

New Methods of Business Income Generation Under Emerging Technologies

¹Mohammad Hossein Hosseini (Corresponding Author) , ²Azadeh Khodaei
¹Department of Industrial Management, Central Tehran Branch, Islamic Azad University,
Tehran, Iran

²Department of Computer Engineering, Safadasht Branch, Islamic Azad University,
Safadasht, Tehran, Iran

Article Info

Page Number: 275 - 290

Publication Issue:

Vol 72 No. 2 (2023)

Article History

Article Received: 15 February 2023

Revised: 20 April 2023

Accepted: 10 May 2023

Abstract

Emerging technology promises groundbreaking improvements in business revenue generation by reducing costs and improving ease of use. Therefore, in the current research, it has been tried to design new ways of generating income for businesses under emerging technologies by using the combination of past studies. For this purpose, using the qualitative approach and the strategy of Sandelowski and Barso (2007), the studies that were published in the period (2011 to 2023 for domestic documents and 2010 to 2024 for Latin documents) were searched in authoritative quarterly journals and 30 documents were selected. Using evaluation criteria, the title, abstract, content, and critical evaluation skills were selected and analyzed with the three-stage coding method (open, central, and selective) in MAXQDA software, and finally, the research model was designed using EdrawMax software. The research findings were evaluated based on Guba and Lincoln's (1989) qualitative research quality control criteria and the Holstein formula. Based on the research findings, 289 indicators, 26 components and 6 dimensions were identified for the model. As a result, businesses can boost their business income by using new methods such as artificial intelligence, Internet of Things, digital marketing, branding, cryptocurrencies and financial ecosystem and social media.

Keywords: business revenue generation, emerging technologies, cryptocurrencies and financial ecosystem, Internet of Things

Introduction

Regardless of the sectors in which they operate, companies face a variety of new technologies, which at the same time create many business opportunities and challenges for them (Gauttier et al., 2024). Therefore, companies' focus on emerging technologies provides a steady supply of new products, services and processes and affects business and market structures (Stahl & Eke, 2024). In this sense, several studies indicate that the changes provided by new technologies positively reflect on the performance of companies and enable competitive advantage through innovation and thus their differentiation in relation to their competitors (Peter et al., 2023; Akpan et al., 2022; Lui et al., 2016; Hwang & Christensen, 2008;). Then it is clear that organizational transformations have benefited from the agility of new technologies and, through the innovation process, have provided new ways to create value for the market that expand the boundaries of organizations and help generate new business models (Zott et al., 2018). Nevertheless, in addition to the possibility of innovation in providing products and services, companies should pay attention to the adequacy of their business models in relation to new technologies (Pacheco et al., 2016). This is because recognizing the opportunities and threats of new technologies introduced in the market for the business model allows companies to react to different forms of profit and value network relationships by reconfiguring products or services, processes, skills. give (Sainio, 2004). The essence of a business model is to define

how the organization is organized to provide value to customers (Teece, 2010). However, companies do not understand the need to adapt their existing business models to emerging technologies (Markides & Oyon, 2010). In this sense, Gassmann et al. (2013), point out that competition between companies in business ecosystems occurs not only through new products, services or technologies but also through innovative business models, because business model innovation It is one type of innovation that has the potential to strongly influence the market and competitors (Zhang et al., 2018) and may help create a distinguishable competitive advantage (Tisi, 2010). In this context, disruptive business models emerge at a stage where emerging technologies and innovations become critical and require new organizational structures for products and services offered, which emphasize a unique value proposition for the market and replace existing business models (Osiyevskyy, 2015). It is therefore fair to argue that the fortunes of contemporary companies rise and fall based on their smart or ill-advised technological decisions (Frizzo-Barker et al., 2020). Technological innovation has now permeated all aspects of business, and managers can attest to this fact. who now have better tools to make informed choices and this has become an important part of how their companies operate on a daily basis (Wang, 2021). So it's no surprise to those who know that the right technology, coupled with timely implementation, may help a company not only address business issues, but also strengthen its competitive position. Idealists like Wal-Mart and FedEx have used technology not only to address logistics issues, but also to realize new possibilities, develop new distribution lines, and create new business models that their competitors have been forced to adopt. Technology was used by Wal-Mart to gain a competitive advantage in supply chain management (Banker, 2022). According to the mentioned contents, it is necessary for companies and businesses to know the new methods of business income generation under emerging technologies and to act based on them in today's highly competitive world. Despite the importance of this issue in the creation of new monetization of businesses or their reconfiguration under emerging technologies, there is still little research to provide theoretical aspects related to new models of monetization of businesses under emerging technologies. Therefore, the current research aims to create new business structures for an innovative market based on emerging technologies, where new products, services or processes are created by redefining what exists in the market.

Theoretical

Technology refers to the process by which a scientific concept is applied in the real world of business or industry to the set of tools and other implementations created by a particular culture. To understand the role technology plays in today's companies, we must first understand business technology. Technology for business involves the combination of computers and communication systems to assist in administrative tasks (Meshack and Prusty, 2021). In today's business world, new developments in technology are happening all the time. A successful company cannot operate without the use of business technology. Technological innovation within an organization used to be the exclusive domain of highly trained specialists who were locked in the basement and had difficulty proving their value in terms of the company's bottom line. However, things have changed. We can clearly see how technology has become more widespread in all aspects of the company and how the dependence of technology on business has increased. uses Due to the fact that the Internet is now widely accepted as a medium for e-business, the general public has the impression that this is an Internet-based business model. E-business is evolving with the availability of new electronic gadgets such as smartphones and tablets (Marbun et al., 2020). Since the Internet can be accessed wirelessly on mobile devices such as smartphones and tablets, there are new methods such as wireless application protocol that allow people to use the Internet whenever and wherever they want. Electronic networks and related emerging technologies may be used to enable, optimize, improve, change or create

a business process or business system to produce higher value for current or future consumers. In general, this concept reveals how electronic and digital technology may be used as a channel to achieve business operations and systems (exchange of products and services) that are far superior to those using traditional techniques. are traditionally achieved, especially when considering the benefits that can be achieved. understood by stakeholders (Weking et al., 2020). Business technology works to maximize the use of technology within the company in order to meet the needs and wants of consumers through the use of automation and increase efficiency through time savings. Furthermore, as users may already be aware, time is money. This means that it saves money in the long run. When it comes to business technology, the goal is always to improve collaboration within and between companies. Technologies such as video chat programs and other forms of online teamwork software fall into this category. In addition, the combination of advanced technology can enhance the safety of the system. The term "business under emerging technologies" refers to the use and integration of information technology in business processes. Integrating technology into the corporate environment is more than just having an IT employee. Management procedures, organizational framework, resources and technology regulations are all part of this. They all aim to make business more efficient by making better use of technology (Dana et al., 2022). The term "business under emerging technologies" refers to a strategy to centralize and standardize the management of technology resources in a company. Business under emerging technologies is a set of procedures and practices for running a business that uses technology to its advantage. to better meet the needs of its customers. In order to provide better services to customers and keep up with the market demand, most businesses know that they have to constantly put pressure on not only their competitors, but also themselves. Since then, many efforts have been made to preserve IT by bringing it under the control of IT departments and controlling costs. Today's IT departments must collaborate with other business departments to share knowledge and adopt customer-centric, monetization, and product development practices from other areas of the organization. This is not a one-way street. For example, marketing teams should take advantage of technology management tools in their hands to avoid increasing costs and implementing solutions that are incompatible with the rest of the organization's environment (Janani, 2021).

Research method

In terms of purpose, the current research is one of developmental research (research that is mostly done with an approach to the future and progress of science) and in terms of the nature of the data and the style of analysis, it is in the qualitative research group and with the meta-combination method based on the Sandelowski model. & Barroso (2007) has been done, which includes the combination of specific characteristics and factors of the research literature. Metasynthesis is a kind of qualitative study that examines the information and findings extracted from other studies with a related and similar topic and helps to produce new methods, models and science. By providing a systematic approach for researchers through the combination of different qualitative researches, this method explores new and fundamental topics and metaphors, and in this way expands the current knowledge and provides a comprehensive and broad view. It creates an attitude towards issues (Zimmer, 2006). In this research, the meta-composite method has been used in order to systematically review the previous documents, studies and theoretical frameworks of new business income generation methods under emerging technologies. The data collection method in this research is based on documentary information and the data collection tool is past documents and documents, which includes 30 authentic written sources. In the current research, the statistical population was 453 written sources published in reliable domestic and foreign scientific databases, which were searched based on the keywords of income generation, business, emerging technologies, electronic commerce, and in order to obtain the research sample. which will cause theoretical

saturation, were surveyed. To search for keywords, the time range from 1390 to 1402 was considered for Persian written sources and from 2010 to 2024 for Latin written sources. In the field of sampling, 30 relevant written sources were selected using a targeted theoretical approach. Criteria for selecting articles for analysis: 1- They should be published in the defined time frame, 2- Their subject area should be related to business income generation under emerging technologies, 3- They should be published in reputable magazines, and 4- They should be original written sources. The validity basis of this research was the opinion of specialists and experts in this field. Cohen's kappa agreement test was used to measure reliability in this research. The current research was carried out with the seven-step meta-combination method (according to Figure No. 1) by Sandelowski and Barroso (2007).



Figure 1: Research steps

Research findings

Presenting consistent findings in qualitative analysis, especially in the present research, requires maintaining and presenting the process of generating findings based on the selected meta-composite method. In this section, the findings of each stage according to the model of Sandelowski and Barroso (2007) are presented in the following seven stages:

first step: setting research questions

The first step in the meta-composite research method is to formulate the questions that the researcher seeks to answer in his research process. Therefore, the questions of the current research are raised as follows:

- 1- What are the new ways of generating income for businesses under emerging technologies?
- 2- What is the appropriate model of business income generation under emerging technologies?
- 3- How is the validation of the model designed to generate income for businesses under emerging technologies?

Second stage: systematic review of texts

At this stage, the method of library studies has been used to collect past documents and documents to reach the research results. For this purpose, 15 databases are included in this search. Among the reliable foreign scientific databases are ScienceDirect, Eric, Researchgate, Perquest, Springer, Emerald, Taylor and Francis, and among the Persian databases of the Humanities Research Portal, Nurmagz, Mag-Iran, Jihad University Scientific Information Database, The country's publications system and psychological and counseling publications were searched with the key words of income generation, business, emerging technologies, electronic commerce with specific criteria that were considered in this research, table number (1) and finally 453 articles were found.

Table 1: Acceptance and non-acceptance criteria of articles

Criteria for not accepting articles	Acceptance criteria for articles	Criteria and conditions
Before 2010	2010 to 2024	Time to do the research
Other than qualitative and mixed	Qualitative and mixed	research method
Other than e-commerce	e-commerce	The community under investigation
Non-scientific content and invalid articles and personal opinions	Articles published in reliable domestic and foreign publications	type of study

third level; Searching and selecting appropriate articles

The purpose of the third step is to identify and select sources that are related to the objectives and questions of the research. For this purpose, parameters such as title, abstract, content and quality of research have been selected based on figure number (2). In order to evaluate the quality of the analyzed researches, the researcher reviewed the selected sources several times and adjusted the unrelated and low-quality ones based on the Critical Appraisal Skills Program (CASP). This method helps to determine the accuracy, validity and importance of qualitative research by asking ten questions. The logic of selecting the articles is in this way that by giving a score to each of the mentioned indicators from weak (1) to excellent (5) in each of the ten indicators, a score is given. Then the articles are classified into 5 categories: excellent (41-50), very good (31-40), good (21-30), average (10-21), weak and (0-10).

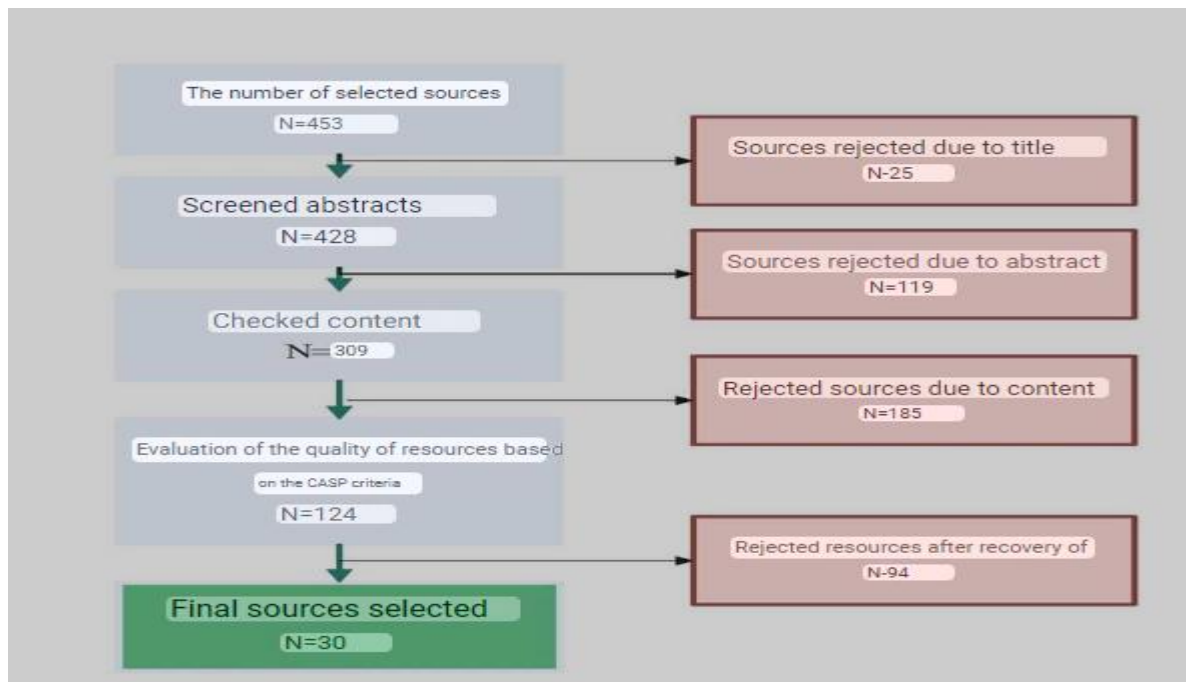


Figure 2: The process of reviewing and selecting relevant sources

fourth stage; Extracting the results

At this stage, after studying the written sources and with the aim of obtaining content information, the explanatory achievements of the selected sources were continuously studied, and of course, the sampling process continued along with the analysis of data and information. Because with the analysis of data and the possibility of the presence of new indicators of the income generation model of businesses under emerging technologies, it is possible to sample

and collect information, and this action can be continued until the theoretical saturation stage is reached. In this section, while reviewing and analyzing the selected texts line by line and comparing the extracted concepts, the number of 289 markers from 30 selected articles was counted using the open coding method. The desired concepts called indicators are the product of screening, purification and frequent back and forth of the researcher in the concepts extracted from the selected sources. In this way, the repeated and sometimes unrelated concepts of the sieve and the key concepts were counted and recorded. The coding results are reported in table number (2).

Table number (2): analysis and combination of findings

Selective encoding	Axial coding	Open coding
Artificial intelligence	Data science or data mining	Data and Information Security, Data Encryption, Regular Backups, and Preventing Cyber Attacks, Building Market Forecasting Models, Business Analytics, Scientific Systems for Knowledge Mining, Kolabtree Online Market
	virtual assistant	Database management, content creation, translation, typing, Photoshop, website management, social media management, SEO, work calendar management, handling emails and communication management, work calendar management, planning for a wide range of tasks, building sustainable communication and long term with the customer,
	Business intelligence	Collecting information, storing information, managing knowledge, speeding up return on investment, reducing manpower costs, quick and smart decisions.
	Asset management using artificial intelligence algorithms	Management of assets and investments, accurate data analysis and prediction of market trends, better and more optimal decision-making in the face of financial challenges, risk management, optimal management of financial servers
	Financial technology	Electronic payments, financial facilitation systems, and data-driven financial initiatives, use of modern facilities in financial management, electronic payment services, secure payment gateways, electronic wallets, mobile payment systems
	Blockchain technology in finance	Blockchain chaining in the transfer and recording of financial data, providing banking services without the need for physical branches, innovative solutions for granting loans and financial installments, increasing financial facilities and improving the liquidity of businesses, asset management using artificial intelligence algorithms
	Generating business income from hosting services	Online design of websites and financial software, providing online services, reducing operating costs through optimal management of servers, increasing access to customers from all over the world, increasing website stability and performance, increasing scalability, providing dedicated services
Digital marketing	Doing graphic work	Providing digital art effects, providing digital content, providing digital real assets, digital video clips and digital music,
	Web design	SEO, Google's monopoly in the search engine market, site loading speed, template responsiveness, image and video optimization, content optimization, proper internal linking, linking through email marketing, site speed
	Application design	Optimizing product titles, product categories and service sheets, commenting on different sites and placing links on the site.
	Online shop	Creating content on reputable blogs and sites and building external links, building links on the profiles of reputable foreign sites, advertising and reporting ads on sites with appropriate domain authority and topical authority, building links on various social networks.

	Non-fungible tokens	Marketing and selling digital assets, increasing added value to content, creating new digital markets, exclusive property rights, marketing and online sales, improving customer interaction.
Cryptocurrencies and the financial ecosystem	Global Market	Participating in financial transactions without intermediaries, accessing the global market without intermediaries, reducing costs related to currency conversion, facilitating financial transactions,
	Strong and distributed encryption technologies	Conducting secure transactions without the need for intermediaries, attracting capital from different parts of the world, conducting international transactions, interacting with international markets,
	Making micropayments	Making small and everyday transactions without the need for bank account information, increasing the speed and ease of everyday transactions, promoting small and local economic activities.
	Initial coin supply	Offering tokens as a credit unit for investors, increasing the investment experience, selling digital currency without exchanges and commercial enterprises, offering security tokens, simple agreement for future tokens, venture capital, exchange initial offering, central bank digital currency
	Digital currency ecosystem	Cardano, Ethereum, Solana, Taro, Paligan, Domestic Exchange, Global Exchange, Polkadota, Avalanche, Government Digital Currencies, National Digital Currencies, Central Bank of China Digital Currency
social media	Recording audio books and podcasts	Reading of a written text, interview between two or more people, round table discussions, summary of a story, explanation of an event, training, audio books in the field of business,
	Social marketing	Advertising in social networks, increasing brand awareness, increasing organic traffic, communicating more effectively with customers, increasing customer loyalty and satisfaction, knowing target customers.
	Cyberspace	Content production on Instagram, content production on Telegram, WhatsApp content production, content production on Ita, Soroush, Yes, Rubika, etc. Social business using social networks
	Games	Interacting with customers using new tools, encouraging customer loyalty using game elements, contests, and social rewards, using games as an entertainment and learning tool for business, paying attention to innovation in games
Branding	Applied knowledge about the target market	Reviewing and revising the entire market, segmenting and filtering the target market, detailed analysis of parameters such as age, gender, lifestyle, income level, disposable income, industry and areas of interest
	Being in a competitive environment	Compliance with ethics, principles, values, unique sales propositions and how to use the brand in the market, differences in its products and services with its competitors.
	to be unique	Unique commercial feature, superior performance and success in competition.
	Competitiveness	Researching and studying the latest trends in the industry, maintaining full speed in technological developments and providing new and innovative products and services to customers
Internet of Things	Remote monitoring capability	Collecting data through IoT devices, monitoring vital indicators through IoT devices, analyzing data through IoT devices, tracking assets through IoT devices, responding to global business changes through devices based on the Internet of Things,
	reduction in costs	Prevent product quality problems, help automate business accounting, reduce maintenance costs, optimize energy consumption
	Predictive analysis	Formation of marketing campaigns, analysis of dominant trends in the future of the market, brand promotion and branding, predictive analysis in the areas of production and logistics, personalized customer experience.

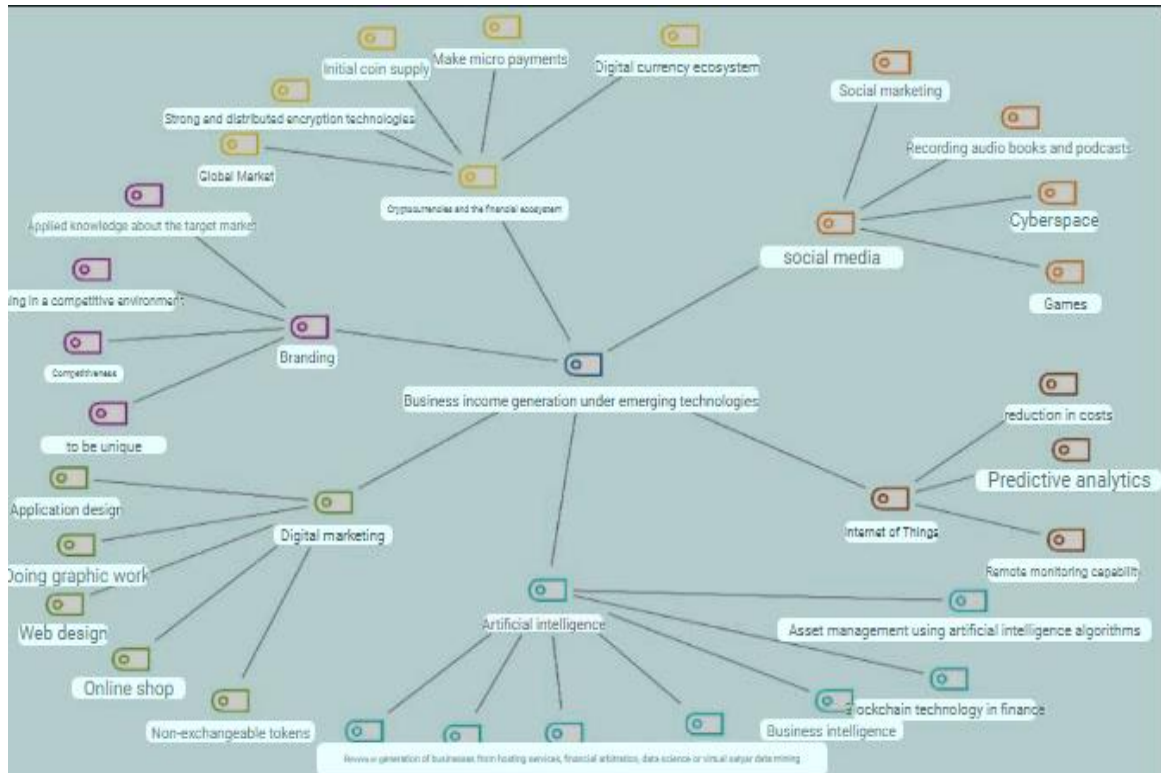


Figure 3: analysis in maxqda software

fifth stage; Analysis and synthesis of findings

Based on the results listed in Table No. 2 and Figure No. (3), in the open coding stage, 289 markers were identified from the analyzed articles and extracted using MAXQDA software. These markers were reduced to 26 axial codes in the axial coding stage. Finally, in the selective coding stage where new ways of generating income for businesses under emerging technologies were identified, 6 selective codes were identified, including artificial intelligence, Internet of Things, digital marketing, branding, cryptocurrencies and financial ecosystem and social media.

sixth stage; Maintain quality control

Perhaps evaluating studies for quality criteria is more important than evaluating studies for inclusion and relevance criteria. In the meta-combination method and in this step, the following procedures are considered to maintain the quality of the selective study: In the process of the current research, the researcher tried to provide clear explanations and descriptions for the options available in the research step. Remove the adopted ones. The researchers applied the quality control methods used in the original qualitative research studies, the researchers found relevant articles by using electronic and manual search strategies. At the right time, the researcher used established approaches and attitudes to integrate the main studies in qualitative research. At the right time, the researcher used established programs such as vital tools to evaluate the quality of the original qualitative research studies. In this research, a critical tool was used to evaluate the metacompositing process, and to control the extracted concepts, a comparison of the researcher's opinion with an expert was used. Validation of the findings of this research was evaluated through the four criteria of Lincoln & Guba (1985). Peer description method was used to achieve the "credibility" criterion. In this way, the researcher asked 3 PhD students who had used this method to re-code a part of the texts to know the correctness of the researcher's coding process and the absence of bias in the analysis. For the "transferability" criterion, purposeful sampling and snowball methods were used, in this way,

firstly, according to the main topic, i.e. the revenue generation methods of businesses under emerging technologies, a few selected articles and through references to their end-text sources to other articles we achieved. For the "reliability" criterion, consultation with professors and experts in this field and experts related to e-commerce was used regarding the process of conducting research and obtaining feedback to improve the work. For the "verifiability" criterion, the method of taking notes during the work process was also used. Other methods have been used to ensure the validity of self-monitoring research. In this way, the whole process of collecting, extracting and coding the findings was reviewed again, and another method of calculating the reliability of the research findings was the agreement method between the two coders. In this method, three articles were selected and one of the experts related to e-commerce did the secondary coding without knowing about the primary coding. In the primary coding, 12 indicators were extracted and in the secondary coding, 15 indicators were extracted, and there was disagreement in 3 cases. Therefore, when the numbers were put in the Kappa and Cohen formula, the reliability coefficient of the evaluators was calculated as 0.8, which is higher than the value of 0.6, it can be claimed that the findings analysis tool has reliability.

$$Reliability = \frac{\text{Number agreement}}{\text{Number of possible agreements}} > \frac{12}{15} = 0.8$$

Another method that was used in addition to this method to ensure the quality of information in the current research was the method of having theoretical foundations. In this method, the ideas resulting from the analysis of information lead to the creation and discovery of a new pattern. These ideas should be confirmed and evaluated based on previous information obtained and previous theoretical foundations. This requires the researcher's deep knowledge of the research topic. The comparison of the new theory resulting from the research with the previous theories leads to the formation of a kind of synthesis and helps to confirm and achieve quality and validity in the research. Since the analysis of several valid articles, dissertations and books has been done in collecting the data of the current research, it can be said that this research has this feature.

seventh stage; Presenting the conceptual model of the research

In the final stage of the metasynthesis process, the findings from the previous stages are presented. At this stage, the findings from the previous stages are presented in the form of a conceptual model, which is also the main goal of the current research. In this research, based on the results of the analysis in Table No. (2), 289 indicators, 26 components and 6 dimensions were confirmed for the new methods of business income generation under emerging technologies and their quality test. In order to reach the desired model, the concepts extracted from domestic and foreign studies in the field of revenue generation methods of businesses under emerging technologies were integrated with each other in the form of three questions raised, the indicators, components and dimensions of the revenue generation methods of businesses under emerging technologies. And they were depicted in the form of a schematic model in picture (3).

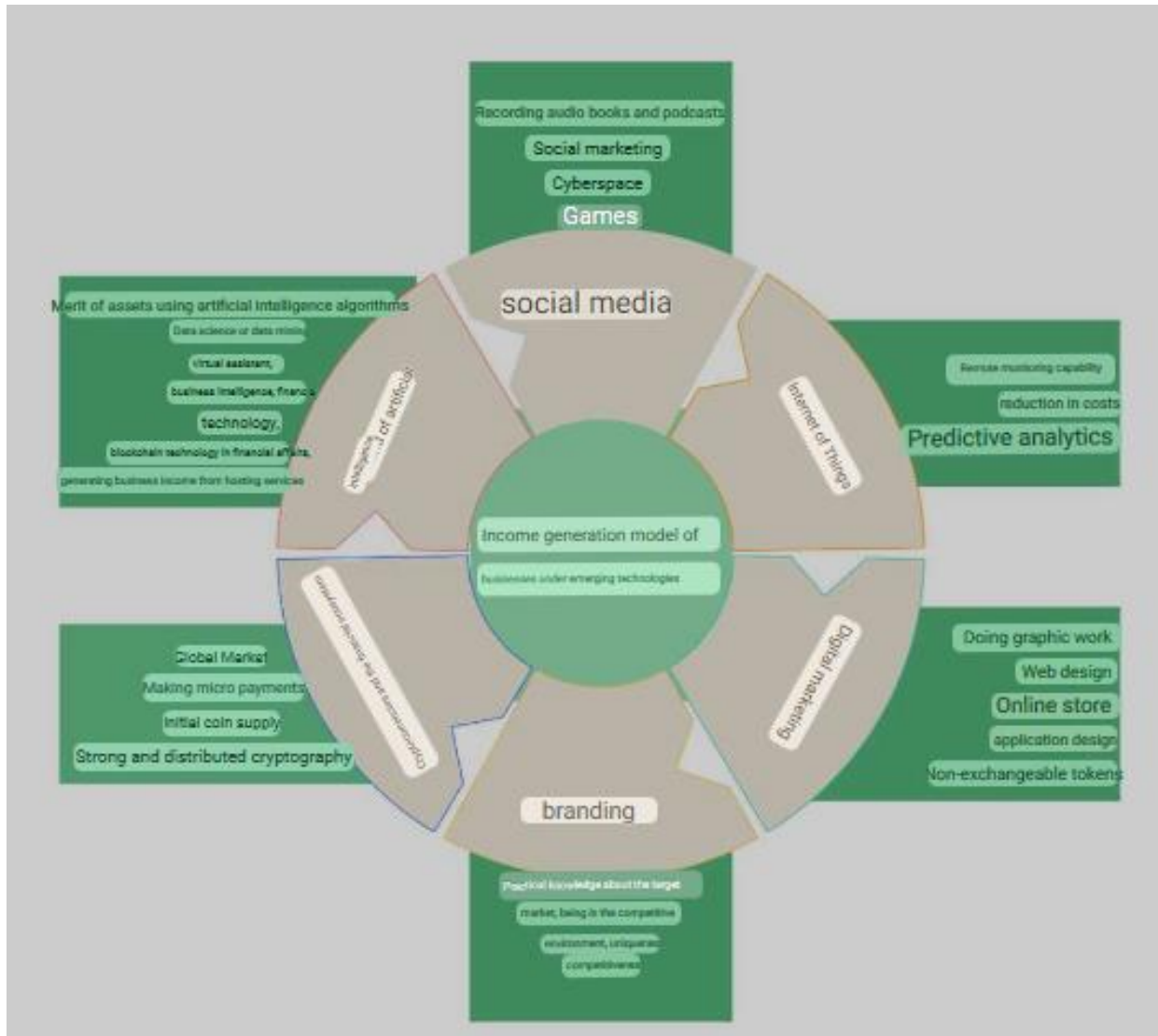


Figure 4: Business revenue generation model under emerging technologies

Discussion

The aim of the current research is to provide business revenue generation methods under emerging technologies. In order to do this, first, articles and documents related to the subject were searched on reliable sites and 30 items were selected and analyzed based on the mentioned criteria. The research findings showed that 289 coders were identified in the first stage of coding. These codes were reduced to 26 core codes in the second stage of coding. Finally, in the third stage of coding, where the income generating methods of businesses under emerging technologies were identified, the number of 26 core codes of the second stage were categorized into six selected codes based on their similarity and affinity. These codes include artificial intelligence, Internet of Things, digital marketing, branding, cryptocurrencies and financial ecosystem and social media. In the continuation of the discussion, the methods identified to improve the revenue generation of businesses under emerging technologies have been explained.

1- Artificial intelligence

One of the new methods of business income generation is the use of emerging artificial intelligence technology. Marketers and businesses can use asset management methods using

artificial intelligence algorithms (Stahl and Eke, 2024), data science or data mining (Akpan et al., 2022), virtual assistant (Zot et al., 2018), business intelligence (Pacheco et al., 2016), financial technology, blockchain technology in finance (Markides and Owen, 2010) and the use of business monetization under hosting services (Firzobarker et al., 2020) promote. To explain this research finding, it can be said that the development of artificial intelligence and e-commerce allows businesses to easily interact with customers, provide a better shopping experience and improve their processes. Artificial intelligence in e-commerce can provide personalized suggestions for customers and improve purchasing processes by analyzing user data. Also, supply chain optimization, inventory management, and customer support are among the benefits that artificial intelligence provides in e-commerce (Choudhary 2019). Artificial intelligence is an advanced technology that has provided unique tools to today's world. Artificial intelligence seeks to develop intelligent and applicable systems based on human mental algorithms. This technology allows computers to use data, algorithms, and mathematical models to make intelligent decisions and perform tasks that seem impossible. Artificial intelligence refers to the ability of systems to improve their performance by analyzing data based on training algorithms. In this process, systems learn from input data and gain the ability to perform specific tasks through repetition and experience. Artificial intelligence develops prediction, classification, and clustering models based on data (Ng, 2018).

2- Internet of things

Another new way of generating revenue for businesses is the Internet of Things. The Internet of Things can generate income by using features such as remote monitoring (Bunker, 2022), cost reduction (Osifsky and Dewald, 2015), predictive market analysis (Gatier et al., 2024). Businesses can help. In line with the confirmation of this research finding, it can be said that the Internet of Things allows businesses to benefit from the data generated by devices, sensors and objects connected to the Internet. By optimizing processes, reducing costs and providing more diverse services to customers, businesses can increase their revenue. With the ever-increasing expansion of the Internet of Things, we have become a complex and vital reality in the business world. This technology not only enables companies to communicate with physical objects, but these connections help to collect endless data, make intelligent decisions, and optimize processes. From factories to urban environments, from smart cars to medical devices, our world is now a complex ecosystem of smart objects. This large amount of information and communication has also brought with it unique challenges and opportunities. In this context, information security has become one of the main challenges of the Internet of Things. With this huge amount of sensor data and sensitive customer information, maintaining privacy and creating strong security systems are things that are continuously developed and improved. In addition, data management and the use of advanced analytics is also one of the important opportunities that businesses can benefit from. Accurate analysis of this data with the help of artificial intelligence and machine learning allows companies to understand customer behavior patterns and make more optimal decisions based on real data.

3- Social media

The third new way of generating revenue for businesses is to use the emerging technology of social media. Social media using methods such as recording audio books and podcasts, social marketing, virtual space, and games can help business prosperity and business improvement. Social media allows businesses to have more interactions with customers using new tools. By using game elements, contests, and social rewards, businesses can encourage customers to engage, actively participate, and increase loyalty. These approaches allow businesses to improve their business by improving user experience and social communication (Liang et al. 2011). Social commerce and games are two of the main identity factors in our modern world. With the advancement of information and communication technology, games have emerged as an effective entertainment and learning tool. Also, social commerce, as a branch of e-commerce

that benefits from social networks and customer interactions, has created new opportunities for businesses. As an entertainment and learning tool, games have been able to make customers feel more interactive with brands. This sense of interaction encourages customers to participate more actively and continuously in business activities. Examples of these effects in interactive marketing and branding from mobile games to social online games can play an important role in building customer loyalty (Deterding et al. 2011). Using social networks, social commerce allows businesses to communicate directly with customers and obtain more information about their customers' preferences and needs. This information helps businesses improve their products and services and receive direct feedback from customers. Social commerce allows businesses to participate more actively in discussions and communications with customers and create stronger, two-way relationships with customers (Stephen, A. T., & Toubia 2010). Innovation in games and social commerce plays a key role in attracting attention and attracting customers. Games that provide new capabilities and challenges to players can act as a tool to attract customers and encourage continued engagement. Also, social commerce can promote the promotion of engagement and social interactions by providing innovative opportunities for customers. Businesses can use social commerce innovation to provide unique experiences to their customers, thereby promoting experiential marketing and immersive services (Montin, 2011).

4- Cryptocurrencies and financial ecosystem

According to the research results, cryptocurrencies and the financial ecosystem are one of the emerging technologies in the field of business. This technology uses tools such as analyzing the results of the global market, making micropayments, initial coin supply, etc. Strong and distributed encryption technologies help businesses. The results of this part of the research are in line with the research of Antonopoulos (2018), Kasi et al. (2018). Cryptocurrencies have emerged as a new tool in the financial ecosystem, allowing businesses to engage in financial transactions digitally and without intermediaries. These digital currencies allow businesses to access global markets and reduce costs associated with currency conversion. Also, the possibility of accepting cryptocurrencies as a means of paying customers and colleagues has created the attraction of more customers and the facilitation of financial transactions. Cryptocurrencies, as digital tools and money based on blockchain technology, have become an important tool in the financial ecosystem in recent decades. These currencies are based on strong and distributed cryptographic technologies that enable secure transactions without the need for intermediaries. In this area, various economic crises, higher possibilities for conducting transactions and even attracting capital from different parts of the world have been introduced. These developments have had many effects in the financial ecosystem and have provided businesses with new possibilities for generating income and productivity (Peter et al., 2023). One of the visible effects of cryptocurrencies in the financial ecosystem is the improvement of international transactions. Cryptocurrencies make it possible to make financial transactions between different people or companies around the world at a lower cost and faster. This allows businesses to easily interact with international markets and customers and benefit from more business opportunities. Also, since cryptocurrencies are under the management of a distributed network, the possibility of fraud or inappropriate changes in transactions is reduced, which helps to increase the trust and reliability of transactions made by businesses. Another interesting application of cryptocurrencies in the financial ecosystem is the field of micropayments. Cryptocurrencies make it possible to make small, everyday transactions without the need for bank account information. This is important for businesses that seek to increase the speed and ease of their daily transactions. In addition, cryptocurrency micropayments can help promote small and local economic activities, allowing businesses to connect with their customers directly and without intermediaries. In addition, cryptocurrencies allow businesses to succeed in their businesses with the rapid and varied value changes of

digital currencies. Some businesses use cryptocurrencies as a hedging tool against unpredictable changes in the value of national or international currencies. This possibility allows them to benefit from the fluctuations in the value of currencies and experience more stability in their international businesses (Antonopoulos, 2018). And finally, cryptocurrencies and the financial ecosystem are evolving and developing, and their effects on businesses will be significant along with new assets and cryptocurrencies, such as the central bank's digital currency. These developments show the importance of careful study and predicting the possible effects of these changes on businesses. For example, certain industry sectors may be identified as attractive investment opportunities in blockchain technology and cryptocurrencies that businesses can exploit to their advantage (Vigna & Casey, 2018).

5- Branding

The results showed that branding of commercial products using emerging technologies is one of the new ways of generating income for businesses. Branding can be done through methods such as practical knowledge about the target market, exposure to competition, uniqueness and competitiveness. The results of this part of the research show alignment with the research of Li et al. (2023), Li, Shi et al. (2023). To explain this research finding, it can be said that in the digital economy, digital technology platforms provide channels for brands to communicate directly with users, and brands and users start to establish a direct relationship. That is, the capabilities, integrity and personal experience of users participate in the brand building process and play a decisive role. Companies interact directly with consumers through social media, e-commerce platforms, apps and other channels to co-create brand equity. In the digital world, brands can expand more rapidly among key consumer groups, as opposed to the traditional path of brand building. The boundaries of the brand have expanded. This not only extends to the business scope, but can further extend to the brand ecosystem in the digital economy. The shape of the brand ecosystem can improve brand stability and stimulate vitality. In addition, the concept of brand value and brand experience, which are more able to attract consumers, have become the main brand competition (Wang, Xie, 2021), so branding can help businesses generate revenue.

6- Digital marketing

Finally, the research results showed that digital marketing is a new way of generating income using emerging technologies. Digital marketing can be done with tools such as graphic work, website design, application design

Online store and irreplaceable tokens help businesses generate income. The results of this part of the research are in line with the research of Rizvanovich et al. (2023) and Ziakis & Vlachopoulou (2023). In line with the confirmation of this research finding, it can be said that the use of digital marketing has significantly changed the way companies communicate with their customers. The digital format, availability of various content and interaction, enables smooth and personalized communication with the customer. Consumers who use digital resources in the purchasing process usually rely on the use of social media (Dwivedi et al., 2021). Digital platforms such as Facebook, Google and Instagram offer different types of personalized campaigns that companies can use. Websites that combine traffic with analytics allow companies to track and configure different options on how to capture and convert leads into new customers. As a result, new concepts such as growth hacking have emerged as a business scaling approach defined as an intermediary between marketing, information and communication technology with a focus on big data, social media and artificial intelligence. Being creative and intelligent in digital marketing can change the outlook of the entire company, regardless of whether it is a start-up company or a large company. Innovation reaches new levels by taking advantage of the open innovation opportunities enabled by social media. Companies that take full advantage of social media have strategies that emphasize the co-evolution of innovation and resources while sharing their vision and providing a framework

for innovation. Target-specific digital content simultaneously opens the door to creativity and experimentation in terms of knowing which factors lead to higher-value interactions enabled by data analytics, and the process of gaining insights from digital channels. What it is (Kaur and Kumar, 2020), can be the key to building successful customer relationships. And it created a long term and boosted the business. In line with the results of the research, it is suggested to the business market to use artificial intelligence, Internet of Things, digital marketing, branding, cryptocurrencies and financial ecosystem and social media to generate income for their businesses.

References

- [1] Akpan, I. J., Udoh, E. A. P., & Adebisi, B. (2022). Small business awareness and adoption of state-of-the-art technologies in emerging and developing markets, and lessons from the COVID-19 pandemic. *Journal of Small Business & Entrepreneurship*, 34(2), 123-140.
- [2] Antonopoulos, A. M. (2018). "Mastering Bitcoin: Unlocking Digital Cryptocurrencies.
- [3] Banker, S.,(2022). Walmart's Massive Investment In A Supply Chain Transformation. [online] Forbes. Available at: [Accessed 5 September 2022].
- [4] Choudhary, V. (2019). "Artificial Intelligence in E-commerce: A Comprehensive Study
- [5] Dana, L. P., Salamzadeh, A., Mortazavi, S., & Hadizadeh, M. (2022). Investigating the impact of international markets and new digital technologies on business innovation in emerging markets. *Sustainability*, 14(2), 983.
- [6] Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011, September). From game design elements to gamefulness: defining " gamification". In *Proceedings of the 15th international academic MindTrek conference: Envisioning future media environments* (pp. 9-15).
- [7] Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., ... & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59, 102168.
- [8] Frizzo-Barker, J., Chow-White, P. A., Adams, P. R., Mentanko, J., Ha, D., & Green, S. (2020). Blockchain as a disruptive technology for business: A systematic review. *International Journal of Information Management*, 51, 102029.
- [9] Gassmann, O., Frankenberger, K. and Csik, M. (2013), "The St. Gallen business model navigator", Working paper, Institute of Technology Management, University of St. Gallen
- [10] Gauttier, S., Simouri, W., & Milliat, A. (2024). When to enter the metaverse: business leaders offer perspectives. *Journal of Business Strategy*, 45(1), 2-9.
- [11] Hwang, J. and Christensen, C.M. (2008), "Disruptive innovation in health care delivery: a framework for business-model innovation", *Health Affairs (Project Hope)*, Vol. 27 No. 5, pp. 1329-1335.
- [12] Janani (2021). Business technology: Definition, types, benefits, and more, Atatus. DevOps and Software Engineering Glossary Terms | Atatus. Available at: <https://www.atatus.com/glossary/business-technology/> (Accessed: March 21, 2023).
- [13] Kaur, K., & Kumar, P. (2020). Social media usage in Indian beauty and wellness industry: a qualitative study. *The TQM Journal*, 33(1), 17-32.
- [14] Li, S., Shi, Y., Wang, L., & Xia, E. (2023). A Bibliometric Analysis of Brand Orientation Strategy in Digital Marketing: Determinants, Research Perspectives and Evolutions. *Sustainability*, 15(2), 1486.
- [15] Li, Y., Song, X., & Zhou, M. (2023). Impacts of brand digitalization on brand market performance: the mediating role of brand competence and brand warmth. *Journal of research in interactive marketing*, 17(3), 398-415.

- [16] Liang, T. P., Ho, Y. T., Li, Y. W., & Turban, E. (2011). What drives social commerce: The role of social support and relationship quality. *International journal of electronic commerce*, 16(2), 69-90.
- [17] Lui, A.K.H., Ngai, E.W.T. and Lo, C.K.Y. (2016), “Disruptive information technology innovations and the cost of equity capital: the moderating effect of CEO incentives and institutional pressures”, *Information and Management*, Vol. 53 No. 3, pp. 345-354.
- [18] Marbun, D. S., Juliandi, A., & Effendi, S. (2020). The effect of social media culture and knowledge transfer on performance. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, 3(3), 2513-2520.
- [19] Markides, C. and Oyon, D. (2010), “What to do against disruptive business models (when and how to play two games at once)”, *MIT Sloan Management Review*, Vol. 51 No. 4, pp. 25-32.
- [20] Meshack, H. and Prusty, S., (2021). Service Quality, Satisfaction and Loyalty of Customers in Hotels: The Case of Northern Tanzania. *African Journal of Hospitality, Tourism and Leisure*, 10(4)(10(4)), pp.1430-1451.
- [21] Muntean, C. I. (2011, October). Raising engagement in e-learning through gamification. In *Proc. 6th international conference on virtual learning ICVL* (Vol. 1, pp. 323-329).
- [22] Ng, A. (2013). Machine Learning and AI via Brain simulations. *Accessed: May, 3, 2018*.
- [23] Osiyevskyy, O. and Dewald, J. (2015), “Explorative versus exploitative business model change: the cognitive antecedents of firm-level responses to disruptive innovation”, *Strategic Entrepreneurship Journal*, Vol. 9 No. 1, pp. 58-78.
- [24] Pacheco, F.B., Klein, A.Z. and Righi, R.R. (2016), “Modelos de negocio Para produtos e serviços baseados em internet das coisas: uma revisão da literatura e oportunidades de pesquisas futuras”, *Revista De Gestão*, Vol. 23 No. 1, pp. 41-51.
- [25] Peter, O., Pradhan, A., & Mbohwa, C. (2023). Industrial internet of things (IIoT): opportunities, challenges, and requirements in manufacturing businesses in emerging economies. *Procedia Computer Science*, 217, 856-865.
- [26] Rizvanović, B., Zutshi, A., Grilo, A., & Nodehi, T. (2023). Linking the potentials of extended digital marketing impact and start-up growth: Developing a macro-dynamic framework of start-up growth drivers supported by digital marketing. *Technological Forecasting and Social Change*, 186, 122128.
- [27] Sainio, L.M. (2004), “A framework for analysing the effects of new, potentially disruptive technology on a business model case – bluetooth”, *International Journal of Electronic Business*, Vol. 2 No. 3, pp. 255-273.
- [28] Sandelowski, M., & Barroso, J. (2007). *Handbook for synthesizing qualitative research*. Springer publishing company.
- [29] Stahl, B. C., & Eke, D. (2024). The ethics of ChatGPT—Exploring the ethical issues of an emerging technology. *International Journal of Information Management*, 74, 102700.
- [30] Stephen, A. T., & Toubia, O. (2010). Deriving value from social commerce networks. *Journal of marketing research*, 47(2), 215-228.
- [31] Teece, D.J. (2010), “Business models, business strategy and innovation”, *Long Range Planning*, Vol. 43 Nos 2/3, pp. 172-194.
- [32] Vigna, P., & Casey, M. J. (2019). *The truth machine: the blockchain and the future of everything*. Picador.
- [33] Wang, T. (2021). The impact of emerging technologies on accounting curriculum and the accounting profession. *Pacific Accounting Review*, 34(4), 526-535.
- [34] Wang, Y.; Xie, C.Y. (2021). New Challenges of Business Management in Digital Economy—
Marketing Management. Available online: <https://cj.sina.com.cn/articles/view/7395349859/1b8cc15630190103qm> (accessed on 12 July 2021).

- [35] Weking, J., Mandalenakis, M., Hein, A., Hermes, S., Böhm, M., & Krcmar, H. (2020). The impact of blockchain technology on business models—a taxonomy and archetypal patterns. *Electronic Markets*, 30, 285-305.
- [36] Zhang, W., Daim, T. and Zhang, Q. (2018), “Understanding the disruptive business model innovation of E-business microcredit: a comparative case study in China”, *Technology Analysis and Strategic Management*, Vol. 30 No. 7, pp. 765-777.
- [37] Ziakis, C., & Vlachopoulou, M. (2023). Artificial intelligence in digital marketing: Insights from a comprehensive review. *Information*, 14(12), 664.
- [38] Zott, C., Amit, R. and Massa, L. (2010), “The business model: theoretical roots, recent developments, and future research”, Working paper, IESE Business School, University of Navarra, Madrid.
- [39] Lincoln, YS. & Guba, EG. *Naturalistic Inquiry*. Newbury Park, CA: Sage Publications. 1985.