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LEVERAGING TECHNOLOGY INNOVATION AND CREATIVITY IN ENTREPRENEURSHIP OPPORTUNITIES

Ovharhe, Orugba Harry (Ph.D)
College Of Health Sciences & Technology, University Of Port Harcourt Teaching Hospital, Rivers State
https://orcid.org/0000-0002-3631-498X

ABSTRACT: This research focused on leveraging technology innovation and creativity in entrepreneurship opportunities in Nigeria has gained a competitive edge. The study adopted correlation research design and time horizon of cross sectional design with data generated from dealers in the six geopolitical zones in Nigeria on micro, small and medium enterprise (MSME) goods and services that are the most enterprising entrepreneurs. The study used systematic sampling and non-proportionate stratified random sampling techniques. 540 copies of questionnaire were distributed to the respondents and 497 copies were completed fit for further analysis. The content validity was used for validating the instrument, while the internal consistency reliability was achieved using Cronbach Alpha technique. The reliability coefficient analysis was creativity(α =0.821), innovation (α=0.829) and entrepreneurship opportunities (α=0.799).The synchronization of the principal component was confirmed using Kaiser-Meyer-Olkin (KMO) of (0.904)/(0.861) and Bartlett's Test matching approx. chi-square (5763.988)/(2158.608) at 0.000null hypotheses respectively were rejected. Furthermore, Pearson Product Correlation Co-efficient was introduced to test the two hypotheses via SPSS 25 version. From the findings, emergence of leveraging creative innovation influence entrepreneurship opportunities positively. This is the systematic metrics of sustainability, survival and success in the enterprise with high growth. The technology innovation emergence of AI and machine learning transformed industry 3.0, industry 4.0, to industry 5.0. Hence, this navigate entrepreneurs with high spirit of creativity and innovation which could boost entrepreneurship opportunities to business excellence. In conclusion, creativity and innovation revealed significant influence the entrepreneurship opportunities of micro, small and medium enterprise (MSME) goods. Based on the findings and conclusion, this study contributes to the knowledge that technology innovative culture formed a formidable force applicable to the micro and macro enterprise that influences entrepreneurship opportunities, also emergence of leveraging creative innovation and entrepreneurship opportunities synchronization is transformation tool for every enterprise to pursuit her vision and mission. It could be recommended that technology innovation should has short-term metrics drawn from the long-term of creativity to avoid deviation from specific goals and corporate objectives.

Keywords: Innovation, Creativity, AI, Decision making, Machine Learning, Deep Learning, Entrepreneurship Opportunities, IoT, Decision Support System, industry 4.0 and industry 5.0

OVERVIEW

Entrepreneurship concept had been about certain issues and concern to define, especially in the context of 'invention', 'creativity' and 'innovation'. The cloud of oasis in the context of definition that makes it a contempt is because it's enshrine on academic, trade, business, culture, religion, spirituality, ethnicity, government, legal and emerging technology. These are factors that embraces with divers' value, belief and concept.

In the nut shell, the term 'Entrepreneur' could be traceable as being originated from the French word, that is called "entreprendre" which means to start actualizing identifiable complex task. In English expression, it could

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be referred as "to undertake". The progression on French word is coined from Latin (in, en, + prendĕre) that means 'to take'. Thus, French and English expression of the term represent the same meaning "entrepreneur." Also, in French, the term "entrepreneur" represent 'inter prehendere' in the latin word, which buttress the verb 'entreprendre' in French which analyse as "to grab" or "to take control." In the Middle-Age, the French expression 'entreprendre' means 'to take challenges of opportunity and control with the merchandizing mind-set of achieving targeted goals (Ovharhe, 2025a).

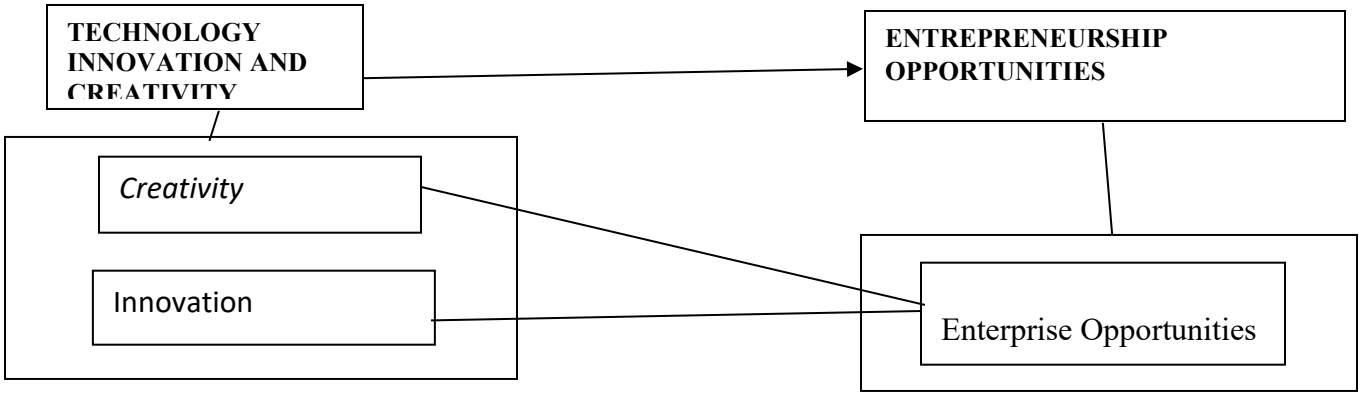
French word 'entreprendre' could be seen as entre-predre. Generally; 'entre = go'; while, 'predre =between'. In the broad functional terms, entrepreneurs are individuals that have the ability, capability, competence, acumen and skills to go-between where there are needs and unlocked opportunities with the aid to unveil it for benefits and satisfaction. Entrepreneurs have the potentials to develop leveraging creative innovation with knowledge and talent to go between chaotic channel by creating possible remedies to the business world which poses challenges, competitive, dynamic, recklessness and turbulent issues (Ovharhe, 2025b). Entrepreneurs are problem solvers that provide possible remedies and sustainable meaningful solution for their beneficiary.

Entrepreneurship is the dynamic process of scanning, identifying, chasing, unlocking and grabbing opportunity to achieve pre-determine goals. Entrepreneurship is a systematic idea of identifying, pursuit and taking advantage of competitive edge to avoid bleeding edge of opportunities to accomplish definite purpose of the enterprise. Entrepreneurship is embedded with invention, creation and innovation of tangible and intangible opportunities that may be transformed to beneficial entity for client/customer satisfaction with valuable returns to the enterprise (UNCTAD, 2025).

In the field of entrepreneurship creativity and innovation must be a dual concept. Every operation in entrepreneurship must be beneficial to the end-user and the enterprise. The feedback should be positive optimistic worth to all stakeholders involved. It could be in product, process, services, technology, sales, distribution, logistic and market function. All should be beneficial to all parties. Creativity and innovation are the lead way for value creation, value capture and wealth creation. Creating and innovation on a new market, technology, product and services fashion out business opportunity that would transform the return on equity (ROE), return on asset (ROA), return on interest (ROI) and return on capital employed (ROCE). The enterprise will experience sustainability, survival and success on these basis is the business enterprise frequency of patronage is well branded (Kolawole, 2025).

OPERATIONALIZED FRAMEWORK

OPERATIONALIZED FRAMEWORK BETWEEN LEVERAGING CREATIVITY AND INNOVATION IN ENTREPRENEURSHIP OPPORTUNITIES



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SOURCE: Researcher's Operationalization

The predictor proxy in this study is leveraging technology innovation and creativity. Based on the earlier study of Ovharhe (2024,2025),the explanatory proxy in this study are creativity and innovation. Whereas, the criterion proxy is entrepreneurship opportunities, where the response proxy of Entrepreneurship opportunities is micro, small and medium enterprise (MSME) opined by Ovharhe & Woko (2024a,b).

Purpose of the Study

The explored objectives are as followed.

i. Creativity influences entrepreneurship opportunities among micro, small and medium enterprise (MSME).

ii. Innovation influences entrepreneurship opportunities among micro, small and medium enterprise (MSME).

Concept of Entrepreneurship

Entrepreneurship has been seen as a generic term which the definition is a matter of serious debate because of its blanket nature which enveloped and encompasses human endeavour on sustainability, survival and success. The term entrepreneurship has capture a lot of interest in various field like management science, social science, law, politics, engineering, human recourse, health, philosophy among others, there remain holism of how the concept should be define (Amjad, 2023).

Howard Stevenson, known as "the godfather of entrepreneurship studies" at Harvard Business School (HBS), has defined it as the "pursuit of opportunity beyond resources controlled" (Ovharhe & Abada, 2024).

Pursuit is a key terminology that seek to break every barriers for entrepreneurs to grab opportunity. HBS Professor Tom Eisenmann, elaborates, 'beyond resources controlled' implies resource constraints (Seth, 2023). The Stanford Center for Professional Development at Stanford University offers a somewhat simpler definition: At its most basic level, entrepreneurship refers to an individual or a small group of partners who strike out on an original path to create a new business. An aspiring entrepreneur actively seeks a particular business venture and it is the entrepreneur who assumes the greatest amount of risk associated with the project. As such, this person also stands to benefit most if the project is a success. Every entrepreneurs need to learn how to strike out with potentials and capabilities on the right track. The right track is the original path on the vision and mission to thread to accomplish the entrepreneurial journey and dreams. This will enable the entrepreneur to experience new enterprise creation successfully (Yadav, Tripathi, Tripathi, Ghosal, Kumar, Mandal & Singh, 2023).

For an individual to become a successful entrepreneur he/she need to identify opportunity with potential valuable resources, untapped energy and hidden treasures locked within the entire being. These potentials may be valuable gift, talent, charisma, skills, abilities, brain storming, capitalist imagination and idea generation. It may be in the concept of social, physical, emotional, psychological and mental. This shows how individuals are wired. If any individuals can understand this concept, the vision and entrepreneurial journey will be easy to defined and accomplished.

The psychologist strongly argued that no two individuals are wired (designed or created) the same way, every individual have the way they are wired with unique abilities, opportunities, special gifts, talents and unending resources (Alberta, 2023). Every human are wired and locked with hundreds, thousands, millions and billions of potentials with opportunities for sustainability, survival and success. No human is born to the earth as a waste resource or asset. Hence, no entrepreneur should be a liability rather a resourceful asset to be productive and fruition. There is something about every entrepreneur that enables him/her to invent the future from resources available around us all. Entrepreneurs need to discover and identified specific opportunities in the environment with the embedded skills position in him/her (Ovharhe & Chukwuemeka, 2023).

Momentum of Creativity, Innovation and Entrepreneurship

Creativity

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Every entrepreneur needs instruments to achieve her championship goals to maintain sustainability at the top of the business enterprise. This is what propels entrepreneur in the long-term. Peek (2024) buttressed that creativity and innovations are the two key words that entrepreneur constantly thrown around in business intelligence, decision support system and competitive intelligence. Entrepreneur needs creativity and innovations to survive and sustain the recklessness, competitive, turbulence and dynamism in the business (Ovharhe & Saturday, 2024).

Ashoori (2025) supported that creativity is the intuition to think in new ways, new patterns, new styles and apply fresh generated ideas to solve problems. Shawn Hunter, author of *Out Think: How Innovative Leaders Drive Exceptional Outcomes* (Wiley, 2023), defines creativity as the capability, capacity and ability or act of conceiving something original or unusual. It is a critical, tactical and logical skill in business competitive parity that enables stakeholders to adapt, bench mark and create unique approaches that may be even better suited than tried-and-true methods.

Peeks (2024) streamline a research conducted by Arne Dietrich, at the American University of Beirut, Lebanon which segmented creativity into four types: deliberate and emotional, deliberate and cognitive, spontaneous and emotional, and spontaneous and cognitive. Despite the professional field of endeavor, entrepreneur needs these four types of creativity to function effectively. Deliberate and cognitive creativities use focused attention and formed connections between information stored in the brain and rely on the prefrontal cortex, while emotional and spontaneous creativities stem from the amygdala and tend to be more instinctive. People who are good at taking insights derived from each type of creativity excel at thinking outside the box and applying new approaches to their work (Turunen, 2025). Ovharhe (2025) boils that creativity is the spontaneous development of new ideas and out-of-the-box thinking and brainstorming. He went further to ascertain that creativity is a necessary prerequisite for innovation, but they are not the same thing.

Innovation

Entrepreneurship deals with the art and science of creation, idea generation, invention of the future to the present and innovation of tangible and intangible beneficial resources to mankind. Cat (2025) argued strongly that the mention process can only be achieved through innovation. Ovharhe (2024a,b) opined that *'innovation* is the practical implementation of corporate and beneficial ideas that result in the introduction of new tangible and intangible or improvement in offering goods or services that have value and treasonable.' He further categorized innovation into simplex and complex innovation. The simplex for example is the product, process, service, administrative, market, digital, social and lot more. While the complex are transformation, systematic, sustainable and other form of hybrid and multi-dimensional innovation. Innovation is the new life blood flow of entrepreneurship, meaning if there is no innovation, there is no concept on entrepreneurs that will be in existence. The passion, vision, mission and fusion propelling force of entrepreneurship is pivoted on innovation (Ovharhe, 2022, 2023; Berhanu, Belete & Muferihat, 2025).

NHH (2025) as supported by Drucker pointed out that innovation is the driving force behind progress in any industrial transformation and systematic process. It is the process of developing new and better ways of doing things, from developing new tangible and intangible ideas implementation to improving existing ones. Innovation can be sparked by a variety of factors, including new technologies, changing customer needs, and emerging market trends in the business world, institutions and society at large. Whereas, entrepreneurship is the process of turning an innovative idea into a sustainable and successful business enterprise. It involves identifying a market need, developing a product, process, technology, structure and service that meet need, and then creating a business model that allows the product or service to be sold and scaled. Entrepreneurs are the individuals who take on the risks and challenges of starting a new business, and they are the ones who br ing new products and services to market.

CGI (2025) said innovation is the process of bringing about new ideas, methods, products, services, or solutions into valuable existence that have a significant positive impact

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and value. It involves transforming creative concepts into tangible outcomes that improve efficiency, and effectiveness, or address unmet needs.

Innovation is not limited to technological advancements and encompasses novel approaches to problem-solving, processes, organizational practices, or business model innovations. At its core, innovation involves challenging the status quo, thinking outside the box, and taking calculated risks to drive progress and achieve breakthrough outcomes (Ovharhe & Chibuikke, 2024a,b).

Innovation is driven by a combination of factors, including curiosity, creativity, and the desire for improvement. It requires a mindset that embraces change, welcomes ideation, and encourages experimentation. Innovation can occur in various contexts, such as business, science, technology, social sectors, or public services. It can lead to economic growth, social progress, improved quality of life, and sustainable development (WCID, 2025).

Jain in Ovharhe (2025) later portray that innovation can take various forms, and different types of innovation serve as discussed beneath.

- Product Innovation: This involves developing new or improved products or services. It can include innovations in functionality, features, design, performance, or packaging. It aims to create value for customers by addressing their needs, solving problems, or introducing novel and desirable offerings.
- Process Innovation: This is improving the efficiency, effectiveness, or quality of internal processes within an organization. It involves rethinking and redesigning workflows, technologies, and systems to streamline operations, reduce costs, enhance productivity, or improve the delivery of products or services. Process innovation often leads to increased operational efficiency and competitive advantage.
- Service Innovation: This anchor developing new or improved services, delivery methods, or customer experiences. It focuses on enhancing the value and satisfaction customers derive from service interactions. Service innovation can include innovations in service design, customization, accessibility, convenience, or personalization. It aims to meet evolving customer expectations and create a competitive edge.
- Sustainable Innovation: This orchestrates developing and implementing new products, services, technologies, or business models that have a positive environmental, social, and economic impact. It involves finding creative and efficient solutions to address pressing challenges, such as climate change, resource depletion, pollution, inequality, and poverty.
- Social Innovation: This fine-tuned the development and implementation of novel solutions to address social, cultural, economic, or environmental challenges. It involves the creation and adoption of new ideas, products, services, or approaches that result in positive societal impact and sustainable change.
- Technology Innovation: Technology innovation refers to the creation, adoption, and utilization of new or improved technologies to drive progress and improve outcomes in various domains. It encompasses advancements across a wide range of technological fields, including but not limited to information technology, biotechnology, renewable energy, nanotechnology, robotics, materials science, and telecommunications.

Creativity and Innovation

To boost creativity in your organization, consider giving employees flexibility within their workday to try out new things or explore different avenues of thinking (Rainey, 2025). Create a company culture where thinking outside the box is encouraged and rewarded in order to spur your most creative thinkers to do their best work (Ovharhe, 2025).

Innovation is the action of putting things into practical reality, despite challenges and resistance, rather than just contemplating. It takes creative thinking, planning and implementation of new ideas to constitute innovation (Mark, 2024).

Innovation is a practical application of creativity to bring generated idea into reality of tangible and intangible marketable goods, in which the spark of the new idea is turned, furbished and fabricated into a possible remedies and active solution or process. Hunter in Peek (2024) weighs in his own view that innovation is the implementation or creation of something new that has realized value to the business (Mark, 2024).

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Innovation is generic not tied specifically to humans, but to other species. For example bird created nest, rabbit, rats, ants digs hole to live survived. Innovation is attributed to using creative ideas to solve problem. Innovation with business intelligence of the enterprise modifies the creative ideas into branded product and services for the benefits to client during patronage. An innovation makes a demonstrable, often disruptive branding differentiation in a product, service or industry. It is a fundamentally new, tangible shift and departure from the conventional.

Entrepreneur uses creativity and innovations are transform organization to leading edge in the competitive marketplace from stagnating that catapult the enterprise to mission target (Ovharhe & Woko, 2024a). Entrepreneur should always bear in mind that creativity precedes innovation. Creativity is the first phrase of business enterprise for the assurance that something can be possible, but an action is needed to activate that creativity into existence. Mark (2024) fine-tunes the concept by expressing that, if entrepreneur have multifaceted brainstorming new ideas, then the entrepreneurs displayed creativity, but cannot be called an entrepreneur until there is an implementation of the idea into reality that benefits the client. Also, entrepreneur do not just create something to sell, rather they created something consumers/client are willing to buy.

Peek in Ovharhe (2025) noted that many business leaders and mere entrepreneurs emphasize generating creativity on demand instead of building the conditions that enable ongoing creative thinking, which can ultimately lead to innovative developments. Entrepreneurs tries to see the end from the beginning. Not just from the impulses of client or customer. The business intelligence of entrepreneurs is synchronized greater to orchestrate function suitable for the client, enterprise, society and market structure.

Entrepreneurship Opportunities

In the mindset of business opportunity framework, it is important to note that an entrepreneur should not produce what he/she can manufacture, or produce what he/she can sell, but should produce what customer can buy. This is what makes the difference among successful entrepreneurs that makes them to be champions. Is it not about innovation and creativity but want the customer needs (Romain, 2025).

Ovharhe and Woko (2024) argues that entrepreneurship is scanning for business opportunities, identifying business opportunity, chasing business opportunities and grabbing business opportunity. It is about focusing and chasing business opportunity in the business environment by taking advantage of the untouched and non-utilized aspect of the business.

Business opportunity can be defined as the searching and pursuit of the unmet need and position the product to the underserved or over-served market with new styles and patterns to satisfy the customer with optimistic feedback. Eckhardt and Shane (2003) identify four elements that elaborate business opportunity. These four elements are:

- A specific or define need
- The means, venture and leveraging creative innovation to accomplish the need
- A method, style and pattern to apply the means to fulfill the need and;
- A method, style and pattern to analyze cost-benefit to reward the enterprise

A championpreneur creativity and innovation is needed to close the gap peradventure any of the named element is missing maybe in the short-term or long-term. This gap may be used as a competitive advantage of leading the edge in the business because this is what championpreneurship is equipped to do (Ovharhe & Akandu, 2024; Yadav, Tripathi, Tripathi, Ghosal, Kumar, Mandal & Singh, 2023).

Harvard Business School Professor Clayton Christensen, who teaches in-depth fact and theoretical framework on business opportunities for aspiring entrepreneurs start with an idea for a new business, fulfill a market need, solve a customer pain point, or improve an existing product. Ovharhe (2025) as coined by Christensen identifies three types of business opportunities to search for entrepreneurial sustainability, survival and success.

1. Jobs to Be Done

Innovating and creating the unmet needs suitable to customer satisfaction calls for a serious job entrepreneurs should carry out daily until there is a prototype the get

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positive feedback for client/customers in the long-term that will benefit the enterprise likewise.

2. Low-End Market Opportunities

This is when the entrepreneur avoids much competition by using penetration pricing strategy but with the lower segment and low pricing. Here he can get the market with its product and services that will enable her to build momentum and navigate with its tentacles which enable her to spread to broad market with higher profit to combat with those leading in the competitive parity. Entrepreneurs at the level should invoke the doctrines of light entrepreneurship (Ovharhe, 2023).

3. New Market Opportunities

This occurs when entrepreneur creates a new segment in an existing market. The entrepreneur capitalized on the weaknesses which threaten the competitor existing product and services. The entrepreneurs match in with new style and patterns the customers have not seen that energies her to network the market into possession. With enough business intelligence adopted, the entrepreneur should create and innovate low pricing not rapid pricing skimmed to capture and utilized maximum used of the business opportunity in the new segment.

Smart action need to be made with business intelligence in the marketplace high competitive parity. Talent is never enough with just creativity, innovation skills and business potentials to cope in the turbulence times, rather competitive intelligence and decision support system in this modern times calls for alignment on how to chase business opportunities. Tough actions are needed to chase business opportunities because of the factors affecting enterprise such as the pandemic, turbulence, recklessness and competitiveness to win as the champion (Ovharhe & Woko, 2024a,b).

Entrepreneurship is not just about innovation, creativity and invention, entrepreneur need to goes further to become champion in the industries. Someone manufactures the computer, but another is learning the computer as skills for earnings, someone manufactures the vehicle but another is using it as a source of livelihood, someone manufactures the musical instrument, whereas others use it to make melodies. In all this supply chain system, entrepreneurs can be outstanding as champion, because there are business opportunities for creativity and innovation to become a champion. Champion in entrepreneurs (champiopreneurs) are the 'creator' and 'innovator' when it comes to achieving business opportunities.

Thinking Globally and Acting Locally

The credibility and authenticity of creativity and innovation is embedded in entrepreneur thinking faculty. The ability to adopt dynamic thinking, it embraces the global future and activate the present entrepreneurship opportunities in the business environment.

Think Global and Act Local is the term employed by entrepreneurs to activate and unlock opportunities' from community and nations to network interface of product and services (Gianinazzi in Ovharhe, 2025). The advert of think global and act local systematically facilitates exchange of business creativity and innovation in micro, small and medium enterprise (MSME), multinational, conglomerate and corporations. This is streamlining downstream and local root of the business venture to augument "global" and "local" into the single word "glocal", a term used by several enterprise (Iqbal, Masoodi & Pandow, 2024).

Branding the phrase, Think Globally and Act Locally has been capture in many contexts and paradigm in organization, philosophy, education, religion, engineering, scientist and merchandizing activities as blue print of action. "Think Globally, Act Locally" originally began at the grassroots level towards seeing the sky. Moreover, it's been adopted as global concept with high relevance to entrepreneurial functions and business activities (Hossain, Islam, Hosen, Mohd & Thaker,2023). The application of the concept has shown new dimension in various fields of entrepreneurial dreams, vision, mission and journey. It is actually seem as .a drive to "Break the Roof". And move the "Gown and Town" to achieve your targeted goals and dreams.

Think globally in alignment with acting locally is push and pull strategy to take off with globalization ideas as you starts up locally. It involves synchronizing the business world to a lean start up point zero (Ovharhe, Chibuike and Abada, 2024). It is a point of learning, relearning and

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unlearning how, when, what, why and then. From that point the entrepreneurs should able to learn how to sleep, how to wake, craw, creep, leap, jump, walk, run and fly.

This is synonymous with the religious ideology of "go ye into the world (globally), start up from Jerusalem, extend to Judea, while expand to the utmost part of the earth. It is an entrepreneurial mindset of positioning at the locally and capturing the future scenario. It involve an optimistic mind management while cognizance knowledge of time management is to achieve future dreams.

This is in support of Joseph Schumpeter theory of creative destruction, who is a renowned champion in the field of innovation where the social and corporate entrepreneurs break every barrier and bottleneck to accomplish their meaningful purposive target. Also in line with Christenson theory of innovation which stresses innovating with competitive advantage process innovativeness, product innovativeness, administrative innovativeness, technology innovativeness, market innovativeness and structural innovativeness (Ovharhe & Chibuike, 2024a,b,; Kolawole, 2025).

For thinking globally and acting locally to be achieved entrepreneurs ought to know that they will be facing and trying to cope with unawesome circumstances in the business world such as recklessness, turbulence, troublesome, competitive parity, dynamic and pandemic (Amjad, 2023).

Think globally evolves the measuring the entrepreneur journey into short-term and long-term. Thinking global enables entrepreneurs to vision, mission and dreams to focus globally while development and operational and strategic plans to start up from a point with soft landing on ease cracking stone before diving into reckless, troublesome, dynamic and competitive entity in the business (Ovharhe & Abuda, 2024; Musabayana, Mutambara & Ngwenya, 2023).

This is because if you dive into globally once before considering local concept, the entrepreneurs might have bleeding edge.

This is all above despise not the days of little beginning in terms of though your beginning might be small but your latter end might be great.

It needs patient, meekness (blessed are the meek for they shall inherit the earth), diligence, trust, social proof and social capital.

Always conduct the feasibility analysis that captures the local to the future. This means start from the grass root. Do not be in haste to pull down the mountains with thinking of breaking the stones in your local environment.

Be opportunist with the competitive advantage in your environment as you develop wings to fly around the business globe. It also involves bringing future dreams globally while activating it to the present.

In this days of globalization, this could fathoms the prospect of bringing to the local environment what the business world are benefiting such as telecommunication, electromagnetic waves, advance health technology, artificial intelligence and solar energy. Using of fusion energy instead of fossil energy could be implementing globally and locally based on the mind step.

Technology Innovation

Emerging technology innovation is the dream and mission of multinational, conglomerate and cooperation in the entrepreneurship world. Enterprise sought to delve into the depth of emerging technology dynamics because it is the crown of the entrepreneurship planet. The emerging technology innovation is the key the unlock opportunities to win the entrepreneurship planet.

Technology innovation aids in unlocking, scanning, identifying, chasing and grabing entrepreneurship opportunities. This buttress the fact while, Ovharhe (2025), fathoms that entrepreneurship is the process of unlocking, scanning, pursuit and grabbing merchandizing opportunities in the enterprise with the spirit to actuating mission and entrepreneurial journey.

Entrepreneurship opportunities are everywhere at all times, places and seasons. The fundamental challenged is to identify those opportunities to triggered growth, development and positive dynamic changes, which could yield tremendous return on asset (ROA), return on interest (ROI), and return on equity (ROE). For entrepreneurs to identify an opportunities, there should be metrics and framework design to 'scan for the opportunity', 'pursuit for the opportunity', and 'grab the opportunity' to

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accomplished the predetermine goals for benefits. The best prevailing innovative option to achieve the metric and framework to grab entrepreneurship opportunity is the adoption of advance artificial intelligence (AI) technology innovation.

Emergence of dynamic trend of new technology innovation have orchestrate new dimensions in the entrepreneurship world to unlocked python, mega and gigantic opportunities with created advance competitive advantage as leading edge from the bleeding edge in various enterprise system, product, process and services. For entrepreneurs to boost their enterprise to be on the bleeding edge of leadership position in the competitive parity, the advance AI innovation needs to be employed to power the drive in elevation of purpose on digital transformation.

The advance AI technology delves into entrepreneurship opportunities to focus, scan, identify pursuit and grab the venture with digital transformation in the entrepreneurial journey and mission. The advance AI innovation are OpenAI Chat-GPT, Chat Bots, internet of things (IoT), machine learning, deep learning, data science, big data analytics, data visualization among others.

Iqbal, Masoodi and Pandow (2024) revealed that Al innovation has boost the entrepreneurship in fast pace in enterprise progression in the banking, finance, marketing, production and telecoms from predictive analytics to algorithmic merchandizing functions.

Artificial Intelligence Innovation and Entrepreneurship Opportunities

In this new revolution industry 4.0 and industry 5.0 artificial intelligence (AI) plays a dynamic role of agile framework in digital entrepreneurship. AI can be expressed as digital intelligence orchestrated by machines or, demonstration of digital computers and algorithms perform tasks and solve complex problems that would normally require or exceed the human intelligence, reasoning, and prediction power needed to adapt to changing circumstances. This modern definition has been evolving since the first definition of AI was presented by computer scientist John McCarthy more than 60 years ago, considering AI as "the science and engineering of making intelligent machines" (Giuggioli & Pellegrini, 2023). Within AI terminology, machine learning is frequently categorized as a subset of AI, with deep learning considered to be a subset of machine learning (Lambrou, L. (2024).

However, this revolution also requires changes to be made to the organizational dimensions of a firm (Hossain, Islam, Hosen, Mohd & Thaker, 2023). For example, thanks to the integration of AI processes, some of the most automated workplaces are experiencing a renaissance in terms of human work. In many cases, AI frees time, creativity and human capital, leaving people to work in a more human and less automatic way. AI empowers people with powerful tools to do more and act with superhuman abilities. In doing so, AI has the potential to re-humanize work, giving us more time to be human rather than working as machines (Driver, 2024).

On the other hand, AI also holds critical consequences for organizations facing increased pressure in terms of productivity and the need to stay competitive. This situation may also lead to increases in unemployment and inequality, as it did in the first wave of mechanical automation, disrupting manufacturing and subsequently destroying retail in the second wave of digital innovation (Cimperman, 2023).

In a nutshell, the main future challenge pertains to utilizing the advantages of availing AI technologies, in terms of new opportunities and productivity improvements, while avoiding the disadvantages in terms of job losses and greater wealth inequalities.

AI has the potential to offer both positive and negative consequences to society at large. Here, a prominent role will be played by entrepreneurs and the ways in which they are able to use these technologies. A variety of potential approaches, scenarios and contrasting findings still populate academic debates around AI, creating a "green field" (Wakefield, 2024; Driver, 2024). We therefore intend to perform a systematic literature review with regards to the relationship between AI and entrepreneurship, offering potential directions for further research.

There are several reasons why this inquiry is appropriate and timely. First, in order to thoroughly capitalize on the

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results of pertinent academic literature, there is a need for systematization. To the best of our knowledge, this study is the first of its kind, although inspiring and brilliant contributions have already been produced (Cimperman, 2023).

Second, the actual pervasiveness of AI offers new business opportunities like never before. Many entrepreneurs can access AI solutions easily, as these solutions are no longer futuristic or elitist innovations and are instead available at a relatively affordable cost. This implies that AI is no longer a privilege adoptable only by big firms (4). This could have an exponential impact on developing entrepreneurship (Vicente, P2024).

Third, although COVID-19 has sadly led to many causalities and deaths, the pandemic and its aftermath may serve to accelerate and advance the adoption and use of digital and modern technologies, such as AI As a result of public health policies (e.g. lockdown), digitalization has been forced upon organizations, stimulating a jump in remote-controlled and automated processes.

Leveraging AI Innovation in Entrepreneurship Opportunities

Micro-entrepreneurs are also using AI for assisting with grant applications/funding requests and creating advertisements or social media posts. The value of AI-related resources lies in understanding how to effectively utilize them to save time, energy, and money and further boost productivity AI-driven decision support systems have emerged as an essential tool for entrepreneurs, helping them with various decision-making tasks, such as entrepreneurial opportunity identification, resource allocation, and risk management parity. AI plays a fundamental role in digital transformation by automating processes, analyzing data for insights which navigates foresight, and enabling informed decision-making. It enhances efficiency, innovation, and adaptability, driving transformative changes across industries (Ahunanya, Ovharhe, Emenike & Otto, 2022).

Professor Fahri Özsungur an accelerated emerging technology innovator giant in entrepreneurship, redeemed that "innovators will miss the mark without AI". This dramatized while AI has championed industrial tactics to develop insight, enabling foresight, pursuit and kneel resource constraints for betterment environment munificence in emerging market structure (Özsungur, 2024).

Purposefully for the betterment of communities, the synergy among artificial intelligence (AI) and the Internet of Things (IoT) adopted by social entrepreneurs brain players such as ultrapreneurs and social extrapreneurs has create tremendous transformation in the quality of mankind livelihood by addressing the threats and challenges in resource-constrained conditions, mostly in developing and under developing countries (Giuggioli & Pellegrini, 2023).

Nevertheless, the role of machine learning, data analytics, data coding, artificial intelligence (AI) and the Internet of Things (IoT) is noteworthy that offers numerous social entrepreneurship opportunities to augment positive expression and impact of frugal solutions in various aspect of opportunistic and exposure granted to communities globally (Yadav, 2024).

Data science, deep learning, IoT, clearer services, personalized solutions, affordable automation, data analytics, data virtualization, machine learning and AI are key drivers of frugal engineering in the innovative technology. These technologies perform multi-dimensional function to ensure the sustainable business innovative model, based on pyramid (BOP), resource-constraints and environmental munificence work simultaneously with achieving the goals of frugal engineering (UBIAI, 2024; Rainy *et al*., 2024).

Renowned Prof. Iman Khamis in 2024, exponentially delve into "applications of Artificial Intelligence" (Murphy in Ovharhe, 2025). He pivoted that, in the ever-growing landscape of entrepreneurship world, the integration of deep learning, big data and artificial intelligence (AI) with human capital seems to be an inevitable shaping and driving force, which will be reshaping the manners that we are currently operating in our daily lives. In the light of this, Professor Oscar Oliver Eybers and Alan Muller in 2024 inclined that the integration of artificial intelligence (AI) into various domains such as leveraging human capital in entrepreneurship growth has sparked transformative

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advancements, and business environment is no exception. Notably, the concept delves into the intersection of AI and transformation with a specific focus on human capital and entrepreneurship growth strategies settings (Ovharhe, 2025).

To achieve entrepreneurship growth, the human capital leverage must be a key focus to boost the intrapreneur with workforce team. But, human capital and entrepreneurship growth is pivoted with new era of industry revolution, which the intrapreneur and workforce should understand to drive the enterprise growth. Enterprise growth is threading with a new era of the industrial revolution in the entrepreneurship world. Hence, it is important to note that the third revolution (Industry 3.0) dealt with initiating computers in manufacturing on basis of new paradigm shift to Industry 4.0, which delves into technological evolutions and futuristic embedded models that create smart and intelligent systems with automation and completely digitalized production methods (UBIAI (2024). However, this envisaged that Industry 3.0 refers is the application of control systems, such as computers or robots, to manage machines and processes, which reduced the need for human intervention.

Industry 4.0 refers to the shift from a manufacturing paradigm, where machines simply operationalize routines, to digital manufacturing, where machines are capable of communicating with each other, self-monitoring and collaborating autonomously. This enables faster, more flexible and more efficient processes, producing higher-quality goods with advanced levels of customization, increasing manufacturing productivity, and, in turn, allowing an industrial growth.

Technologies such as artificial intelligence, robotics, the internet of things, the use of sensors, and automation of systems, which are capable of transforming the way an industry works. But in addition to Industry 4.0, nowadays there is the so-called Industry 5.0, which is the next step in the advancement of industries in the world. This new transformation takes place considering the human touch in each of the industrial operations that exist (Alqahtani & Uslay, 2023).

The term "Industry 4.0" was coined by Rana *et al.* (2024), combining the virtual and the real world with an emphasis on engineering applications, such as robotics, digitalization and automatization. Researchers have dealt with automation using AI technology since the 1950s with theoretical machine learning models, but the recent advancements of revolution 4.0 have provided them with a platform to actualize these theoretical models (Poynton, Flynn, Eaton, Cantrell, Mallon & Williams, 2024).

In this revolution, AI is considered a dominant research area and its applications are expected to spread into any domain requiring human intelligence. AI is central to all Industry 4.0 technological paradigms. It is used in smart factories, which are fully connected manufacturing systems, mainly operating without human intervention thanks to the generation, transfer and analysis of the flowing data required to perform inherent tasks for production (Souai, 2024). AI is integral to the Internet of things (IoT), deep learning, data science, machine learning, data analytics, blockchain, human-computer interaction system that blends real and virtual 3D objects in real time. AI improves the accuracy and robustness of image processing and its correlated tasks (Arora, 2024; Rana *et al.*, 2024).

With the revolutionary growth experience in the industry 4.0 and industry 5.0, entrepreneurship dreams and journey has navigate to the trend of new dimension to accomplished value creation, value capture and wealth creation in plight of pursuit on business opportunities. To assimilate entrepreneurship growth in the industry by searching, pursuit and grabbing business opportunities, AL leverage in human capital should be associated with the growth metrics such as return on capital employed (ROCE), return on investment (ROI), productivity index and profitability index. The midpoint of survivor and success on entrepreneurship growth lies in the capacity to lunch and incorporate AI leverage in human capital asset with the enterprise growth metrics by the intrapreneur and equipped manpower team. Human capital asset has been the most valuable peak in leashing entrepreneurship growth by indulging intrapreneur KSA tentacles on AI engagement with industry 4.0 and industry 5.0. The spectrum of entrepreneurship has experience unprecedented growth in AI technology innovation and

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machine learning that ignite new dimension, which orchestrate to an enterprise paradigm shift in the industry 5.0. (Zola, 2024) This has tremendous influence on the ChatGPT by OpenAI, Chatbots, big data analytics, data visualization, data science, machine learning, deep learning, internet of things (IoT) among others.

METHODOLOGY

The micro, small and medium enterprise (MSME) across the country were targeted especially those entrepreneurs dealing with a lot of goods and services in confectionery, hotels, gum, biscuits, sweet pastries, cakes, and sugar along product lines among others. The exploratory research design with ex post facto research design were considered fit for the study. The emergence of leveraging creative innovation and entrepreneurship opportunities in Nigeria has faces a lot of threat and worrisome trail in the micro, small and medium enterprise (MSME) goods in Nigeria. The dealers of the micro, small and medium enterprise (MSME) goods were targeted as the population from the six geo-political zones that are most enterprising entrepreneurs in the regional zones. The study adopted correlation research design and time horizon of cross sectional design with data generated from dealers in the six geopolitical zones in Nigeria on micro, small and medium enterprise (MSME). The population was drawn from three states on each of the geo-political zones comprising of 18 states. Hence, with the competiveness scenario created by the merchandizing parity, 540 enterprise across the 18 states from the six geopolitical zones were selected from various brands of micro, small and medium enterprise (MSME). Systematic sampling was employed to make a sample with non-proportionate stratified random sampling technique. 4-points likert-scale was introduced with twelve self-structured questionnaire items to the dealers of the micro, small and medium enterprise (MSME). The content validity was used for validating the instrument, while the *internal consistency reliability* was achieved using Cronbach Alpha technique. The reliability coefficient analysis was creativity (α =0.821), innovation (α=0.829) and entrepreneurship opportunities (α=0.799). Based on the authenticity of the study, the Kaiser-Meyer-Olkin (KMO) on confirmatory sampling adequacy and Bartlett's Test matching approx chi-square authenticates the sphericity of data appropriateness of the principal component were introduced. The 540 dealers were given the instrument for response on the basis of the option provided. 516 were retrieved, while only 497 were viable for analysis. The Pearson Product Moment Correlation was used to compute the result of the two hypotheses using Statistical Package for Social Science (SPSS) version 25.

RESULTS AND DISCUSSIONS

Nevertheless, using the factor analysis on the proxies on determinant statistics, analyzing the threshold before which will show multi-collinearity and auto-correlation among the proxies, revealed that:

The Kaiser-Meyer-Olkin (KMO) of (0.904) and Bartlett's Test matching approx chi-square (5763.988) at 0.000 significance for measuring the sampling adequacy and sphericity to show the level of acceptability on confirming the principle component is less the 0.05 level of significance, meaning the corresponding proxy liaison with the first null hypotheses is rejected. Thus, indicating viability of the principle component.

The Kaiser-Meyer-Olkin (KMO) of (0.861) and Bartlett's Test; approx. chi-square (2158.608) at 0.000 significance for measuring the sampling adequacy and sphericity to show the level of acceptability on confirming the principle component is less the 0.05 level of significance, meaning the corresponding proxy correlates with the second null hypotheses is rejected. Thus, indicating viability of the principle component.

This section uses inferential statistics to analyze the null hypotheses. The statistical tool employed was the Pearson Product Moment Correlation.

Test of Hypothesis One

Ho_i: Creativity does not significantly influences entrepreneurship opportunities among micro, small and medium enterprise (MSME) goods.

Table A: Pearson Test for Creativity and entrepreneurship opportunities among micro, small and medium enterprise (MSME) goods.

Correlations

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		Creativity	Client Focused
Creativity	Pearson Correlation	1	.848**
	Sig. (2-tailed)		.000
	N	497	497
Client Focused	Pearson Correlation	.848**	1
	Sig. (2-tailed)	.000	
	N	497	497

**. Correlation is significant at the 0.05 level (2-tailed).

Source: *Author's Field Survey- SPSS version 25 output*

In table A, it can be observed that the Pearson correlation (PC) coefficient is 0.848 which shows a strong and positive correlates between creativity and client-focused. The 0.000 significance value is not greater than the 5% (p = 0.000<0.05) will results to the rejection of the null hypothesis. This revealed that the directional hypothesis should be adopted that says creativity does significantly influence entrepreneurship opportunities among micro, small and medium enterprise (MSME) goods.

Based on the findings Ovharhe *et al* (2021) strongly believe that synchronizing corporate culture into the entrepreneurship opportunities is often perceived as one of the mechanisms to transform an enterprise. They supported the emergence of leveraging creative innovation and entrepreneurship opportunities because its saves time, monetary resource and energy. For an enterprise to be successful in pandemic, crisis and turbulent periods, the concept of leveraging creative innovation should be integrated with entrepreneurship opportunities to anchor a positive pivot. Also, Ovharhe *et al*., 2022,2023) opined that inadequate risk management and lack of leveraging creative innovation can threaten enterprise viability and its life cycles especially during pandemic and crisis era. They conceptualized a model which portrays the relationship between leveraging creative innovation and enterprise risk management implementations. The explanatory proxy of creativity aims to empirically test the relationship among leveraging creative innovation and the criterion variable. Their findings suggested that leveraging creative innovation is expected to have direct effects and significantly influence criterion variable proxies.

Test of Hypothesis Two

Ho_{ii}: Innovation does not significantly influences entrepreneurship opportunities among micro, small and medium enterprise (MSME)

Table B Pearson Test for innovation and entrepreneurship opportunities among micro, small and medium enterprise (MSME)

Correlations

		Innovation	Opportunities
Innovation	Pearson Correlation	1	.859**
	Sig. (2-tailed)		.000
	N	497	497
Opportunities	Pearson Correlation	.859**	1
	Sig. (2-tailed)	.000	
	N	497	497

**. Correlation is significant at the 0.05 level (2-tailed).

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Source: *Author's Field Survey- SPSS version 25 output*

In Table B, it can be observed that the Pearson correlation (PC) coefficient is 0.859 which shows a strong and positive correlates between innovation and client-focused. The 0.000 analyzed output significance value is not greater less than the 5% ($p = 0.000 < 0.05$) which results to the non-acceptance of the null hypothesis. Hence, the directional hypothesis accepted while the null hypothesis is neglected indicating that innovation significantly influences entrepreneurship opportunities among dealers of micro, small and medium enterprise (MSME) goods.

Arzadon*et al* (2021) orchestrate that auditing leveraging creative innovation from proper risk assessment as practical guide could enable to boost the strength and success of an enterprise. This could be applicable to the innovation and entrepreneurship opportunities on the micro, small and medium enterprise (MSME) goods. More so, Kunz andHeitz (2021) research work strives by providing leveraging creative innovation into management control systems. This review identifies 103 articles, which can be structured along three categories: Assessment of leveraging creative innovation , relation between leveraging creative innovation and management controls and development of banks' leveraging creative innovation over time. Along these categories the identified findings are interpreted and synthesized to a comprehensive model and consequences for theory, business practice and regulation are derived. In the nutshell, innovation, risk assessment and metric is fundamental engine for credible leveraging creative innovation practices. Without diligence assess on residual risk, the doctrines of innovation and creativity cannot transform enterprise predetermine goals. Hence, creativity and innovation should synchronize entrepreneurship opportunities. It could be easily said that the point of departure from their study could be address by the emergence of leveraging creative innovation and entrepreneurship opportunities (Ovharhe, 2024,2025).

CONCLUSION, RECOMMENDATIONS AND CONTRIBUTION TO SCHOLARSHIP

Conclusions

Creativity and innovation is the heart beat of entrepreneurship. If entrepreneur can utilize creativity and innovation is the stems of product, process, service, market and technology there would be strategic thinking and local acting in the entrepreneurship world. Entrepreneurs being the business giant of innovation metamorphosis are closely knit with AI advancement . Entrepreneur for robust ideas has navigate all branching network affiliated and collaborated with AI such as ChatGBT,

Even five years before the AI boom, McKinsey reported AI could automate almost half of U.S. jobs. Today, the opportunities are even greater, especially in the business management domain. While the proliferation of AI tools offers great possibilities for businesses, it also poses a challenge for entrepreneurs hoping to navigate the dynamically growing AI landscape and efficiently adopt AI solutions. To help entrepreneurs on their AI adoption journey, this article will review a few best practices for leveraging AI efficiently.

Leveraging creative innovation shows positive relationship on entrepreneurship opportunities among entrepreneurs that are dealers in micro, small and medium enterprise (MSME) goods. Both concepts are vital for transforming threat and turbulent in an enterprise especially in the covid-19 pandemic. The interconnectivity among the variable are awesome to mitigate riskiness of threat and crisis in turbulent times. In conclusion, creativity and innovation positively influence the entrepreneurship opportunities. Leveraging creative innovation and entrepreneurship opportunities postulate improved pattern of regular repeated learning, unlearning and re-learning to mitigate risk for waste elimination, lean improvement, lean entrepreneurship, cost minimization and facilitating swift patronage for micro, small and medium enterprise (MSME) goods.

Recommendations

The following recommendations are itemized below.

1. Creativity should be streamline from the long-term to the short-term with specific instructions on brand assessment and brand dashboard.

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2. Technology innovation should has short-term metrics drawn from the long-term of creativity dashboard to avoid deviation from specific goals and corporate objectives
3. Entrepreneurship opportunities should adopt as major proxy of entrepreneurship opportunities because of its role in continuous improvement.
4. Product circle committee or team must be establish, trained and equipped to face turbulence business time and competitive parity.

Implication of the Study

Leveraging creativity and technology innovation in entrepreneurship opportunities could transformed micro, small and medium enterprise (MSME), conglomerate, multinational and corporation to rapid increase in return of investment (ROI), return on equity (ROE), return on asset (ROA) and return on capital employed (ROCE).

Entrepreneurship is the dynamic process of scanning, identifying, chasing, unlocking and grabbing opportunity to achieve pre-determined goals. Entrepreneurship is a systematic idea of identifying, pursuit and taking advantage of competitive edge to avoid bleeding edge of opportunities to accomplish definite purpose of the enterprise. Entrepreneurship is embedded with invention, creation and innovation of tangible and intangible opportunities that may be transformed to beneficial entity for client/customer satisfaction with valuable returns to the enterprise. Creativity navigates the entity of innovation. Innovation could be in the framework of product, process, service, market and technology.

Emerging technology innovation has capture the function of entrepreneurship opportunity in the entrepreneurship world. Technology innovation has corroborate artificial intelligence (AI), machine learning (ML), deep learning (DL) internet of things (IoT) and decision support system (DSS). In conclusion, leveraging creativity and innovation is an in-depth strategic concept to identify, pursuit and grabbed entrepreneurship opportunity. This is the systematic metrics of sustainability, survival and success in the enterprise with high growth. The technology innovation emergence of AI and machine learning transformed industry 3.0, industry 4.0, to industry 5.0. Hence, this navigate entrepreneurs with high spirit of creativity and innovation which could boost entrepreneurship opportunities to business excellence.

Contribution to Scholarship

This study has contributed to the existing knowledge as follows:

-Branding innovative culture formed a formidable force applicable to the micro and macro enterprise that influences entrepreneurship opportunities
-Creativity and innovation are credible tools that enable enterprise to mitigate threat in turbulent business time
-Emergence of leveraging creative innovation and entrepreneurship opportunities synchronization is transformation tool for every enterprise to pursuit her vision and mission
-Entrepreneurship opportunities shows lean entrepreneurship as competitive advantage

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