventurous	Autonomy
[15]	Innovation is the trend of creativity and experimentation, introduction of new products or services, and technological leadership through research and development of new processes	Risk-taking is taking decisive action by exploring the unknown or allocating substantial resources to a business in an uncertain environment	Being proactive means taking the initiative by anticipating, pursuing new opportunities and engaging with emerging markets		
[16]	Innovation is the propensity to innovate and experiment through learning and innovation By implementing new goods or services and technologically advanced methods	Risk missions play a decisive role by investigating the unknown, collecting large sums of money, or allocating significant resources to the company in unstable environments	Proactive Seeking possibility, potential perspective of being first to market and moving ahead to meet demand by introducing new goods or services	Competitiveness is the strength of an organization's efforts to outperform competitors and is financed by hostile acts or a reaction or violent response to the actions of competitors	Autonomy means working, making decisions and acting autonomously to drive and accomplish business ideas
[17]	Innovation is the willingness to introduce a style or something new through a process of creativity and experimentation aimed at developing new products and processes	Taking risks is taking decisive action in an uncertain environment, exploring the unknown, borrowing heavily, or allocating funds for a business	Proactivity is characterized by a forward-looking perspective and foresight to anticipate needs and identify future opportunities		
[19]	Willingness to innovate, introducing novelty through creativity Experimentation focuses on the development of new products and services as well as new processes				
[18]		Identify opportunities to advance through the introduction of new products and services, and anticipate future needs to create change and shape the environment			

Table 1: Continued.

Author (year)	Innovation	Risk-taking	Proactive	Adventurous	Autonomy
[20]			Tendency to take bold action. Venture into new and unfamiliar markets, rely on substantial resources to take risks with uncertain outcomes, obtain substantial loans		

Source: Author's own work

also known as invention implementation. In contrast, imitation entails the spread of innovations. Companies create new items and become market leaders as a result of innovation and imitation. Offering new items will assist improve internal customer performance by increasing customer satisfaction. Integrating consumers into the innovation process from the start may turn them into key users, allowing businesses to better address customer demands while increasing revenues

The idea of innovation refers to the availability of new techniques, methods, and innovations at different stages of development [22]. Innovations often emerge when businesses use ideas to better satisfy the requirements and expectations of end users [23]. In its original sense, innovation relates to novelty, but its economic value in terms of applicability is far greater.. During economic downturns, like as the current Covid-19 epidemic, innovation is extremely vital [24].

Different types of innovations may be classed and divided. We should not consider any of these sorts of innovation to be the sole options for others. Innovation is often associated with a related container system [25,26]. A company's productivity and long-term growth need technical advances that govern its long-term operations. This is true not just for new goods, but also for innovation management. In other words, new items will have a positive marketing impact. This is in line with the results of [27]. There are five different sorts of innovations: 1) the introduction of new goods or improvements in the quality of current products, 2) new process innovations in the industry, 3) the opening of new markets, 4) the creation of new sources of raw materials or other inputs, and 5) changes in industrial structure. These five kinds are supported by [28]. Table 2 is the definition of innovation:

Table 2: Definition of Innovation.

Author (year)	Innovation
[14]	Innovation involves the deliberate application of information, imagination, and initiative to extract greater value from resources
[29]	Innovation is the transformation of knowledge into products, processes and services; the act of using something new.
	Innovation is the process of opening up and using new knowledge, technology and creativity to create a product or service based on customer needs
[30]	Innovation is a broader concept that discusses the application of an idea, product or new process
[22]	Innovation is the process of transforming an idea or creation into a valuable product or service Both creations and customers strive for it
[22]	Ideas that must be replicated at economic cost, and that must be specific to meet demand. and includes all the processes involved in generating new ideas and turning them into useful products
[31]	Innovation is one of the characteristics of a company's economic success and is an essential element in achieving customer satisfaction and fulfilling their wishes. This means finding new ideas to achieve the company's competitive advantage as it has the opportunity to showcase their products at low cost

Source: Author's own work

3.3. Product Innovation

Several firms now provide a broad range of items. Of course, depending on the situation, each product offers benefits. A product is a highly essential thing that impacts a firm's success or failure and provides a particular amount of profit or will continue to sustain the profit of business operations. They are more choosy about the items they are interested in as customers. Entrepreneurs then compete to innovate in their goods in order to pique the attention of customers [32]. Consumption is always changing and developing. Customer requirements and wishes may be met by organizations that concentrate on giving value to their target customers via product innovation [33]. Similarly, product creation requires entrepreneurial innovation since customer preferences for items vary with the times. Product innovation encompasses the whole decision-making process, from concept generation through market execution. This means that the maker may benefit from the product [34]. Product innovation may apply new ideas to the product, hence adding value to the product; if it cannot provide value, there is no innovation. Product innovation is defined in Table 3:

Table 3: Product innovation.

Author (year)	Product Innovation
[35]	Product innovation refers to the development and introduction of new or developed products that are successful in marketing
[36]	Product innovation attributes are product quality, product variant, and product style and design
[37]	Product innovation is the implementation of new ideas that create value
[36]	Product innovation is defined as the process of making new products useful
[38]	A product innovation is a good, service, or idea that someone considers new
[40]	Product innovation is creating something new based on consumer expectations, by providing added value to improve product quality

Source: Author's own work

Table 4: The Product Innovation Index.

Author (year)	Indicator 1	Indicator 2	Indicator 3	Indicator 4
[41]	Product line expansion, products familiar to the company but unfamiliar to the market	Man-made / imitation products are considered new by businesses but familiar with the market	New products, products that both the company and the market consider unique	
	Product Line Expansion: Product line expansion is still common for companies, but new to the market, this effort is an effort by the company to increase the variety of products	Counterfeit/Count Products: Counterfeit products are products that are believed to be new by businesses already familiar with the market. Imitation does not happen suddenly, it is influenced by an attitude of admiration and acceptance of the thing being imitated	New product: Considering a new product is a product that is considered new by the company and the market	

Source: Primary Data Processed, 2023

3.4. Green innovation

Green innovation, also known as eco-innovation or sustainable innovation, has emerged as a critical study and practice area for dealing with increasingly severe environmental difficulties and concerns related to sustainable development.

Green innovation is described as the creation and use of new goods, processes, technologies, or business models that have a beneficial environmental effect and contribute to long-term growth [42]. It entails incorporating environmental concerns throughout the innovation process in order to reduce resource usage, waste, and greenhouse gas emissions [43]. Green innovation is not restricted to certain sectors, but has gained traction as firms attempt to connect their operations with environmental sustainability objectives.

There are various motivators for businesses to participate in green innovation. Environmental rules and policies play an essential role in supporting green innovation by providing firms with incentives and mandates to adopt more sustainable practices [44]. Market demand for environmentally friendly goods and services has also risen, prompting businesses to innovate and distinguish themselves. Furthermore, forward-thinking businesses appreciate the potential cost savings and competitive benefits associated with green technology, such as increased energy efficiency, lower waste management costs, and enhanced brand recognition [45].

Green innovation, however, is not without its difficulties. High initial expenditures, a lack of experienced employees, and unclear returns on green investments may provide challenges for organizations. Green innovation initiatives may also be hampered by institutional impediments such as uneven rules or a lack of stakeholder support [42]. Overcoming these obstacles requires strong leadership commitment, engagement with external partners, and long-term strategic planning that incorporates sustainability concepts into firms' fundamental operations [46].

3.5. Exploratory innovation

Exploratory innovation, sometimes referred to as radical or disruptive innovation, is a critical component of organizational adaptability and long-term competitiveness. Exploration of new ideas and markets may result in market disruption, giving firms a first-mover advantage and gaining market share. By identifying unmet client wants and preferences, exploratory innovation may also generate revenue growth and profitability [47]. However, it is important emphasizing that the pursuit of exploratory innovation is inherently risky and may include more risks than incremental innovation attempts.

It entails the pursuit of novel, unorthodox ideas, technology, or market possibilities that have the potential to dramatically alter an industry and provide game-changing goods or services. Exploratory innovation is distinguished by a deviation from conventional techniques and a focus on developing novel solutions. It is defined by Reilly &

Tushman [48] as the pursuit of ideas that question existing conventions, hence bringing up new opportunities for development and competitive advantage. Scholars have recognized numerous characteristics of exploratory innovation, such as technology breakthroughs, creative business models, and market dynamics paradigm changes. Exploratory innovation is not restricted to a single department or function inside a company; rather, it entails cross-functional cooperation, external alliances, and an atmosphere that fosters experimentation and risk-taking [47]. Exploratory innovation is built on incremental upgrades, new product enhancements, and price hikes for current goods and technology [49]. Companies encourage exploratory innovation, but organizational capabilities (such as resource constraints and competitive intensity) are important factors that companies must address in order to improve innovation performance.

3.6. Ecological innovation

Eco-innovation is a life cycle and value-added innovation method that integrates technical and non-technical goods. LCAs are embedded in production processes, management, services, and new business models to reduce environmental risks, including negative consequences on resource and energy usage. Furthermore, the researchers emphasize that eco-innovations include organizational novelties with lower environmental implications, such as changes in attitudes, beliefs, norms, knowledge, and management practices, as well as changes in administrative, institutional, regulatory, and governance systems. The capacity to innovate is critical to an enterprise's long-term performance, particularly for markets and firms that are inventive, capable of responding to market altering issues quickly, and capable of producing goods and market prospects [51]. The majority of eco-innovation research focuses on characterizing company performance rather than firm marketing performance. The application of eco-innovations in the Indonesian furniture industry, as well as the significance of online green networks. They discovered that, despite the lack of government initiatives and support, the implementation of eco-innovations has a significant impact on firm performance and sustainable business practices. Jogaratnam [52] funded this research. Improving Taiwanese company performance requires the effective implementation of eco-innovations.

3.7. Innovation capability

One of the most important criteria for SMEs to attain market competitiveness is their capacity to innovate [53]. As a result, the present strategy should emphasize the promotion and preservation of innovation skills as a practical guide for SMEs to innovate in order to increase their potential to manufacture better goods and perform better [54]. As measured by innovation activities, the inventive continuance of new product releases may be regarded an indication of success in Small and Medium Enterprises (SMEs) [53]. Product innovation (physical product change), service innovation (service process effectiveness), and marketing are the three components of innovation capabilities.

Managing innovation capabilities is a critical component of innovative firms. When firms operate in unpredictable circumstances today, establishing creative skills is vital to long-term success [55]. According to Baregheh et al., [56], innovation and inventive activities may take numerous forms, such as product innovation, process innovation, and marketing innovation.

Innovative capabilities, according to Bouncken [57], include the development of new business procedures, marketing strategies, service quality enhancements, or external contacts. Because innovation is the source of company performance, it may be improved by obtaining new technologies through new operational processes. Innovative talents are essential in the face of competition. In order to survive and grow, businesses must not just confront competition, but also be able to innovate. At the same time, it is thought that the capacity to analyses problem-solving creativity and the prospect of enhancing performance is referred to as innovation ability. Table 5 shows the definition of innovation capability:

Table 5: Definition of innovation capability.

Author (year)	Innovation Capability
[58]	Innovation ability reflects the ability of an enterprise to develop new products according to market demand **q**
[59]	Innovation capability is an important factor for SMEs to successfully produce better product processes to meet customer requirements and wishes. Innovation is widely recognized as a key factor in a company's success in terms of sales growth, profits and competitiveness
[60]	Innovation capabilities are conceptualized as two types, innovation as a process and innovation as an outcome
[61]	Innovation capability describes the strength of an enterprise in terms of creativity and innovation, and the ability to develop new processes, new products or new services according to market demand

Source: Author's own work

3.8. Business model innovation

The term “innovation” is derived from the Latin nova, which means “new.” In general, innovation is defined as the introduction of something new. The embodiment, integration, or synthesis of unique, relevant, and useful information regarding new goods, processes, or services is referred to as innovation [62]. A product, according to Kotler & Keller [63] is anything offered on the market that meets the wants and aspirations of customers. The following indicators may be used to assess business model innovation.

(1) A new idea is a state of mind that occurs from watching commonly occurring occurrences, such as in the area of education. The prospect of finding a thinking, concept, system, or specific notion may be described as this new concept.

(2) Products and services are the result of the further development of new ideas, which lead to more concrete concepts in the form of products and services that can be developed and implemented, including innovations in the field of education, through various activities, studies, research, and experiments.

(3) Improvement efforts, that is, systematic and ongoing attempts to improve so that the advantages of innovation are seen.

3.9. Innovation performance

Many individuals define the notion of innovation differently. Innovation is a process that includes combining experience and expertise to develop and promote beneficial new items. Innovation is the development of unique ideas that are distinct from others and their application to obtain a competitive edge. The development of an existing product may be an example of innovation since making an old product as useable as a new one is an example of innovation. Although a firm’s innovation success is impacted by all of its innovation-related activities, most study on this issue focuses on the product process. Measure innovation performance using qualitative and quantitative metrics. Qualitative metrics address whether enterprises participate in creative activities, while quantitative measures address the resources available for innovative activities.

3.10. EO+ Innovation

At the moment, the growth of entrepreneurship is experiencing favorable changes, and government policies are beginning to pay attention to entrepreneurs’ entrepreneurial demands. This case exemplifies the extent of government involvement necessary in

creating entrepreneurial potential, which may be accomplished when someone wishes to participate in entrepreneurial activity. Innovation is a critical component in industrial rivalry and a potent weapon against it. A company that is capable of innovating may take the lead and reduce the likelihood of rivals innovating first. One of the cornerstones to empowering SMEs and generating a competitive edge is innovation [64]. Distanont & Khongmalai [65] contend that innovation may provide long-term growth and provide a competitive edge in both internal and external markets. This is backed up by the results of [23].

In SMEs, there is a considerable relationship between entrepreneurial attitude and innovation. Entrepreneurial orientation is a strategy that focuses on innovation and is often at the forefront of it. When a company is entrepreneurially oriented, the process and frequency of innovation improve, making the company more efficient. According to Ngah & Ibrahim [66], entrepreneurial attitude is key in developing inventive talents. Entrepreneurship and innovation may be related by [23]. Entrepreneurial orientation refers to the strategic resources of a company that have the potential to provide a competitive advantage. The potential of entrepreneurial orientation and its influence on business performance are determined by its position as a driver or pioneer of organizational and inventive capacities [67].

Sarsah et al. [68] discovered that entrepreneurial orientation, as expressed in the risk-taking attitude and proactive attitude of SMEs in the handicraft industry in Malang city, might boost creativity. Likewise, Korpysa [69] discovered a relationship between entrepreneurial mindset and creative start-ups. These findings are congruent with those of [70], who contend that entrepreneurial approach influences competitive advantage via innovation. The findings indicate that EO has a favorable effect on business innovation, and it is a critical method for exerting EO's influence on innovation. However, there are some anomalies, such as research that suggest that autonomy has no substantial influence on creativity [71]. For further information, see Table 6:

3.11. EO+ Product innovation

Product innovation is as crucial as entrepreneurial attitude; SME players must produce intriguing new product breakthroughs [77]. According to McDaniel [78] the uniqueness of goods in continuous innovation will effect competitiveness; commercial rivalry demands SMEs to establish exact strategies in order to survive and stand out. Product innovation and entrepreneurial orientation may increase marketing performance, and

Table 6: Relationship between Entrepreneurial Orientation + Innovation.

Author (year)	Relevant	Positive Influence	No Significant Effect
[66]	Entrepreneurial orientation plays an important role in generating innovative capabilities		
[23]	Entrepreneurial orientation and innovation can be linked		
	A significant effect between entrepreneurial orientation and innovation is also shown in SMEs		
[67]	The potential of entrepreneurial orientation and its impact on firm performance depends on the role of entrepreneurial orientation as a driver or vanguard of organizational and innovative capabilities		
[3]	Innovation Moderates the Effect of Entrepreneurial Orientation on Competitive Advantage		
[23]	Aspects of entrepreneurial orientation strongly support organizations in achieving innovation		
[68]	Point out that the entrepreneurial orientation of entrepreneurs has a significant impact on the innovation of small and medium-sized enterprises		
[72]		There is a positive relationship between entrepreneurial orientation and innovation by firm participants	
[73]		Entrepreneurial orientation is a viable business development strategy that supports innovation	
[74]		Entrepreneurial orientation as an independent variable is an important factor that positively affects innovation	
		Entrepreneurial orientation can generate innovation through innovative behavior, thereby gaining a competitive advantage	
		Entrepreneurial orientation positively affects competitive advantage through innovation	

Table 6: Continued.

Author (year)	Relevant	Positive Influence	No Significant Effect
[75]		Entrepreneurial orientation is an important factor that positively affects innovation	
[69]		Positive link between entrepreneurial orientation and innovative start-ups	
[68]		Entrepreneurial orientation as reflected in risk-taking attitude and proactive attitude of SMEs in the handicraft industry in Malang can increase innovation	
[70]		Entrepreneurial orientation positively affects competitive advantage through innovation	
[76].			Autonomy has no significant effect on innovation
[71]			Autonomy has no significant effect on innovation

Source: Author's own work

entrepreneurial orientation must be nurtured in all corporate operations to serve as the foundation for establishing effective, efficient, and competitive marketing strategies.

Scholars have conducted research on entrepreneurial orientation and market orientation, and have found a positive correlation between product innovation and research and development R&D. This research found that entrepreneurial orientation has a positive impact on product innovation by taking the risk of producing more products than existing orders and more actively introducing products to the public. Lee et al. [79] discovered a substantial curvilinear link between EO and technical and product innovation among Korean enterprises [80]. Product innovation is defined as the creation of new products, the modification of existing product designs, or the application of new technologies and resources to existing production methods, with an emphasis on existing markets for existing products rather than the differentiation of existing product features and functions [81].

According to Ilmiyah [82] entrepreneurial approach has a substantial influence on product innovation, owners of small and medium-sized firms that are actively competitive, aggressive, and prepared to take chances, and independent innovation play a vital part in batik product innovation. Entrepreneurial orientation (EO) is viewed as an art of being able to see the challenges and opportunities ahead, as well as how to make decisions for product innovation with all of the risks. EO can inspire an

internal environment conducive to exploratory innovation breakthroughs and provide the conditions to support exploratory product innovation initiatives. As a result, the influence of EO on product innovation may be amplified [83].

3.12. EO+ Green innovation

The study of the link between entrepreneurial mindset and green innovation has piqued the attention of many organizations in recent years as they attempt to strike a balance between economic development and environmental sustainability. Scholars investigate how an entrepreneurial mindset that is proactive, risk-taking, and inventive promotes the acceptance and implementation of environmentally friendly practices and green innovation efforts. Empirical study looks at the function of green innovation as a moderator in the link between entrepreneurial approach and environmental performance [84], emphasizing its potential influence on organizational environmental management and sustainable development initiatives.

Researchers have also looked at the significance of organizational characteristics like top management support and strategic orientation in strengthening the relationship between entrepreneurial orientation and green innovation. These studies contribute to a better understanding of the dynamics that drive ecologically sustainable activities, as well as how businesses may leverage this orientation to encourage green innovation and have a beneficial environmental effect.

Recent study has also looked at the border requirements and variables that exist between entrepreneurial orientation and green innovation. External variables such as environmental restrictions and stakeholder pressure, for example, have been studied in connection to the link between entrepreneurial approach and green innovation.

3.13. EO+ innovation ability

Small and medium-sized firms (SMEs) are affected by pressures such as the Covid 19 epidemic and worldwide economic competitiveness, technical improvements, demographic and social changes, innovative capacities, financial assistance, and entrepreneurship. Companies with a strong entrepreneurial attitude, on the other hand, will innovate more successfully than others in order to thrive in the market [53]. Entrepreneurial orientation (EO) is crucial for economic growth, innovation, and job creation [85]. Furthermore, a company's and its stakeholders' capacity to consistently turn fresh ideas and information into new products, processes, and systems is referred

to as innovation capability [53]. The capacity to manage new enterprises successfully is merely one component of organizational innovation aptitude, which also involves the ability to synthesize operational paradigms [86].

The literature has long underlined the necessity of organizational innovation skills in today's mature corporate practice [53]. Previous research has shown a correlation between entrepreneurial orientation and innovative potential. Enterprises should increase their workers' excitement for entrepreneurship, improve their innovation skills, and make their entrepreneurial attitude more visible [53]. According to Parkman et al. [3], entrepreneurial approach influences innovation ability. Entrepreneurial attitude promotes SMEs' creative activity. According to Wijaya et al., [87] entrepreneurial orientation has a significant positive impact on innovation ability.

This means that the greater the entrepreneurial tendency demonstrated by creativity, innovation, risk-taking, independence, and competitive courage, the greater the innovation ability. The outcomes of this research also support Kee & Rahman [88] prior findings that entrepreneurial approach might boost innovative capacity. Furthermore, while researching the influence of entrepreneurial orientation on innovation ability, the same result: the presence of strong entrepreneurial orientation has a positive and substantial impact on innovation capacity. It is clear that entrepreneurial inclination has a large positive influence on innovation ability, implying that the more the entrepreneurial propensity of SME managers, the better their innovation capacity.

According to Scheepers [89] entrepreneurship is a significant factor that may drive organizations to obtain a competitive edge. An entrepreneurial mindset, including creative attitudes and risk-taking, may increase MSMEs' competitiveness. Entrepreneurial orientation is a company's desire to develop its innovative skills when confronted with entrepreneurial prospects [90]. Entrepreneurs that are constantly proactive in embracing current possibilities would assist MSMEs innovate by studying customers and marketplaces. Adding value requires creative thinking and an entrepreneurial mindset. Firms with a strong entrepreneurial orientation will foster innovative capabilities. Entrepreneurship is a significant factor that encourages businesses to gain a competitive edge [89]. It is built on the company's proactive attitude and bravery to make hazardous choices, and it has become one of the factors of the company's success and development of its innovation capabilities [23]. This research is consistent with that of [91]. Entrepreneurial-oriented SMEs are able to participate in activities that favorably influence their potential to bring innovations into the market while operating their firms [86].

Entrepreneurial orientation has become a way of thinking for businesses, affecting their capacity to innovate. The path coefficient of entrepreneurial orientation on

innovation capacity is 1.805, which has a considerable influence. It demonstrates that entrepreneurial orientation is important in the generation of innovation ability; however, entrepreneurial orientation must be coordinated with the intellectual resources owned by the organization in order to achieve the organization's goals and sustainability while creating innovation ability.

3.14. EO+ Innovation performance

Entrepreneurship and innovation performance assist organizations in realizing new value in changing environmental circumstances. According to Hughes & Morgan [13], entrepreneurial approach has a direct impact on organizational innovation and performance. Firm innovation performance for enterprises with an entrepreneurial orientation is a method of valuing innovative and venture initiatives, goods, and services in the market.

Entrepreneurial orientation (EO) refers to the ideas that firms use to emphasize performance in order to gain a competitive edge. According to RBV theory, a company's competitive advantages are its limited, difficult to copy, and valued resources. According to the study of Tang et al., [92], the firm's innovation ability and performance may be increased when the company fulfils market demand, the consumers are entrepreneurially oriented, and the emphasis is on the processes and creative ideas that will be developed. Businesses must seek out new prospects in a competitive external market while also understanding client interests and demands.

Firms with greater levels of EO may reinvent themselves via strategy renewal and often see possibilities before rivals. Companies may experiment, that is, explore new ideas and use them successfully in uncertain and risky settings where success is not assured (innovation), by using innovation and a risk-taking attitude. Similarly, the proactive aspect of EO aids in the identification of opportunities that need swift decision-making and grabbing. This choice will need strategic modifications and adjustments across the organization in order to keep the company at the forefront of competition when it comes to inventing.

Improving entrepreneurial orientation is one of the things that may boost innovation performance [93]. It has been shown that entrepreneurial approach improves innovation performance. However, Perera & Samarakoon [94] argues that entrepreneurial orientation cannot directly effect innovation performance since additional elements are required to define the impact of entrepreneurial orientation on the overall business. Risk-taking managers, on the other hand, have greater opportunity to boost organizational

innovation performance by inventing to produce goods and competing aggressively with rivals. This is supported by the willingness to take chances throughout the process. Develop new items. The bigger the risk managers take, the larger the benefits, hence enhancing organizational innovation performance. As a result, entrepreneurial approach may boost a company's innovation performance [95].

Innovation is usually viewed as the pinnacle of success and a critical component of a competitive marketplace and global economy. Previous research indicated that entrepreneurial approach had both direct and indirect impacts on innovation performance [96]. Furthermore, Rigtering et al. [97] shown that high levels of EO improve innovation performance.

3.15. EO+ Exploratory Innovation

Any form of positioning and innovation is required for the firm. An entrepreneurial firm must identify its qualities, such as product launch, competitive advantage, innovation, and willingness to take risks. Thus, entrepreneurial attitude is linked to exploitation and exploration of innovation. Combining possibilities identified by corporations to accomplish desired outcomes [83].

According to Kilenthong et al., [98] entrepreneurial orientation refers to the strategic stance that describes corporate activity. Young technology entrepreneurs confront two major hurdles as a result of the increased duties. The first is to employ internal capabilities effectively and efficiently to produce income streams and control cost structures. Second, new innovations are created to address the short life cycle of many technical goods and services as a result of new technology development and severe industry rivalry [99]. Young entrepreneurs' technological exploitation necessitates inventive variety [13], which is defined as a high-quality, balanced simultaneity of development and exploration activities.

Entrepreneurial orientation has a beneficial influence on exploratory innovation, exploitative innovation, and ambidexterity. Exploratory and exploitative innovation are two conflicting but equally significant activities. Strategic entrepreneurial activity in emerging technical firms often produces and executes exploratory and exploitative innovation in the process of establishing economic prospects [100]. Finally, EO represents management's aim to disrupt and modify the nature of competition, whether by upsetting current product market circumstances, pioneering new market sectors, or both exploiting and exploring. As a result, EO may foster an internal atmosphere

receptive to exploratory innovation breakthroughs and create the circumstances for exploratory product innovation projects to succeed [101].

Managers make active investment choices in order to maintain a balance between exploratory and exploitative innovation efforts. Entrepreneurial attitude has a beneficial influence on exploratory innovation, and businesses will continue to seek opportunities in response to market shifts. Finally, EO represents the leader's ambition to lead the creation or exploration of new market sectors.

3.16. EO+ Business model innovation

Entrepreneurial attitude has a considerably greater influence on business model innovation than product innovation. Product innovation and business model innovation are two types of innovation that innovative and entrepreneurial businesses priorities. In the study of company entrepreneurship, entrepreneurial orientation is an essential issue.

Business model innovation, in addition to operational and product/service innovation, is the most basic innovation behavior in the development of corporate innovation skills. The three aspects of entrepreneurial-oriented innovation, foresight, and risk-taking had a strong beneficial influence on breakthrough innovation in 641 manufacturing sample businesses. Business model innovation is fundamentally a kind of breakthrough innovation that may have a significant influence on the enterprise's face. Dhliwayo et al. [102] investigated the influence of external variables on the link between entrepreneurial attitude and business model innovation, such as market vitality and competitive intensity. The effect of organizational elements like strategic vision and top-level support in fostering the link between entrepreneurial orientation and business model innovation.

3.17. EO+ Ecological innovation

In recent years, businesses have paid close attention to the link between entrepreneurial orientation and eco-innovation as they attempt to strike a balance between economic development and environmental sustainability. Empirical study is being conducted to investigate how a proactive, risk-taking, and inventive entrepreneurial approach promotes the adoption and implementation of eco-friendly behaviors and eco-innovation projects.

Furthermore, researchers looked at the significance of organizational elements including top management support and organizational culture in supporting the link between entrepreneurial orientation and eco-innovation. These studies demonstrate

the significance of leadership commitment and a supportive work environment in promoting new eco-practices. The influence of external variables on the link between entrepreneurial orientation and eco-innovation, such as environmental restrictions and stakeholder pressure [103]. Entrepreneurial attitude has a large and good influence on eco-innovation. Eco-innovation awareness among entrepreneurs increases firm marketing performance, whether consciously or accidentally. This discovery backs up Jogaratnam's prior studies. Entrepreneurial orientation is based on the entrepreneurial paradigm in relation to eco-innovation.

4. Results and Discussion

Innovation and entrepreneurial thinking are inextricably linked and play a vital role in determining a company's competitiveness and long-term success. Entrepreneurship encourages a proactive, risk-taking mentality, which fuels innovation. In contrast, innovation fosters entrepreneurial orientation by providing the resources required to capitalize on new possibilities and retain a competitive edge. To achieve long-term development and profitability, businesses must find a balance between encouraging innovation and nurturing an entrepreneurial mindset. Finding this equilibrium is crucial to the success of any firm. Entrepreneurship will undergo a significant transition if corporations can incorporate artificial intelligence (AI) into their business operations, giving entrepreneurs a distinct competitive edge. Entrepreneurs may make data-driven choices, improve customer experience, and optimize operations by using artificial intelligence technology such as machine learning algorithms and predictive analytics. For example, highlight how AI-driven automation may boost the productivity and efficiency of entrepreneurial enterprises, supporting innovation and long-term development. By using the potential of artificial intelligence, entrepreneurs may not only optimize operations but also produce novel goods and services that match changing market requirements, obtaining a competitive advantage in the business world.

5. Conclusion

A detailed examination of the relationship between entrepreneurial orientation and innovation reveals a substantial and positive relationship between these two aspects. Except in four situations, autonomy in entrepreneurial orientation had no influence on creativity. Firms with a greater entrepreneurial orientation, according to the findings, are more likely to engage in creative activities such as product, process, and business

model innovation. The proactive and risk-taking attitude of entrepreneurial orientation fosters a culture of creativity, experimentation, and openness to new opportunities, all of which are essential drivers of innovation, and features of entrepreneurial orientation significantly benefit businesses in achieving innovation [23]. Furthermore, the data indicate that entrepreneurial approach has a positive influence on a number of aspects of innovation, including innovation performance and capacity [104]. This research adds to the growing body of literature emphasizing the importance of entrepreneurial orientation in shaping innovation outcomes and cultivating an entrepreneurial mindset within organizations to drive sustained innovation and maintain a competitive advantage in a dynamic business environment.

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