



# **Investigating the Role of Blockchain Technology in Ireland; Enhancing Trust and Security in Digital Marketing Transactions**



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*(Dissertation submitted in partial fulfilment of the requirements for the degree of Master of Science in Management Practice at Dublin Business School)*

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**January 2024**

## Glossary

<b>Words</b>	<b>Definition</b>
<b>Blockchain</b>	Decentralized digital ledger for secure, verified transactions in Irish digital marketing.
<b>Quantum Computing</b>	Advanced computing leveraging quantum mechanics, impacting blockchain security in marketing.
<b>Supply Chain</b>	Production and distribution sequence; blockchain ensures transparency and product authenticity in marketing.
<b>Decentralized Finance (DeFi)</b>	Blockchain-based financial system, reshaping traditional finance, influencing digital marketing strategies.
<b>Tokenization</b>	Conversion of asset rights into digital tokens, boosting customer engagement strategies.



## **DECLARATION**

“I declare that this dissertation that I have submitted to Dublin Business School for the award of Master of Science in Management Practice is the result of my own investigations, except where otherwise stated, where it is clearly acknowledged by references. Furthermore, this work has not been submitted for any other degree.”

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## **Acknowledgement**

It provides me greatest satisfaction to make the final submission of the research that focuses on *“Investigating the Role of Blockchain Technology in Ireland; Enhancing Trust and Security in Digital Marketing Transactions”*. I am grateful to my mother Miss Naseem Akhtar and various fellow members behind the successful completion of this research. I would like to express thanks to number of people who have guided me in preparing this research.

I would like to thank my supervisor Mr. Kean Gilbert, since without his guidance my project work would not have been achievable. I would also like to thank my peer group members. I would also like to show my appreciation towards the respondents of the surveys as well as the interviews, whose cooperation has helped me to incorporate data collection effectively and efficiently.

Thank you.



## **Abstract**

This paper investigates how blockchain technology affects Ireland's online advertising. It concentrates on building trust and safety in internet dealings. By closely looking at how digital marketing is done now, where money goes and trust relationships are involved. The study shows what blockchain could do in future. It highlights how this technology can build openness and trust without the need for a central boss. Even though there are problems with making something big, the study says we need to quickly include blockchain in our systems. This will help us use things such as smart contracts faster than ever before. Working together with experts in digital marketing and blockchain is shown. This stresses the importance of being flexible while dealing with changing situations. The study suggests making rules that can be changed to solve problems and keep up with fast-changing tech standards. This will help make a safe digital marketing world.

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## **Chapter 1 – Introduction**

### **1.1 Problem Definition**

Ireland's dynamic terrain offers never-before-seen opportunities for business development and engagement thanks to the quick spread of digital marketing. Organizations are able to leverage the digital arena to increase their reach and establish a connection with a large audience by just clicking and swiping the screen. Subtly, though, issues are lurking behind this surface of digital vibrancy that pose a danger to the confidence, security, and integrity that underpin digital marketing deals in the Emerald Isle (Abderahman Rejeb et al., 2020). A major concern is confidence and safety as the digital world gets more and more integrated with business. The information sharing, personal data sharing, and resource exchange between companies and consumers—the fundamental cornerstone of digital marketing—are perilously close to being compromised. The faith that customers formerly placed in these digital advertising purchases has visibly declined due to the explosive increase in cyber dangers, data breaches, and fraud. An unclear future has tarnished the thing that was previously a convenient and promising medium (Abderahman Rejeb et al., 2020).

Consumer confidence has suffered greatly as a result of data breaches, one of the main problems affecting the digital marketing industry. In the hands of malevolent actors, personal information that was formerly entrusted with the assumption of protection might suddenly be used as a pawn. These breaches have far-reaching effects on businesses as well as consumers since they can cause companies to lose customers and brand loyalty. The problem has also been made worse by ad fraud, a sneaky threat in the field of digital marketing (Abderahman Rejeb et al., 2020). The reliability and legitimacy of these adverts have become questionable at best in a world where digital ads are everywhere. Campaigns that were formerly considered safe have become riskier endeavours with uncertain results due to fraudulent clicks, image fraud, and deception. Both businesses and customers are left wondering uneasily if they are able to have confidence in the process of digital advertisement as a result of the lack of responsibility and openness, which intensifies these worries (Clohessy and Acton, 2019).

The urgent issue of the "trust gap" in Ireland's digital marketing environment is what this study project aims to address. Preserving and revitalizing the deteriorating ties of security and trust is the greatest difficulty. Examining the use of blockchain technology as a possible remedy for these problems is the goal. Regarded as a ray of hope amid the turbulent waters of digital marketing, blockchain is praised for its decentralized management, accuracy of data, responsibility, and visibility (Clohessy and Acton, 2019). In addition to bridging the trust gap, the goal of this research is to strengthen the security and dependability of digital advertising transactions by investigating how blockchain technology may be utilized. The purpose of this study is to usher in a time when digital advertising purchases can be carried out with trust, free from the threat of hacking and fraud, by assessing the current state of online advertising in Ireland, comprehending the advantages and disadvantages of blockchain integration, and offering suggestions for companies. By using blockchain technology as the foundation of trust and safety, the context of digital advertising is being redefined (Clohessy and Acton, 2019).

## **1.2 Research Motivation/Justification**

The dynamic and complexity of corporate contacts and customer involvement pose a number of tough problems in the modern world of digital advertising. A pressing concern that needs prompt response is customers' increasing unwillingness to participate in digital advertising initiatives, especially when it comes to divulging personal information and completing payments via the Internet. This hesitation is a result of a widespread feeling of distrust and uneasiness that has crept into the field of digital advertising, clouding what was once heralded as a ground-breaking strategy for audience participation and company growth (Stallone et al., 2021).

Such concerns are exacerbated in large part by the concentration of digital advertising platforms. These networks are vulnerable to several risks because of their concentrated architecture, such as hacker assaults, tampering with information, and unauthorized entry. These risks also include consumer data, which, if hacked, might have serious implications for the financial and social status of both customers and the companies in charge of protecting this data, in addition to private security. Because of this, people are becoming less and less willing to provide personal information

or complete transactions via the Internet as their confidence in digital advertising techniques declines (Stallone et al., 2021).

The pressing requirement to restore the safety and trustworthiness underpinnings of internet advertising emphasizes how urgent the study is. A potential answer to this complex problem is the blockchain system. Blockchain technology can significantly alter the context of digital advertising thanks to its decentralized design and cryptography foundations. By doing this, it solves the underlying issues that have contributed to the decline in confidence in digital advertising activities (Fazla Rabby et al., 2022).

Blockchain system's capacity to have a beneficial influence on digital advertising is strongly supported by scientific and empirical research. Blockchain reduces the possibility of illegal access and information tampering by transferring advertising platforms. Data integrity is ensured by the permanence of data kept in blockchain, allaying worries regarding the accuracy and security of customer data. Additionally, by rendering payments transparent and traceable to all parties involved, blockchain promotes responsibility as well as openness in digital advertising campaigns (Fazla Rabby et al., 2022).

Therefore, the goal of the study is to use blockchain technology's intrinsic abilities to change the direction that digital advertising is now taking in Ireland. It aims to comprehend how blockchain may handle problems like fraud, safety of data, and openness in order to rebuild confidence and security. This research aims to investigate the practical applications of this technology in digital advertising while offering beneficial insights into its revolutionary possibilities. It is not just academic (Fazla Rabby et al., 2022).

## **1.3 Research Aim, Objectives, Questions**

### **1.3.1 Aim**

- Investigating ways, the use of blockchain may improve confidence and security in Irish digital advertising interactions is the goal of this study.

### 1.3.2 Objectives

- To assess the degree of safety and confidence that currently exists in digital advertising purchases and identify the challenges that both Irish consumers and companies face.
- To investigate how blockchain technology may be used to improve the security and reliability of digital advertising interactions while also solving these problems.
- To evaluate the pros and downsides of integrating blockchain technology into digital advertising interactions for businesses and consumers.
- To offer businesses advice regarding how to increase confidence and safety by using the blockchain system in their plans for digital advertising.

### 1.3.3 Research Questions

- How safe and reliable are the current digital advertising interactions in Ireland, and what challenges do consumers and businesses face?
- In what ways may the blockchain system address these problems and enhance the trustworthiness and safety of digital advertising purchases?
- In terms of how businesses and consumers engage with digital advertising, what are the advantages and disadvantages of blockchain technology?
- How can companies strengthen confidence and safety regarding their digital advertising initiatives by leveraging blockchain technology?

### 1.3.4 Hypothesis

**Blockchain Adoption Hypothesis:** Adding blockchain technology to Ireland's digital marketing makes transactions safer and more trusted. This idea says that using blockchain's tools, like smart contracts and unchangeable records, will make online sales more trustworthy and clearer. This will help create a safer place for digital marketing.

**Training Impact Hypothesis:** The idea says that if we train and help people get better at digital marketing, it'll really help to use blockchain technology successfully. It guesses that a skilled workforce, good at dealing with blockchain complexities can use its advantages better.

**Regulatory Framework Hypothesis:** This idea says that making rules that change and work together is very important for having blockchain in Ireland's online ads work well. It thinks that rules that can change, made with the help of expert industry people, can help create new things while protecting customer rights and right ways of doing business.

### **1.3.5 Rationale**

This report is about how important blockchain technology has become in Ireland's online advertising field. Its goal is to improve trust and security for payments made through the internet. The study wants to learn about today's digital marketing. It aims also find and use the power of blockchain, focusing on how it can make things more open and trustworthy for online buying or selling processes.

### **1.4 Research Scope**

The present study is specifically designed to focus on the accurate use of blockchain-based technology in the field of digital advertising in Ireland. Under this narrow concentration, the research aims to provide a thorough analysis of the problems that now beset a lot of digital advertising, as well as a close look at possible fixes that blockchain-based technology may provide. The study broadens its scope to investigate the profound effects of these remedies on customers and businesses engaged in Irish digital advertising (Shah and B. P. S. Murthi, 2021).

The improvement of trust and safety in digital advertising interactions is the main focus of this study. In this respect, the research aims to clarify the many difficulties that have led to an increasing lack of confidence in Ireland's digital advertising environment. It explores the intricacies of ad fraud, data thefts, and an absence of openness, all of which have contributed to a decline in customer trust and safety in digital advertising transactions. Focusing on these problems, the study attempts to create a thorough knowledge of the issues that need to be fixed (Shah and B. P. S. Murthi, 2021).

In addition, the study broadens its scope to investigate blockchain-based technologies as a potential remedy for trust and safety issues in digital advertising. It conducts a thorough examination of the

fundamental characteristics of blockchain technology, including decentralized management, reliability, openness, and information quality. These features are all crucial for enhancing security and trust in the context of digital advertising. With this investigation, the study aims to highlight the use of blockchain technology's revolutionary promise and its ability to completely change the digital advertising scene in Ireland (Brauer and Eriksson, 2020).

Although this study is thorough in its analysis of the problems and possible fixes in the field of digital advertising, it is strictly limited to this particular field. As a result, the research needs to broaden its scope to include additional blockchain-related uses outside of digital advertising. Its focus on digital advertising activities in Ireland only allows for a detailed and specific study, guaranteeing that the research findings offer accurate conclusions and suggestions that are specific to the demands and issues of this industry (Brauer and Eriksson, 2020).

### **1.5 Methodological Overview**

The current investigation will utilize a thorough combination of methods and methodology to thoroughly examine how the blockchain system might improve confidence and safety in digital advertising interactions in Ireland. An integrated and sophisticated comprehension of the topic is made possible by this method, which integrates both qualitative and quantitative methods (Dehghani et al., 2022).

#### **Quantitative Data Collection**

The major technique of data collecting for the quantitative element of the study will be through the use of surveys. Utilizing surveys is a productive way to collect information from a large and varied group of respondents, which offers valuable perspectives on current patterns, inclinations, and viewpoints. Investigating several aspects of confidence and safety in internet-based interactions will be done through the creation of a well-structured survey instrument. An appropriate population of Irish consumers and businesses engaged in digital advertisements will get this poll (Ayan et al., 2022).

In addition to identifying particular issues and worries raised by those surveyed, the poll will include a variety of inquiries intended to gauge the current state of confidence and safety in digital advertising transactions. The purpose of the survey is also to determine how well-informed and knowledgeable the respondents are in the field of blockchain. Through statistical evaluation, this quantitative data will allow measurable trends and revelations about reliability and confidence in digital advertising to be derived (Ayan et al., 2022).

### **Qualitative Data Collection**

In addition to gathering quantitative data, the study will use qualitative techniques, particularly deep interviews. Participants will have a forum to share their viewpoints, events, and ideas more conversationally and flexibly during these conversations. The study will employ a purposive sample technique to identify important participants, who will include digital advertising specialists, consumers, and blockchain-related specialists (Hahn et al., 2020).

The purpose of the interview format is to go thoroughly into the potential problems associated with digital marketing transactions, as well as how blockchain may help solve them. The sharing of individual observations and opinions by individuals will be promoted, yielding valuable qualitative information that can provide a deeper knowledge of the topic. For additional analysis, the audio recordings of the conversations will be translated (Hahn et al., 2020).

### **Data Analysis**

A systematic analysis will be performed on the quantitative and qualitative data that have been gathered. Tables, as well as graphs, will be used to display the findings of the statistical analysis of quantitative information, which will be used to find patterns and relationships. Thematic evaluation will be applied to qualitative data obtained from interviewees in order to identify recurrent themes, viewpoints, and discoveries (Wasiq et al., 2023).

By utilizing a combination of qualitative and quantitative methodologies, the research will be able to validate and strengthen the validity of the findings by triangulating data from various sources.

It will also make it easier to do a thorough analysis of the development of digital advertising in Ireland, the possibilities of blockchain-based technology, and the benefits and drawbacks of putting it into practice (Wasiq et al., 2023).

## **1.6 Dissertation Outline**

- Chapter 1: Introduction gives a summary of the study's aims, goals, rationale, research issue, and open-ended questions.
- Chapter 2: Literature Review provides a theoretical foundation for the research by conducting a thorough investigation of relevant scholarship.
- Chapter 3: Methodology outlines the study methodology, including data-gathering techniques, analysis steps, and ethical issues.
- Empirical Data Analysis in Chapter Four outlines the research's conclusions based on the collected empirical data.
- Chapter 5: Recommendations provide useful tips and ideas based on the study's findings.
- Chapter 6: Discussion and Conclusion gives a final synopsis of the investigation, addresses the study's ramifications, and summarizes the key findings.

## **Chapter 2 – Literature Review**

### **2.1 Introduction to the Chapter**

The research's main idea—that is, the application of blockchain technology to increase trust and safety in digital marketing transactions in Ireland—is supported by a thorough analysis of the theoretical as well as empirical literature in the second section of this thesis. Providing a solid intellectual and scientific basis to help the need for our scientific investigations is the aim of this section. The subsequent sections of the following section will explore the theoretical foundations of blockchain technology and explain how it applies to the field of digital marketing. Through a focus on aspects like decentralized management, data integrity, accountability, and transparency, the developers will explain how blockchain technology may address security and trust issues that are prevalent in the digital marketing industry. It will further set the scene for this conversation by examining the current problems facing the Irish digital advertising industry, such as a lack of openness, ad fraud, and information breaches, all of which contribute to the distrust gap that exists within the entire ecosystem. The context for blockchain technology's potential solutions to this trust deficit is provided. The construction of a conceptual structure that offers direction on how to use blockchain technology to improve security and trust in the field of digital advertising will also be the chapter's culmination. This literature review is the cornerstone on which the next chapters—which explore real-world applications of blockchain technology to enhance trust and safety in digital advertising transactions—will be constructed. By providing this comprehensive assessment, we highlight the academic and empirical foundation for our work and highlight how blockchain technology is fundamentally changing the face of digital advertising in Ireland.

### **2.2 Review of Theory**

According to Jain et al. (2021), the study is around blockchain technology, which has the potential to fundamentally change the digital marketing landscape's trust and security landscape. It's critical to understand the theoretical foundations of blockchain technology and how its principles might completely transform the digital marketing industry in order to grasp the relevance of this technology fully. The foundation of blockchain's value is its fundamental function as a distributed

database system. Information is checked, handled, and kept in a way that is radically different because of this fragmentation. According to Jain et al. (2021), blockchain is based on a peer-to-peer network, as opposed to traditional centralized systems, which are governed by a single body. No central authority is required in this network as transactions are verified and tracked by a dispersed network of nodes. The fundamental feature of decentralized systems is their significant reduction in the likelihood of deceit, fraud, and illegal access that have tarnished the reputation of digital marketing practices. Since blockchain technology is decentralized, it may be used to achieve a multitude of goals, including reshaping confidence and safety relations in digital marketing by supporting the inviolability and transparency of data.

### **2.2.1 Decentralisation**

According to conventional centralized structures, the decentralised network that underpins blockchain technology signifies a paradigm leap. Sermpinis (2023) provided that an individual oversight organization controls the whole database in traditional systems, which presents the possibility of just one point of collapse. This concentrated power creates serious weaknesses in addition to consolidating control.

Sermpinis (2023) provided that blockchain, on the other hand, runs on a network of peers. Transfers in this system are verified by a dispersed collection of peers rather than by one centralized body. This decentralized management, which greatly reduces the dangers of deception, manipulation, and illicit participation in interactions, is a key component that transforms the environment of digital advertising.

Digital advertising benefits greatly from the decentralised structure of blockchain in numerous important ways:

**Mitigation of Single Points of Failure** – One of the main vulnerabilities found in conventional centralized structures is that a single controlling organisation controls the database. System interruptions and massive outages might result from the failure or penetration of this centralized power. For the dependability and sustainability of activities, one such instance of failure might be

disastrous. Hoffman (2020) studied that the distributed architecture of blockchain technology, however, removes this weakness. Reproduced data is stored on a blockchain and is accessible to many nodes in a network. The system as a whole will keep running without interruption regardless of the event that one node fails or is hacked, thanks to this redundancy. The dependability and stability of digital advertising transactions are greatly improved, and continuous operations are also guaranteed.

**Enhanced Security** – In digital marketing, sensitive consumer data and financial information are constantly being exchanged. Thus, security is crucial. A major factor in lowering the possibility of illegal access or data modification is the decentralized nature of blockchain. If the primary point of authority over a centralized system is compromised, it might have disastrous effects. Hoffman (2020) studied that data is far more resistant to harmful activity on a blockchain that is decentralized, as a single party does not control it. By guaranteeing that data is unchangeable, the cryptographic concepts that form the basis of blockchain technology further enhance security. In order to build trust and confidence amongst all players in the digital advertising ecosystem, this improved security is an essential asset.

**Increased Trust** – Digital marketing activities are now more trustworthy and reliable as a result of the decentralization of control. Consumers can participate in trust, knowing that a single, perhaps self-serving authority does not control information and interactions. Hoffman (2020) studied that companies may rely on the safety and soundness of their records of transactions, and users may trust that their information won't be exploited. A more wholesome and reliable digital advertising environment will eventually result from this newly discovered trust, which embraces all stakeholders, including companies, customers, and regulatory agencies.

### **2.2.2 Data Integrity**

Haseeb Ahmed Khan and Kamal Kumar Kushwah (2021) explored that the unmatched capacity of blockchain systems to guarantee the confidentiality of information is one of its main features. Data stored on the blockchain is almost completely resistant to manipulation or change. This

incredible achievement is made possible by the creative use of encryption algorithms, which encrypt data into discrete blocks. A blockchain's role in partnerships is inextricably linked to one another, forming an endless web of data. Because of its interlocked framework, information entered into the distributed ledger is guaranteed to remain unchangeable. No one, inside or outside, has the power to change or remove this information without the system as a whole agreeing to do so.

The idea of information's permanence is crucial when it comes to digital advertising. The foundation of confidence in digital advertising interactions is information accuracy. For the purpose of making informed choices, both people and businesses depend on reliable and unmodified data. Haseeb Ahmed Khan and Kamal Kumar Kushwah (2021) explored that this is applicable to a wide range of situations, such as focused marketing efforts and buyer behaviour studies. The unique ability of the blockchain to ensure the confidentiality of information allays worries about manipulating data, a problem that has long dogged the field of digital advertising.

The information's immutability has several advantages. First of all, it fosters trust in the integrity and correctness of the data. Customers' faith in digital advertising purchases is strengthened if they get assurances that the knowledge they view and the personal information that they supply will remain the same. Haseeb Ahmed Khan and Kamal Kumar Kushwah (2021) explored that successful and lasting relationships with customers are built on this confidence. Secondly, openness is facilitated by blockchain's confidentiality characteristic. Customers, businesses, and authorities alike may depend on the accuracy and integrity of the data stored on the blockchain. In addition to fostering greater confidence, this openness makes digital advertising engagements more dependable, foreseeable, and responsible.

### **2.2.3 Accountability and Transparency**

According to Rathore (2019), blockchain's fundamental feature that sets it apart from traditional systems is its openness. Each member of a blockchain network has access to a single record, making all transactions accessible to all parties. Since anybody is able to verify the legitimacy of

digital advertising transactions, openness acts as a foundational element for responsibility and trust. Fraudulent actions are greatly reduced by this openness, which eliminates any possibility of covert acts or concealed motives.

Its distributed structure is the basis for blockchain's transparency. Every member in the network, known as the blockchain, has an exact copy of the whole record, and every update or modification to the blockchain is immediately shared with the entire network for verification. All parties can examine and verify transactions using this technique. Rathore (2019) provided that in the realm of digital advertising, this openness turns into an effective instrument for boosting trust and safety. This unmatched insight into the process of digital advertising comes from being able to examine every stage of an order, from the first interaction to the last conversion. Customers and businesses can follow a transaction's path and make sure the conditions are followed. Verifying the integrity of information is made considerably simpler by this openness, which also applies to the verification of data, adverts, and other elements of digital marketing.

One of the biggest effects of blockchain transparency is a decrease in fraudulent activity. Rathore (2019) provided that there is far less room for fraud because every action is tracked on the blockchain and available to all parties. More readily detected and stopped are illicit activities like fraudulent clicks and data tampering. This enhances the safety and trustworthiness of the world of digital advertising while safeguarding the interests of businesses and consumers alike.

### **2.3 Context of Study**

It is important to situate the implementation of blockchain-based technologies inside the present Irish internet advertising scene in order to have a thorough knowledge of its theoretical underpinnings. It calls for a careful examination of the current state of affairs, clarifying the issues and problems that blockchain technology aims to address. Boukis (2020) explored that a number of challenges, such as a lack of openness, ad fraud, data theft, and safety difficulties, characterize the Irish digital advertising landscape. These difficulties add up to a significant "trust gap" in the field of digital advertising, where customers are reluctant to provide private data and conduct

business online. Blockchain technology seems to be a possible rescuer in this environment of doubt and ambiguity. Blockchain presents the possibility of reestablishing confidence, improving safety, and reviving Ireland's digital advertising scene by tackling these issues.

### **2.3.1 Challenges in Digital Marketing**

According to Dhanabalan Thangam et al. (2021), the state of digital advertising in Ireland is plagued by several issues that cloud the vital components of trust and safety. Such challenges are crucial issues in the sector as they have a significant impact on the dependability and efficiency of digital advertising operations.

**Data Breaches** – In the Irish internet advertising industry, one of the biggest worries is the ongoing risk of data breaches. These security lapses not only jeopardize the accuracy of client data but also poison consumer confidence in digital advertising transactions. Dhanabalan Thangam et al. (2021) identified that the security of information and privacy have become of utmost importance in an age where information is being used more and more to power tailored marketing initiatives. Besides security concerns, data breaches have far-reaching consequences because they erode the confidence that is the cornerstone of Internet advertising.

**Lack of Data Security** – Insufficient data safety is a related problem that makes the difficulties in digital advertising worse. Because of the possibility of data modification brought about by this security lapse, the integrity of the data utilized in decision-making procedures is called into question. Dhanabalan Thangam et al. (2021) provided that the capacity to trust the integrity and dependability of data is critical in a setting where it is essential for developing successful advertising approaches and comprehending customer behaviour. Customers and businesses may begin to doubt the accuracy of the information they come across or depend on whether there are any apparent weaknesses in this procedure.

**Ad Fraud** – Garg et al. (2020) explored that the ubiquitous problem of ad fraud plagues the Internet advertising scene and jeopardizes the honesty of advertising campaigns. Digital marketing efforts are vulnerable to scams due to the prevalence of various kinds of ad fraud, such as click

theft and impact fraud. This seriously damages confidence in the digital marketing ecosystem in addition to being a waste of precious resources. The efficacy and profit invested in promotional efforts are jeopardized when criminal acts penetrate them, demoralizing customers as well as companies.

**Absence of Transparency and Accountability** – Teck Ming Tan and Saila Saraniemi (2022) studied that a lack of transparency and accountability exacerbates the problems in digital advertising. It can be difficult to track the movement of goods and the legitimacy of operations in online advertisements since they frequently include numerous parties, complicated logistics, and multiple levels of intricacy. Because parties may doubt the precision and impartiality of their conversations, this systemic transparency can breed distrust. When there is a lack of transparency and accountability in digital advertising activities, individuals' sense of reliability is damaged, which breeds doubt and confusion.

### **2.3.2 The Trust Gap**

According to Mukherjee et al. (2021), a notable "trust gap" exists in Ireland's digital marketing industry, which is highlighted by this contextual background. A rising lack of confidence in the exchange of private data, as well as digital activities between consumers, corporations, and other partners, is a defining feature of this trust gap. This suspicion stems from the various issues that are present throughout the field of digital advertising and are connected to data breaches, privacy concerns, and exploitation. Because of their worries about possible abuse or the possibility of data loss and scamming, customers are thus growing more reluctant to divulge private data.

The decline in customer trust severely impacts businesses that are part of the Internet advertising ecosystem. There may be a cascading effect that causes a decrease in consumer base size and confidence in brands. Mukherjee et al. (2021) stated that consumers who get disenchanted with the field of digital advertising might be less open to marketing messages, less willing to interact with firms, and more likely to look for different products or services. For the Irish digital marketing industry to remain viable and grow more productive, it must confront this growing distrust gap.

Ferreira and Moro (2021) explored that blockchain technology presents itself as a viable means of restoring confidence in this atmosphere of mistrust and uncertainty. Digital advertising interactions now follow an innovative model because of the intrinsic qualities of blockchain, which include decentralization, responsibility, openness, and data integrity. Blockchain technology can improve security, rebuild trust, and revitalize the Irish digital advertising industry by addressing the issues and worries that are prevalent in the industry.

Later portions of this study will go into more detail about how blockchain may be used in practice to close the trust divide and enhance the safety and trustworthiness of internet advertising interactions in Ireland. Ferreira and Moro (2021) explored that through an examination of practical blockchain implementations, this research aims to provide an understanding of the groundbreaking possibilities of blockchain technology in restoring trust and confidence within the digital advertising environment.

## **2.4 Development of Theoretical Framework**

The conceptual framework of this work forms the intellectual foundation of the entire investigation. Jeremy Iron Wiratama and Lamhot Henry Pasaribu (2022) provided that the article explores the potential uses of blockchain-based technology in the field of digital marketing, starting from the core principles of the platform. Its main objective is to provide a systematic and integrated understanding of how blockchain technology may effectively address the crucial issues of trust and safety in the context of Internet advertising. In order to solve the common problems in the area, this framework charts a path for investigating the real-world use of blockchain technology. In order to comprehend how blockchain can be used as a powerful instrument to restore trust and strengthen security in the complex world of digital advertising, the framework looks at the fundamentals of blockchain, including decentralization, data integrity, accountability, and transparency.

### **2.4.1 Blockchain in Digital Marketing**

According to Varma et al. (2021), the examination of how blockchain technology blends in with the complex network of the world of digital advertising is the basis of the conceptual structure. It imagines a future in which blockchain plays a central role, revolutionizing the way consumer data is managed, transactions are verified, and advertising campaigns are made transparent. The previous element's goal is to lay the theoretical foundation for the real-world use of blockchain technology in digital advertising by providing an exhaustive implementation roadmap.

According to Varma et al. (2021), the conceptual framework of blockchain technology is a revolutionary and competitive power with the power to alter the field of digital marketing profoundly. With the promise of a transparent and safe environment for gathering, keeping, and using this important data, it offers the tools to reevaluate how consumer data is maintained. Blockchain's promise in digital advertising goes past data administration; it may transform the validation of transactions and provide answers to significant issues that have beset the industry.

**Blockchain's Role in Data Security** – Princhita Nabila Maram Pahlawan (2022) explored that the architecture recognizes the inherent potential of blockchain technology to protect consumer information. Blockchain technology guarantees that consumer data is safe and impervious to unwanted access by encrypting and immuting the data. This crucial component not only increases confidence but also ensures that the data used in digital marketing initiatives is accurate and reliable. Blockchain seems like a ray of hope for preserving the integrity of client data at a time when data privacy is crucial.

**Transaction Validation and Mitigation of Ad Fraud** – Additionally, the theoretical framework emphasizes how blockchain plays a role in transaction validation—a field in which the digital marketing industry continues to experience difficulties. Madhani (2022) studied that by providing a strong method for transaction validation and verification, blockchain helps to reduce problems like data tampering and ad fraud. Blockchain technology transforms the digital advertising transaction environment by providing accountability, transparency, and a decentralized validation

mechanism. It gives participants assurance about the legitimacy of their interactions and guarantees that advertising campaigns are free from dishonest behaviour.

#### **2.4.2 Trust and Security Enhancement**

Fazla Rabby et al. (2022) provided that the primary objective of this conceptual structure is to enhance confidence and safety in the field of digital advertising. The use of blockchain-based technology as a tool to close the lack of trust created by the spectre of data thefts, information safety flaws, and ad fraud is essential and crucial. In this context, blockchain becomes an advocate of increased security and trust. It accomplishes these objectives by guaranteeing the confidentiality of information, reducing the opportunity for fraud, and increasing the openness of Internet advertising exchanges.

**Assurance of Data Integrity** – The clear guarantee of the confidentiality of information is at the core of the framework's approach to enhancing trust and security. The inherent permanence of blockchain technology combined with data encryption makes it the perfect choice for ensuring knowledge is reliable and accurate. Its inviolability applies to financial records, promotional materials, and consumer data as well, giving all of these aspects the feeling of security and confidence that is essential to the ecology of digital advertising. Being able to attest to the accuracy of client data is necessary for an environment where customized marketing strategies rely heavily on it. According to Ashish Kumbhare et al. (2023), blockchain technology's cryptographic seals guarantee that once information is documented, it cannot be altered or changed without the system's approval. This unquestionable assurance of data integrity results in a digital advertising ecosystem where data can be trusted without reservation. Trust is fostered at every stage of interaction when consumers and businesses alike can be certain that the information they rely on is precise, trustworthy, and uncorrupted.

**Mitigation of Fraudulent Activities** – The framework emphasizes how blockchain plays a critical role in drastically limiting the opportunities for fraud, which have persistently hampered the digital marketing industry. Blockchain's accountability and transparency qualities serve as a strong

disincentive to practices like click fraud and data tampering. Blockchain makes any illicit activity obvious and, therefore, more effectively prevents it by providing an uninterrupted and publicly available record of transactions. Al-Ahwal et al. (2022) explored that in addition to serving the needs of customers, this safeguard helps foster a more reliable and secure Internet advertising ecosystem that benefits all parties involved. One of the many advantages of blockchain technology is its ability to reduce fraudulent activity. Customers' needs and security are protected, in addition to companies' expenditures and assets. The openness of blockchain dismantles hidden motives and dishonest practices, strengthening the ecosystem's credibility in digital marketing. This shift sends a clear message to everyone involved in the industry: digital advertising contacts are based on safe frameworks that uphold integrity, dependability, and confidence in every deal.

### **2.4.3 Application in Ireland**

The theoretical framework is by no means a one-size-fits-all paradigm, even if it is based on fundamental ideas of blockchain technology. It is, in fact, quite sensitive to the unique quirks and peculiarities of the Irish digital marketing landscape. One of the main features of the framework is its acknowledgement of Ireland's unique potential and problems in the field of digital marketing. This acute contextual awareness is included in the framework, which guarantees that the study is not only theoretical but also highly applicable, context-specific, and very relevant to the Irish market. This contextual awareness constitutes an essential component of the framework in a world where the context of digital advertising might vary dramatically from one place to another. Menon and Mady (2022) studied that it admits that there may be differences in the difficulties experienced by digital marketers in Ireland and other countries. Furthermore, the prospects that the Irish market offers are distinct and need a customized strategy in order to be used successfully. The theoretical paradigm acknowledges the inadequacy and potential ineffectiveness of a one-size-fits-all approach for blockchain incorporation in digital marketing.

The contextual knowledge of the framework includes an understanding of the unique difficulties Ireland poses in the context of digital marketing. These concerns include the requirement to maintain a careful equilibrium between innovation and compliance, legal nuances, and data

security and privacy issues. Kazi Turin Rahman (2021) provided that the significance of an integrated strategy is further highlighted by Ireland's status as a centre for digital innovation and technology businesses. The conceptual structure, on its whole, offers an organized and thorough method of comprehending how blockchain technology may be successfully implemented in the unique context of Irish digital marketing. According to this perspective, blockchain technology has the power to revolutionize the industry, restore confidence, and improve security—all while meeting the unique needs of the Irish market. Kazi Turin Rahman (2021) provided that this context-aware methodology makes sure that the study is not limited to the theoretical domain but rather expands into real-world applications that have the potential to influence the state of online advertising in Ireland.

According to Liu (2022), the structure will operate as a compass for the study, directing it toward real-world applications of blockchain technology in the setting of Irish digital marketing as it advances. This study aims to provide practical and relevant answers to the problems and possibilities that the Irish internet advertising industry faces rather than viewing blockchain technology as a theoretical idea. By keeping the study firmly rooted in the Irish market, its structure guarantees that its findings are not only intellectually important but also highly useful to business and practice.

## **2.5 Summary of the Chapter**

Offering a thorough analysis of the philosophical underpinnings of blockchain technology and its applicability to the field of online advertising, this chapter has been a crucial pillar of the dissertation. Along with carefully analyzing the many issues that the Irish digital marketing industry is now facing, it has also laid the groundwork for a more in-depth investigation of possible solutions. A strong theoretical foundation guides the study's practical uses and discoveries, offering a systematic framework for the ensuing chapters. Its transformational potential—especially in the context of digital marketing—has been made clear by the analysis of the theoretical underpinnings of blockchain. Theoretical underpinnings have highlighted blockchain's



potential to improve security and trust in the digital marketing space by providing an overview of its fundamental ideas, including decentralization, data integrity, accountability, and transparency.

From data breaches to a lack of openness, the issues facing the Irish digital marketing industry have all been carefully examined. Emphasizing the critical role blockchain technology may play in addressing these challenges, this chapter has effectively provided the framework for future research. The review's observations could influence future research directions by providing real-world context for blockchain applications and their effects on trust and security in digital marketing transactions, particularly in the context of Ireland. To summarize, this chapter has confirmed the critical relevance of blockchain technology as a field of study and its role as a major factor in the transformation of Ireland's digital marketing environment.

## **Chapter 3: Methodology**

### **3.1 Introduction to the Chapter**

The research methodology used in this chapter to explore how blockchain can improve confidence and security in Irish digital advertising is introduced. Using both qualitative and quantitative approaches, the chapter explains the reasons behind the use of survey and in-depth interview methods to fully investigate the views of consumers and businesses. Ethical issues are explained, stressing the importance of protecting participant privacy and safety. This chapter seeks transparency in the collection and analysis of the data so that the study can serve as a foundation for a rigorous empirical investigation that may shed producer at an enhanced remuneration package. From the digital advertising interactions in Ireland (Dawadi et al., 2021).

### **3.2 Research Philosophy**

The study adopts a pragmatic philosophy of research, somewhere between positivism and interpretivism. The pragmatic nature of the study coincides well with the principles of pragmatism, another core principle of digital advertising in Ireland. Positivism adds objectivity to surveys, allowing the quantification of confidence and security in online interactions. The positivist view takes an external point of view, looking for objective verification to draw correct conclusions. On the other hand, interpretivism complements this by recognizing the subjective nature of human experience, which is after all an essential dimension in understanding the depth and subtlety of consumers 'and industry insiders' views (Alharahsheh and Pius, 2020). Such qualitative deep interviews have an interpretivist flavour. They let people's voices be heard and provide for a greater diversity of views. Pragmatic philosophy is selected for its practical focus on things that work. Through the combination of positivist and interpretivist elements, the research philosophy offers a conceptual foundation that provides a well-rounded view of the big picture of the digital advertising market. But this approach also points out that the assessment of today's state of digital advertising must incorporate qualitative analysis at the same time as we have quantitative measurements. For this understanding of the trust and safety issues, both sets of analysis are essential. The research can then make practical proposals for businesses because the reason this

kind of research has been done is that specific practical targets are what people want to know. So pragmatism is very important in terms of how to present the research and how to make connections. For Ireland, blockchain development belongs to this type (Alharahsheh and Pius, 2020).

### **3.3 Research Strategy**

The research strategy used in this research follows a sequential exploratory approach which puts the stress on responsiveness and dynamism as an effective way to carefully examine the complex questions related to digital advertising and the transformative impact of blockchain technology in Ireland. The design includes an initial quantitative phase using survey methods to gather an overall understanding of the levels of safety and confidence in online advertising interactions between Irish consumers and businesses. The second qualitative stage utilizes in-depth interviews with digital advertising experts, consumers, and blockchain experts, to dig further into issues discovered in the quantitative analysis (Åkerblad, 2021). Such a step-by-step method makes it easier to incorporate similar results from other sources, whether quantitative or qualitative, in an analysis and adds richness to the analysis. However, the pragmatism of the strategy is also in harmony with the research philosophy that connects theory to practice. But this pragmatic orientation has also helped to keep the study firmly centred on the realities of the digital advertising marketplace in Ireland. Through the use of a sequential exploratory design and a pragmatic attitude, the research strategy aims to present a comprehensive view of these problems. In the end, it seeks to provide some valuable lessons on how blockchain can build confidence and security in Irish digital advertising, and lend some valuable contributions to both academic discourse and industry practices (Harrison, 2020).

### **3.4 Research Approach**

Its methodology is based on a mixed-methods approach that examines the relationship between digital advertising, consumer confidence and blockchain technology in Ireland. The quantitative aspect is based on surveys conducted with a representative cross-section of Irish digital advertising consumers and companies. This method hopes to measure, using direct survey tools, the current strength of confidence and security in digital advertising exchanges through quantitative methods;

it also aims to make statistical estimates about common problems. The qualitative arm of such research involves in-depth interviews with digital advertising professionals, the target consumer and blockchain experts. The attempt to dig out the rich qualitative content of experience, observation and understanding is this stage's effort (Proudfoot, 2023). Contributors are free to voice their opinions on issues such as data leaks, ad fraud and whether blockchain can resolve them. This mixed-methods approach is in line with the pragmatic outlook of this research and will offer researchers a more complete picture of these pressing questions. Triangulation would therefore serve to increase the reliability and validity of research results based on quantitative as well as qualitative data. The wide-angle approach lends itself well to a deeper understanding of the whole ecology of digital advertising in Ireland, and issuing recommendations on exactly how blockchain can give people more confidence in their security (Proudfoot, 2023).

### **3.5 Research Method**

The approach chosen to carry out the research also provides for a mixed-methods design, employing both quantitative and qualitative techniques to exhaustively search out all of digital advertising's implications here. In addition, it looks into how blockchain technology might change there. It is a tool for systematic study in quantitative terms, and also the primary platform through which users can obtain information about all Irish consumers or any enterprise involved online that engages in digital advertising (Van, 2020). But this model makes it possible to measure current confidence and security in interaction with digital advertising so that people can look the situation straight in its face. To complement the quantitative side, there is also qualitative data obtained by one-on-one interviews with important members of various industries like media and digital advertising professionals as well as blockchain figures (Van, 2020). In these interviews, participants are allowed to expand on their experiences and views of the nuances that have been identified in the quantitative stage. In the complex environment of digital advertising, there are all sorts of moving parts, and one needs to use a qualitative method to divulge obscure details, seek out various perspectives, and compare possible strategies. The use of both quantitative and qualitative approaches helps to triangulate evidence, adding value to the study at large. In addition,

this mixed-methods approach fits well with the pragmatic ethic of research that we advocate. Furthermore, it gives good flexibility and balance to the protection afforded by competition law against competing behaviour to meet all aspects of consumers 'and companies' various concerns in Irish digital advertising circles (Van, 2020).

### **3.6 Data Collection & Analysis**

The data-gathering strategy of this study is aimed at creating a pluralistic map that tries to maximize the space and uses both qualitative as well as quantitative methodologies. The survey will be sent to a statistical sample of Irish consumers and business people engaged in digital advertising for quantitative information. The surveys are intended to collect quantitative measurement data on people's confidence in digital advertising behavior. In addition, assumptions will be made about respondents 'level of familiarity with blockchain technology. But this can help us understand a little what people involved in digital advertising jobs actually know about it (Abu, 2021). The qualitative data includes detailed interviews with influential people, such as representatives of digital advertising companies and consumers along with blockchain experts. Through these interviews, we have allowed subjects to speak candidly about their experiences of this difficult period the views they hold on digital advertising problems and what may be done in light of blockchain technology. These surveys provide quantitative data that can be put under the microscope of statistical techniques, revealing structures and trends as well as correlations (Abu, 2021). At the same time, quantitative data from interviews will be broken down thematically to reveal detailed information and viewpoints. Synthesizing these methods makes it possible to triangulate results, thus providing a more rigorous assessment of the research questions. The whole point of the mixed-methods approach is to offer a more holistic understanding and look at how blockchain technology can solve problems that traditional advertising encounters. It is hoped that in this strict process of collecting and analyzing information, the study will provide evidence-based theories to offer practical suggestions for increasing consumers 'dependability on digital advertising interactions with brands in Ireland (Ahmad et al., 2019).

### **3.7 Time Horizon**

This research project will be planned to fit the time needed for such intricate tasks as collecting, analyzing and interpreting data. It is expected that the study will take about 12 months, giving researchers enough time to answer their questions systematically and comprehensively. The first step is to do a comprehensive survey of books, theories and measures made in the past on this question. That should take several months alone. After that comes the quantitative phase, a two to four-month survey period in which all possible segments of the target population will be covered (Francesca Di Pietro et al., 2021). It is estimated that the qualitative data collection process, calculated on a per-day basis while taking into account time spent selecting informants, planning interviews and collecting field materials will require four to five months at least. The next step is to analyze the data, which will require three or four more months of quantitative and qualitative research. It is only with a timeline laid out in such detail that the results can be scrutinized, revisions made and conclusions drawn. The set length of time gives the work a systematic character, which will help with a detailed exploration of blockchain technology's contribution to confidence and security in Irish digital advertising (Francesca Di Pietro et al., 2021).

### **3.8 Ethical Consideration**

In terms of research ethics, this is especially an issue where issues like safeguarding data security, consumer trust and new technologies are concerned. Ethical research guarantees the rights and welfare of participants as well. Informed consent should be obtained from all subjects, including a detailed description of the purpose and methods used in the study as well as an understanding that injury may occur (Rejeb et al., 2020). Confidentiality is strictly observed, and participants' data are anonymous. The voluntary nature of participation is further underlined by the fact that participants have a right to withdraw at any time without penalty. The study promises not to cause participants any pain or inconvenience. There is sensitivity to the negative emotional repercussions of discussing such topics, particularly ones involving data breaches and fraud. This research also respects transparency, allowing those participating to fully understand the purpose of their participation. Furthermore, ethical congruence will be determined through application for review

by appropriate institutional ethics boards. This research therefore places ethical considerations above all else, endeavoring to carry out a responsible and respectful form of inquiry (Rejeb et al., 2020).

### **3.9 Search Strategy**

This search strategy guarantees a broad-based and thorough investigation of the literature connected to digital advertising, blockchain technology, or both areas in combination. Electronic databases including PubMed, IEEE Xplore and Google Scholar will be searched extensively. This mixed research will use feedback trending words (such as digital advertising, blockchain technology and trust in online transactions) or the data shown by controlled vocabulary terms (Routray, 2020). Other operators will include several Boolean functions (such as and, or), to limit the scope of search requests. Peer-reviewed scholarly journals, conference proceedings and trusted books guarantee that the latest information is brought back. Moreover, snowballing methods will be employed by examining the reference lists of collected articles for additional tracts. The strategy of searching is intended to be an evolving process, adjusted according to new information about the research subject. It's simply a methodical review of literature that goes to great lengths in collecting different kinds of perspectives, theories and studies around the problem being studied to designate from them references for theoretical structure and places it can be located within (Routray, 2020).

### **3.10 Research Limitations**

This study attempts to be comprehensive, but it is still limited by certain flaws in the structure of the research. Secondly, results cannot always be generalized because of the special emphasis put on the digital advertising market in Ireland. This peculiarity also means that the general validity of findings in other areas or industries is unknown. Second, the use of self-reported data may lead to response bias and subjectivity. The information gathered by participants may be subject to social desirability and personal bias, thus affecting the quality of the data (Adiyanto and Febrianto, 2020). Another obstacle in research is keeping up with the rapid changes that affect information technology. The blockchain and digital advertising landscapes are likely to evolve, however, which

could have an impact on the applicability of results. This research focuses mainly on the effects blockchain has on confidence and security. Other factors outside these resources, such as economic or legal cultural aspects that could be affecting digital advertising are not looked at in any detail here. It is important to understand such limitations, to interpret the results appropriately and to identify the limits of this particular study. These various constraints point toward future directions for research into blockchain-based digital advertising activities (Adiyanto and Febrianto, 2020).

### **3.11 Summary of the Chapter**

The research approach has been proposed, including a pragmatic philosophy of mixed-methods science. This type of tandem exploratory design combines deductive and inductive reasoning, to examine how blockchain will impact Irish digital advertising confidence. However, the time horizon sets up a systematic schedule of data collection and analysis. Participant well-being, ensuring the confidentiality of participants' identities and providing maximum transparency are all important ethical considerations. This search strategy guarantees that the reviewer covers all pertinent literature, while also being clear about any possible limits of their research design. This chapter is a useful foundation for deeper empirical studies, to develop a richer perspective on the role of blockchain in transforming digital advertising relations.

## Chapter 4: Data Analysis and Results

### 4.1 Introduction of the Chapter

In this important chapter, all the gathered data undergoes comprehensive testing, revealing the key to understanding the complex relationship between blockchain technology, confidence, and security in the world of Irish digital advertising. Examining quantitative survey results and qualitative interview findings by using a mixed-methods approach. The aim is to answer questions about patterns, correlations, and subtleties, showing the benefits of blockchain in responses to dilemmas such as data leaks and ad fraud. Subsequent portions dig into the statistical outcome of the surveys and the thematic depth of the interviews, allowing for a more subtle evaluation of the effect and potential of blockchain in spawning trust and safety in the Irish advertising ecosystem.

### 4.2 Survey Data Analysis

#### 4.2.1 Statistics

Statistics

		What is your Age?	What's your gender?	What's your academic background?	What's your Current Profession?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		2.13	1.21	2.73	2.38
Median		2.00	1.00	3.00	2.00
Mode		2	1	3	2
Std. Deviation		.840	.407	.594	1.028
Variance		.706	.166	.353	1.056
Skewness		1.118	1.463	-1.222	.472

Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		1.929	.143	1.675	-.724
Std. Error of Kurtosis		.465	.465	.465	.465
Range		4	1	3	4
Minimum		1	1	1	1
Maximum		5	2	4	5
Sum		226	128	289	252
Percentiles	25	2.00	1.00	2.00	2.00
	50	2.00	1.00	3.00	2.00
	75	2.00	1.00	3.00	3.00

This statistical analysis provides important information about the participants' demographic characteristics. A mean of 2.13, median of 2.00 and mode of 2 give a reasonably centred distribution. A slightly positive skewness of 1.118 suggests a tail towards older ages. The majority being male (mean = 1.21) with a skewness of 1.463 points to a shift to the right in the gender distribution. Academic backgrounds are clustered around category 3 (mean = 2.73), with a left skewness (- 1.222) towards higher qualifications. The current professions have a mean of 2.38 and are bunched around category 2; they have a positive skewness (0.472) of a rightward distribution. This information can be used as a backdrop for understanding the changes wrought by blockchain tech in confidence and security in digital advertising in Ireland.

		Do you know what blockchain technology is?	In your own words, how would you sum up blockchain technology?	Are you aware of how blockchain might improve the reliability of digital marketing transactions?	Can blockchain technology increase the security of transactions involving digital marketing?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		1.20	1.57	1.68	1.35
Median		1.00	1.00	2.00	1.00
Mode		1	1	1	1
Std. Deviation		.400	.781	.737	.553
Variance		.160	.610	.544	.306
Skewness		1.537	.938	.592	1.316
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		.368	-.708	-.939	.801
Std. Error of Kurtosis		.465	.465	.465	.465
Range		1	2	2	2
Minimum		1	1	1	1
Maximum		2	3	3	3
Sum		127	166	178	143
Percentiles	25	1.00	1.00	1.00	1.00
	50	1.00	1.00	2.00	1.00

75	1.00	2.00	2.00	2.00
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An analysis of participant’s awareness of blockchain technology and the effects it may have on digital marketing transactions shows some interesting features. Most people (mean = 1.2) know something about blockchain, where the distribution shows a skew in the affirmative direction. Participants tend to offer succinct definitions (mean = 1.57) and generally acknowledge that blockchain can help to make digital marketing more reliable (mean = 1.68). This data indicates that the role of blockchain in increasing transaction security is perceived in a positive light (mean = 1.35). While kurtosis and skewness values indicate somewhat departure from a perfectly normal distribution, this just goes to show how careful an interpretation is needed. Altogether, the conclusions show that people have a basic knowledge of blockchain and an encouraging attitude about its applications of in promoting stability and security in digital marketing transactions.

**Statistics**

		What advantages may blockchain technology provide for digital marketing transactions?	How likely are you to believe a blockchain-powered digital marketing transaction?	Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?	What doubts do you have regarding blockchain technology being used in digital marketing transactions?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		2.44	1.75	1.57	1.79
Median		2.00	1.50	1.00	1.00
Mode		2	1	1	1

Std. Deviation		1.367	.884	.851	1.161
Variance		1.868	.782	.724	1.347
Skewness		.862	1.032	1.633	1.459
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		-.524	.662	2.109	1.272
Std. Error of Kurtosis		.465	.465	.465	.465
Range		4	4	3	4
Minimum		1	1	1	1
Maximum		5	5	4	5
Sum		259	185	166	190
Percentiles	25	1.00	1.00	1.00	1.00
	50	2.00	1.50	1.00	1.00
	75	3.00	2.00	2.00	2.00

Data analysis of participants 'understanding of the advantages of blockchain technology in digital marketing transactions, trust in blockchain-escorted transactions and willingness to participate, as well as their concerns, produced some interesting patterns. Several benefits are acknowledged by respondents (mean = 2.44), this gives a positive impression. The distribution is somewhat skewed, reflecting a popular optimistic mood. A moderate belief in blockchain-based transactions (mean = 1.75) among participants indicates a cautious yet favourable disposition. The numbers also point to a beneficial effect in terms of the willingness to participate in digital marketing transactions (mean = 1.57). So in sum, all seems well. Some people are apprehensive (mean = 1.79), but on

balance, the trend looks favourable toward the use of blockchain for digital marketing, with a healthy combination of optimism and cautious scepticism.

**Statistics**

		Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?	What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?	Have you ever employed a blockchain-based digital marketing platform?	If so, how would you rank your interaction with the digital marketing platform built on the blockchain?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		1.63	1.66	1.46	2.01
Median		1.00	1.00	1.00	2.00
Mode		1	1	1	2
Std. Deviation		.772	.827	.501	.900
Variance		.597	.684	.251	.809
Skewness		1.252	1.018	.154	.621
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		1.434	.138	-2.015	-.330
Std. Error of Kurtosis		.465	.465	.465	.465
Range		3	3	1	3
Minimum		1	1	1	1
Maximum		4	4	2	4

Sum		173	176	155	213
Percentiles	25	1.00	1.00	1.00	1.00
	50	1.00	1.00	1.00	2.00
	75	2.00	2.00	2.00	3.00

According to the analysis of the data, participants have a bullish view of blockchain technology in digital marketing transactions. Suggestive of an optimistic view of its potential benefits, respondents mention a variety of advantages (mean = 2.44). The distribution (skewness = 0.862) indicates a dominating sense of positive feeling, while the central tendency measures (median = 2.00, mode = 2) highlight broad support for the advantages. According to participants, they have moderate confidence in blockchain transaction capabilities (mean = 1.75), with a general forward-looking attitude. The data shows positive effects on willingness to take part in digital marketing (mean = 1.57). In response to this, non-rejection (mean = 1.79) of the integration of blockchain in digital marketing remains positive, with a balanced outlook showing a balance between optimism and cautious scepticism.

#### Statistics

		Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?	What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?	What general impression do you have of blockchain technology?	Do you believe blockchain technology will soon become widely used?
N	Valid	106	106	106	106
	Missing	0	0	0	0

Mean		1.96	1.80	1.67	1.46
Median		2.00	1.00	2.00	1.00
Mode		1	1	1	1
Std. Deviation		1.242	1.027	.765	.620
Variance		1.541	1.056	.585	.384
Skewness		1.320	.946	1.034	1.001
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		.664	-.441	.756	-.015
Std. Error of Kurtosis		.465	.465	.465	.465
Range		4	3	3	2
Minimum		1	1	1	1
Maximum		5	4	4	3
Sum		208	191	177	155
Percentiles	25	1.00	1.00	1.00	1.00
	50	2.00	1.00	2.00	1.00
	75	2.00	3.00	2.00	2.00

A statistical analysis of participant's attitudes towards blockchain technology in advertising. Sectors like finance, healthcare and technology are the ones which stand to gain the most from this, according to the overwhelming majority of participants (mean = 1.96). According to the data, people see different characteristics as essential to confidence in blockchain. Respondents mention attributes like transparency, security, and reliability (mean = 1.80). In general, blockchain

technology is viewed favourably (mean = 1.67), reflecting a hopeful attitude. Indeed, respondents also believe it won't be long before blockchain technology is widely used (mean = 1.46), which appears to demonstrate a common understanding that it will soon be used in a plethora of contexts. In sum, the data points to an optimistic attitude toward the promise of blockchain in advertising, with a good case for its future importance.

**Statistics**

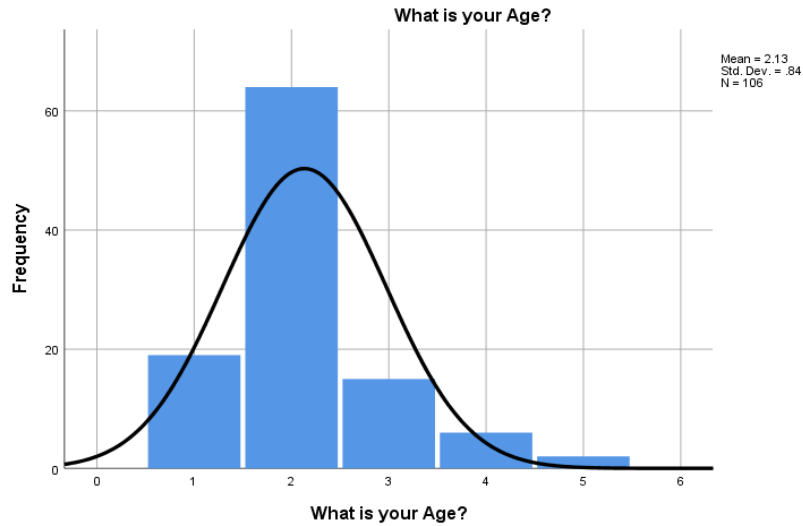
		What sources do you often use to learn about emerging technologies like blockchain?	Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?	How often do you connect with digital marketing (such as online purchasing and digital advertising)?	Have you ever had problems with security or trust during previous digital marketing transactions?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		2.10	1.57	2.59	1.82
Median		2.00	1.00	3.00	2.00
Mode		2	1	3	2
Std. Deviation		1.146	.690	1.161	.701
Variance		1.313	.477	1.348	.491
Skewness		1.419	.820	.064	.264
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		1.491	-.514	-.973	-.930
Std. Error of Kurtosis		.465	.465	.465	.465

Range		4	2	4	2
Minimum		1	1	1	1
Maximum		5	3	5	3
Sum		223	166	275	193
Percentiles	25	1.00	1.00	2.00	1.00
	50	2.00	1.00	3.00	2.00
	75	2.00	2.00	3.00	2.00

The statistical analysis provides a critical perspective into user’s interest in emerging technologies, as well as digital marketing. Participants frequently cite a variety of information such as online platforms and publications to become educated about new technologies such as blockchain (mean = 2.10). There is particularly strong interest in seminars on blockchain technology and its implementation in digital marketing (mean = 1.57). However, looking at the connectivity between digital marketing and blockchain technology, the mean is 2.59, which suggests moderate levels of involvement. The average number of times an instance of a security or trust issue has been reported in a former digital marketing transaction is 1.82. As such, the overall experience tends to be rather positive. These findings highlight the importance of educational channels and indicate a willingness to accept still more blockchain and digital marketing learning opportunities.

### **1. What is your age?**

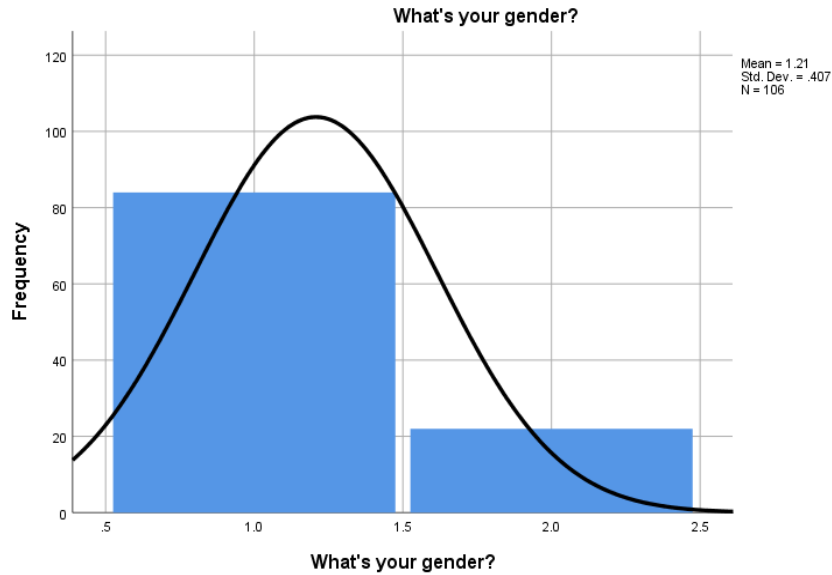
The age distribution of respondents shows a great deal of differentiation. Mostly they all fall within the age group 2, which accounts for 60.4 % of the participants, which perhaps means that people of a certain age are especially well represented. The table indicates a relatively balanced picture among the other age groups, so the survey sample is not completely dominated by a single age category.



*Figure 1: What is your Age?*

## 2. What's your Gender?

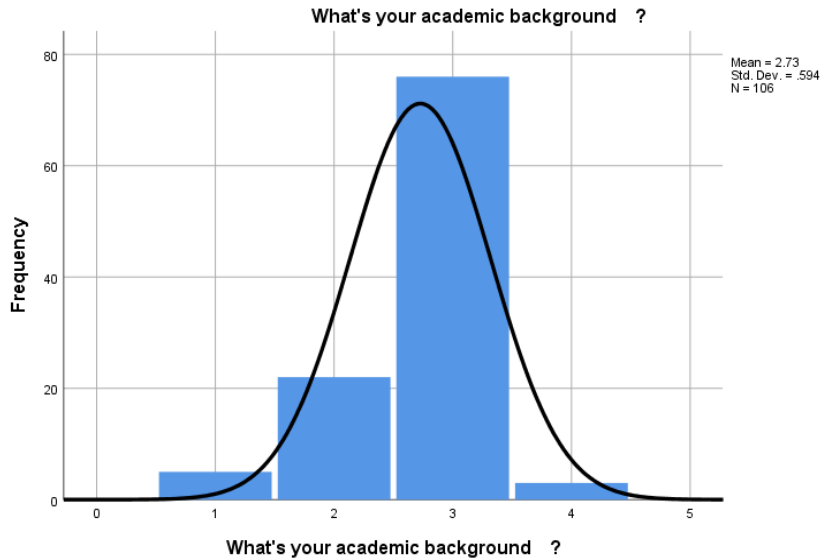
By gender, figures show 79.2 % identifying as "1" (presumably denotes male). Unexpectedly, the share of "2" (presumably female) respondents is only 20.8 %, significantly less than half, which reflects an imbalance in gender terms in the sample.



*Figure 2: What's your Gender?*

### 3. What's your Academic background?

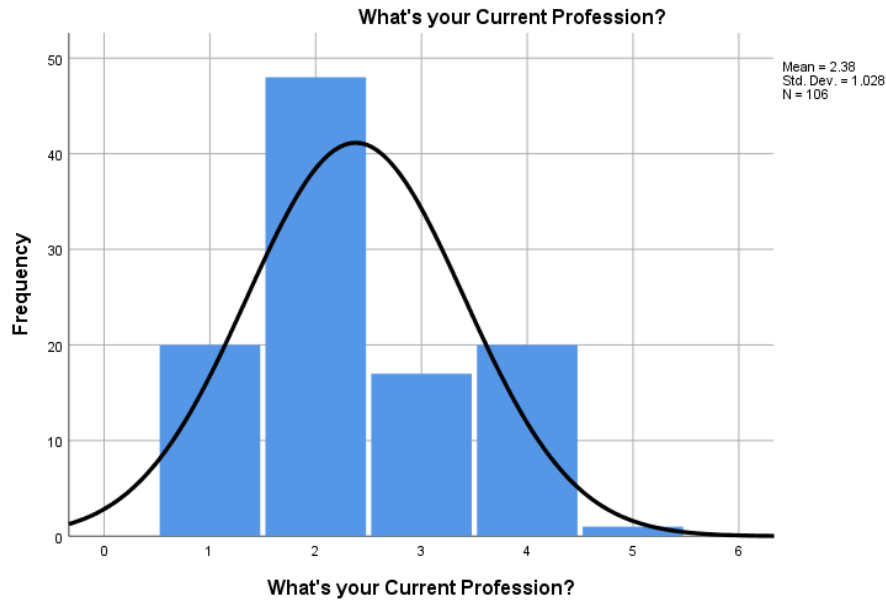
From the distribution of background in academic circles, we can see that the largest proportion (71.7 %) is at a "3" level of education, followed by the "2" level (20.8 %) and the "4" level (2.8 %). However, only about 4.7 % fall under "1."



*Figure 3: What's your academic background?*

#### **4. What's your Current Profession?**

In terms of current professions, the distribution is rather varied. Of the total (45.3 %), the biggest group falls under category "2"; and the rest fall under categories "1," "3," "4" and "5." This variety reflects a wide array of professional backgrounds within the surveyed population.



*Figure 4: What's your Current Profession?*

### **5. Do you know what Blockchain Technology is?**

Among the survey population, 80.2 % fall under category "1" characterised by a high awareness of blockchain technology. The result indicates that the surveyed population is well enough informed about blockchain to study topics related.

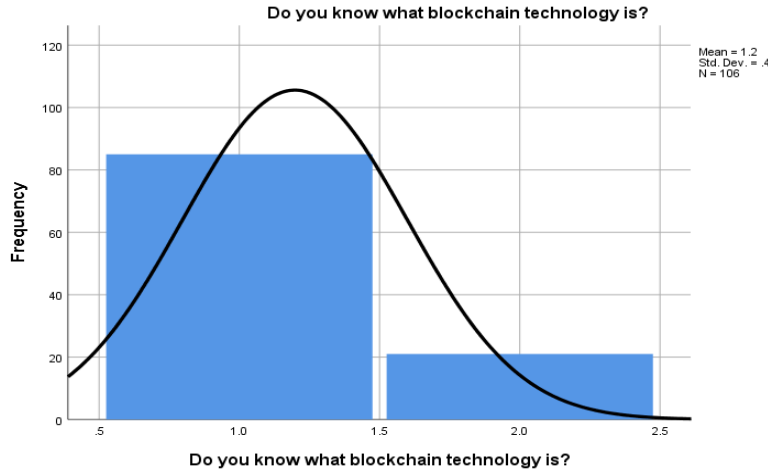


Figure 5: Do you know what Blockchain Technology is?

**6. In your own words, how would you sum up Blockchain Technology?**

As for the way respondents describe blockchain in brief, 61.3 % fit into the category of "1" of a complete understanding. Of those, 20.8 % fell into 2, signifying a basic knowledge gap. Another 17.9 % were in 3, which measures how much blockchain is lacking in the way people perceive it.

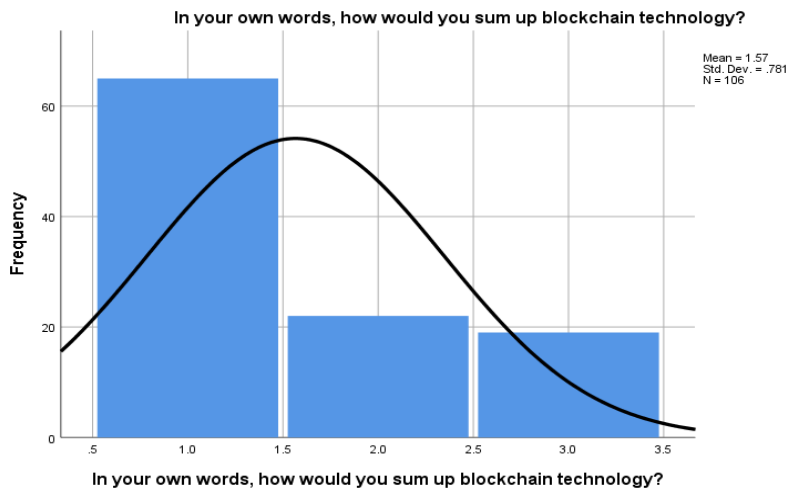
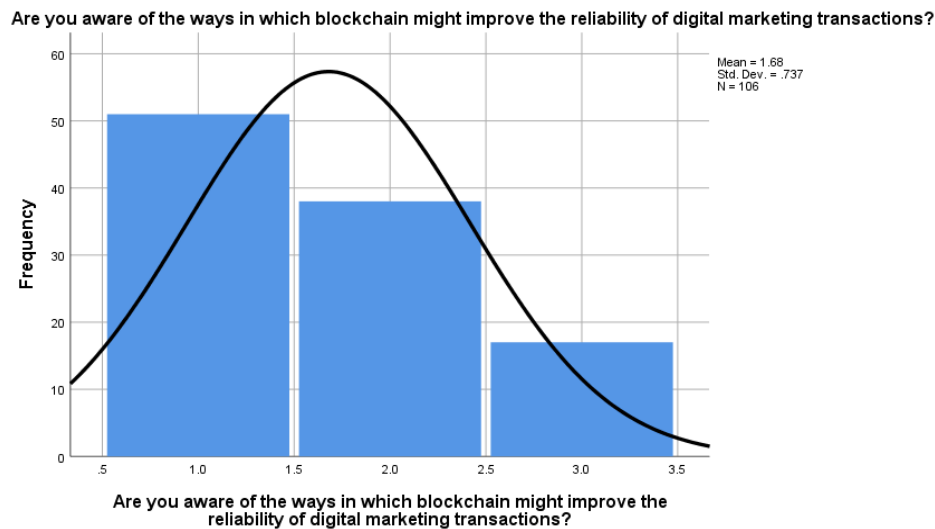


Figure 6: In your own words, how would you sum up Blockchain Technology?

## 7. Are you aware of how Blockchain might improve the reliability of digital marketing transactions?

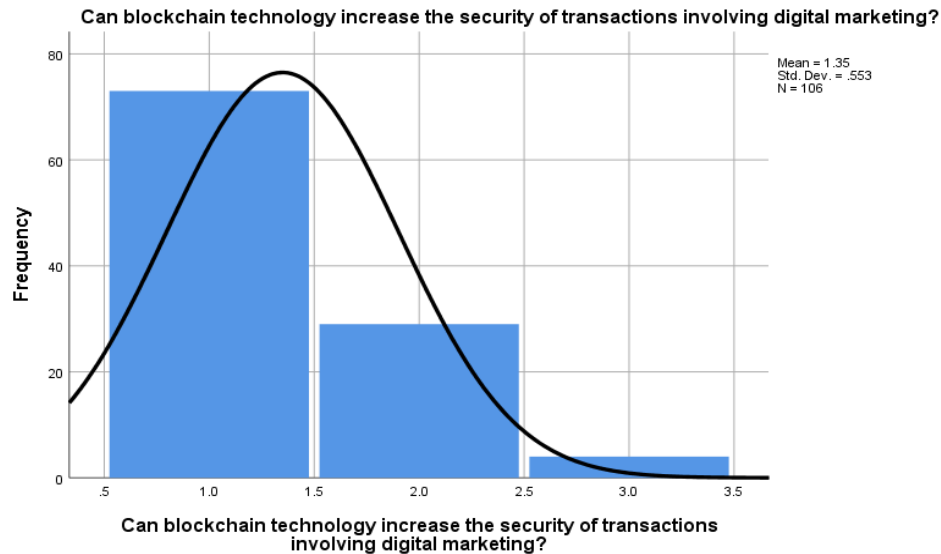
The potential of blockchain to improve the credibility of digital marketing transactions is known to 48.1 % of respondents. Also, 35.8 % acknowledge it to some degree ("2"), and 16 % lack awareness ("3").



*Figure 7: Are you aware of how Blockchain might improve the reliability of digital marketing transactions?*

## 8. Can blockchain technology increase the security of transactions involving digital marketing?

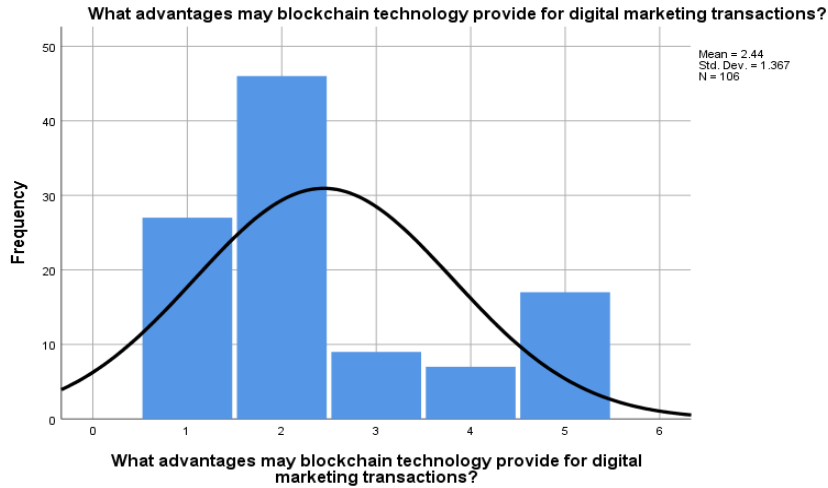
Most people (68.9 %) feel that blockchain technology can make the security of transactions in digital marketing better. (" 1 ") About one-quarter (27.4 %) agree only in part, and only 3.8 % hold a different view ("3").



*Figure 8: Can blockchain technology increase the security of transactions involving digital marketing?*

### **9. What advantages may blockchain technology provide for digital marketing transactions?**

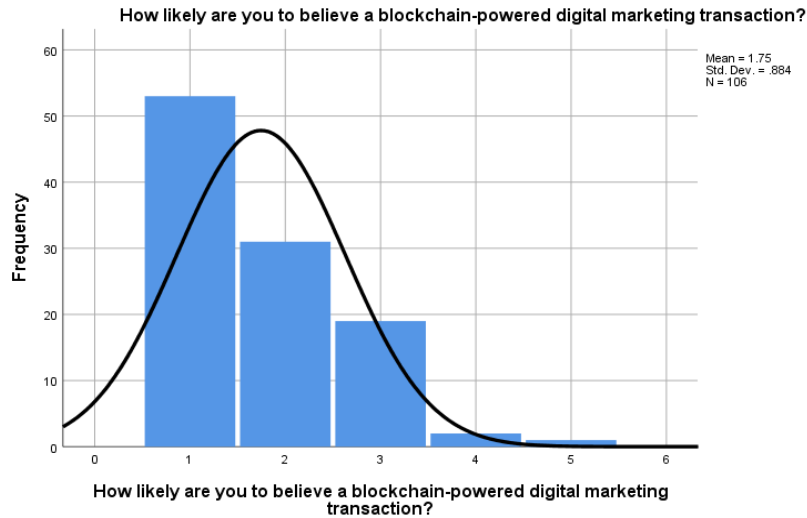
Respondents perceive various advantages of blockchain in digital marketing: 25.5 % say they see somewhat of an advantage ("1"), 43.4 % say they notice fairly large benefits ("2"), and 8.5 % feel they only get a minor advantage from the practice ("3"). 22.6 % express reservations ("4" and "5") combined.



*Figure 9: What advantages may blockchain technology provide for digital marketing transactions?*

**10. How likely are you to believe a blockchain-powered digital marketing transaction?**

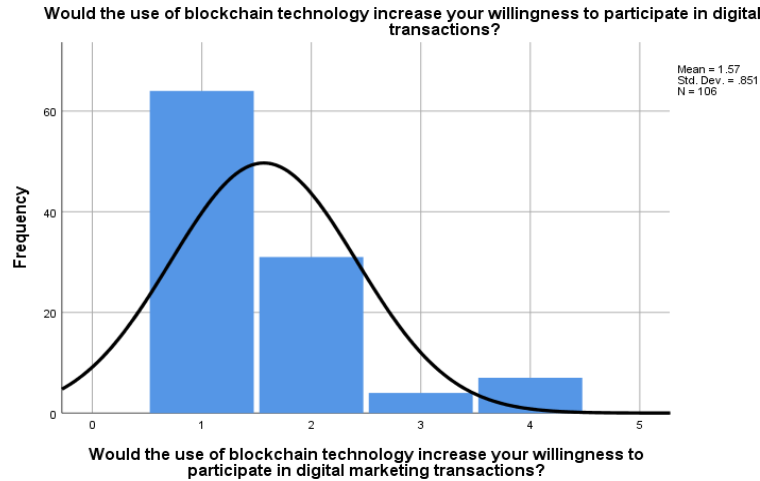
Respondents exhibit varying degrees of belief in blockchain-powered digital marketing transactions: High confidence - 50 %; Medium confidence - 29.2 %; Low confidence - 17.9 %; Doubt- 2.8 %.



*Figure 10: How likely are you to believe a blockchain-powered digital marketing transaction?*

**11. Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?**

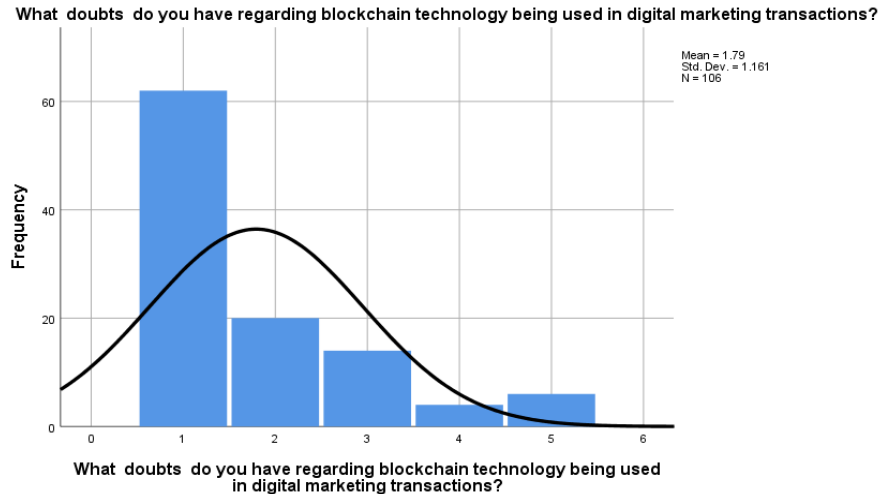
Among the respondents, 60.4 % are at a high level of willingness ("1") to conduct digital marketing transactions with blockchain technology, with 29.2 % at a moderate level of interest ("2"). Some are less willing ("3"), and a few are reluctant ("4").



*Figure 11: Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?*

## **12. What doubts do you have regarding blockchain technology being used in digital marketing transactions?**

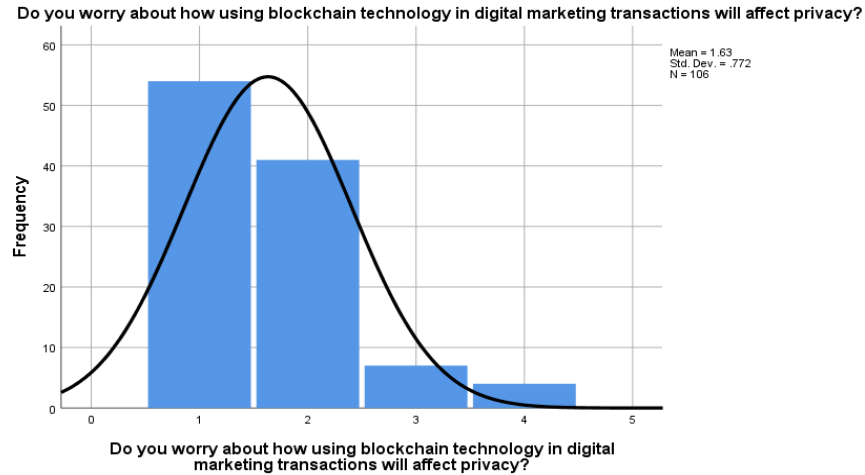
Most (58.5 %) have doubts about blockchain in digital marketing. 18.9 % hold mild scepticism ("2"), and 13.2 % have moderate concerns ("3"). Respondents with more doubts are fewer in number ("4" and "5").



*Figure 12: What doubts do you have regarding blockchain technology being used in digital marketing transactions?*

### **13. Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?**

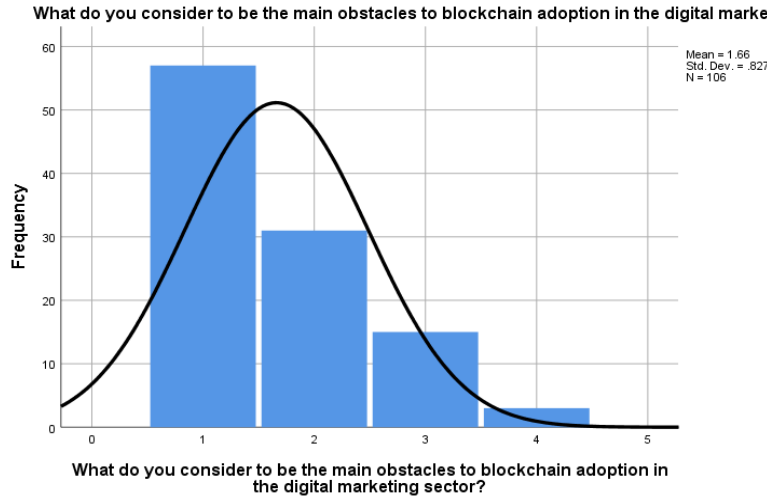
Worries about the privacy of blockchains have caused 50.9 % to voice concerns ("1"), and 38.7 % to moderate concerns ("2"). A relatively smaller portion has few worries ("3"), and only a few respondents voice none at all ("4").



*Figure 13: Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?*

#### **14. What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?**

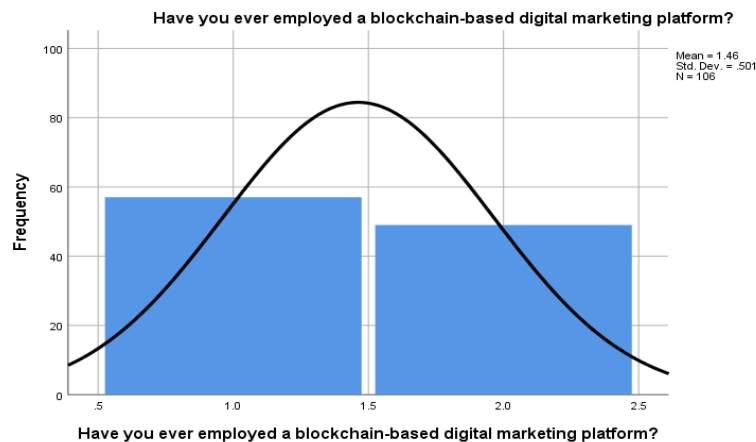
Some 53.8 % of the respondents answered regulatory difficulties ("1") are the greatest barrier to the use of the blockchain in digital marketing. Other problems arise from technological complexity ("2") and lack of trust and awareness ("3").



*Figure 14: What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?*

**15. Have you ever employed a blockchain-based digital marketing platform?**

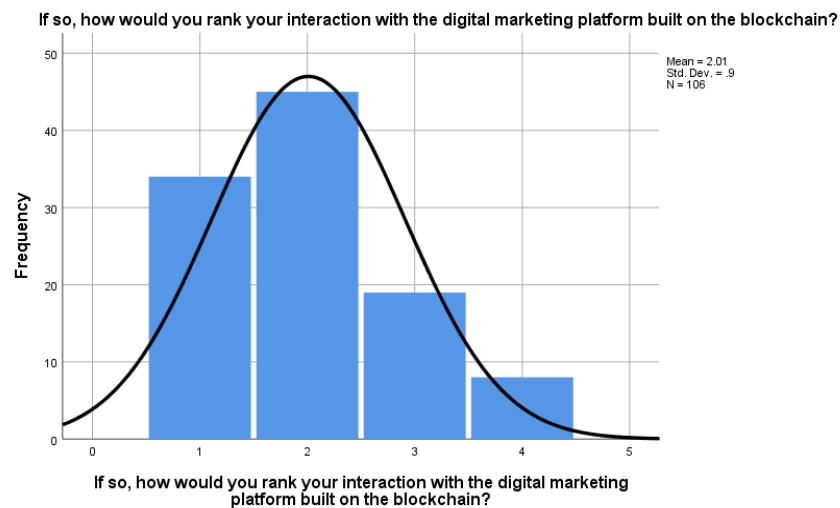
Some 53.8 % have not used a blockchain-based digital marketing platform ("1"), while 46.2 % have done so ("2"). This indicates some relative balance in the distribution of experience among participants.



*Figure 15: Have you ever employed a blockchain-based digital marketing platform?*

**16. If so, how would you rank your interaction with the digital marketing platform built on the blockchain?**

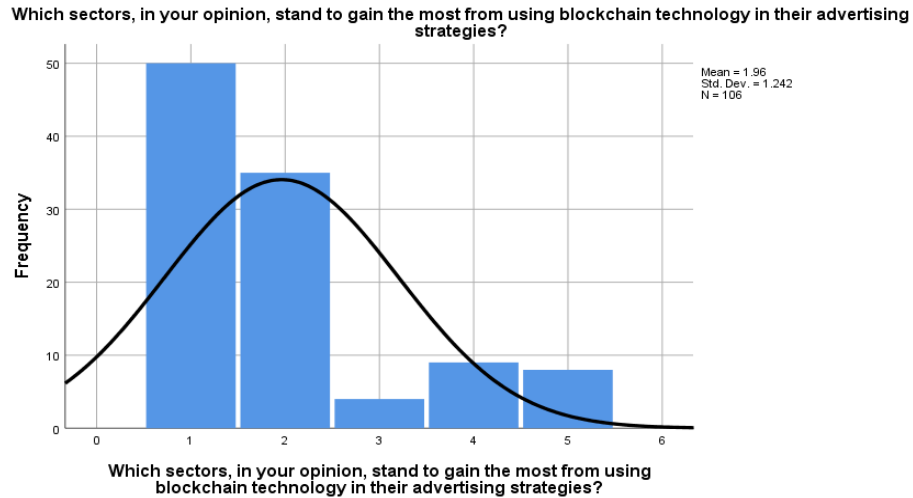
Distributions of respondent's rankings of their interaction with blockchain-based digital marketing platforms differ, with 32.1 % giving it a rating of "1", 42.5 % a rating of "2", 17.9 % a rating of "3", and 7.5 % a rating of "4". The varying distributions reflect the different experiences and opinions.



*Figure 16: If so, how would you rank your interaction with the digital marketing platform built on the blockchain?*

**17. Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?**

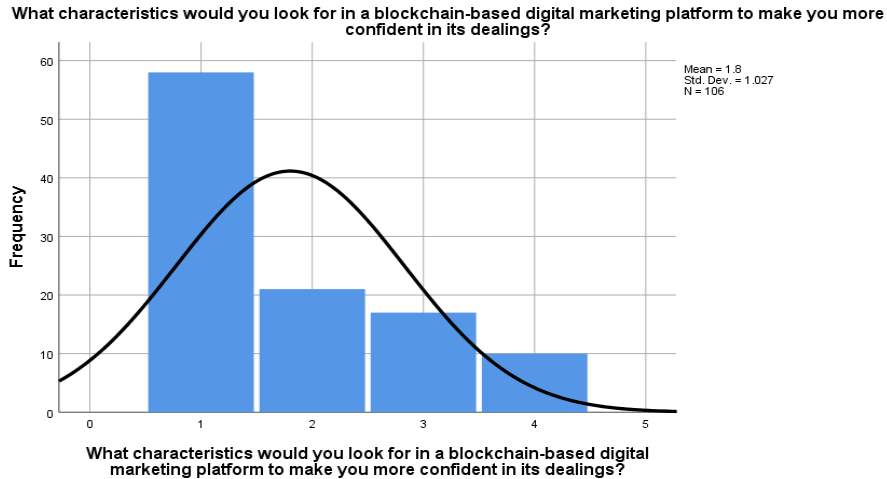
The statistics show opinions split across a variety of industries, with 47.2 % believing one industry benefits most from blockchain in advertising and 33 % naming another. It implies a different view of the possible results of blockchain in every industry.



*Figure 17: Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?*

**18. What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?**

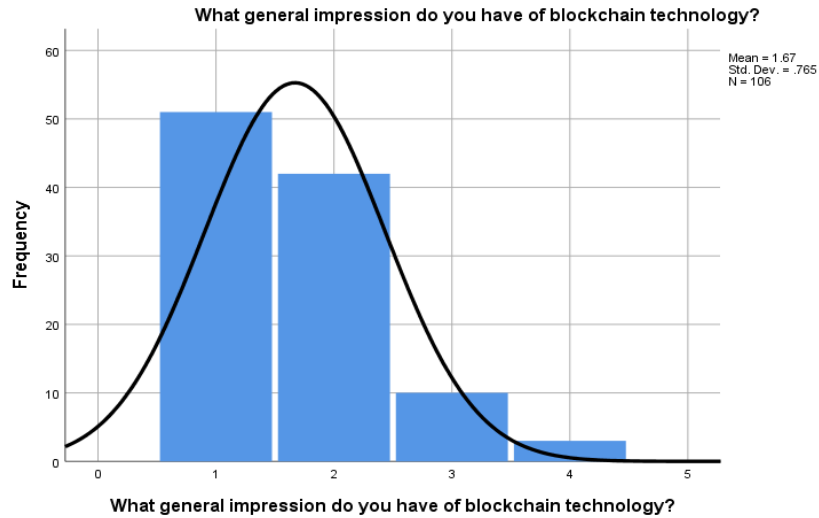
According to the data, 54.7 % of respondents would stress certain characteristics in a blockchain-based digital marketing platform. Such insight emphasizes the role of certain elements in making users confident.



*Figure 18: What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?*

### **19. What general impression do you have of blockchain technology?**

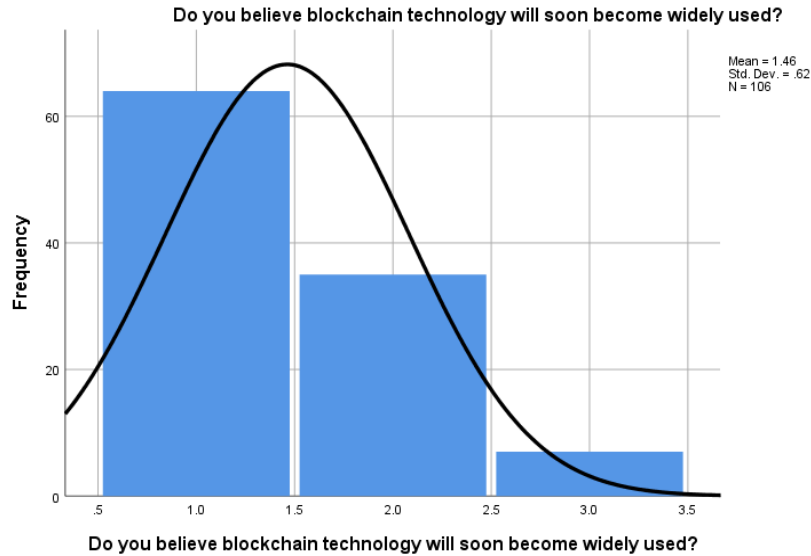
The data shows that 48.1% have a generally favourable impression of blockchain technology, and 39.6 % are somewhat favourable. This suggests a generally favourable attitude toward blockchain in the survey group.



*Figure 19: What general impression do you have of blockchain technology?*

## **20. Do you believe blockchain technology will soon become widely used?**

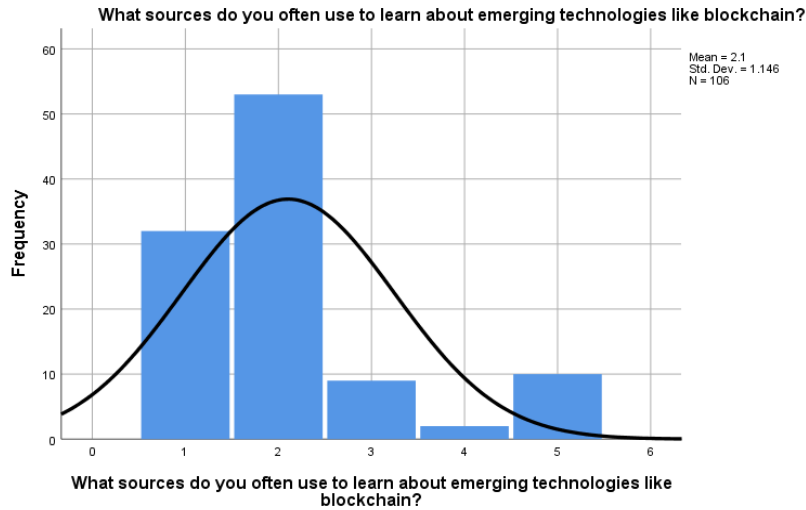
According to the data, 60.4 % of respondents think that blockchain technology will soon be used universally, and 33.0 % are still uncertain. This implies cautious optimism, with a noteworthy proportion suggesting eventual adoption by the mainstream.



*Figure 20: Do you believe blockchain technology will soon become widely used?*

## **21. What sources do you often use to learn about emerging technologies like blockchain?**

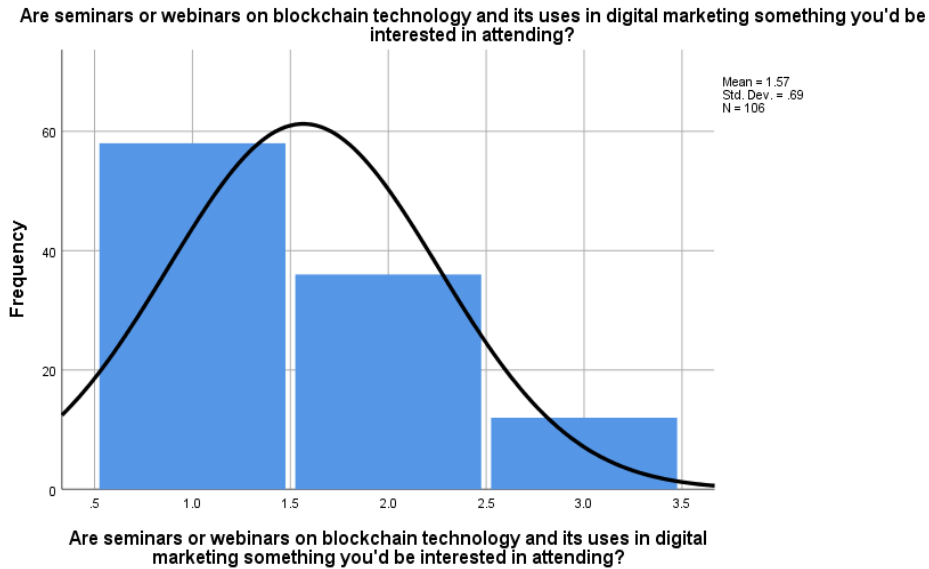
According to the data, 50.0 % of respondents chiefly rely on online sources, while 30.2 % of people turn to social media for information about emerging technologies such as blockchain. This seems to be a digitally oriented way of keeping up-to-date.



*Figure 21: What sources do you often use to learn about emerging technologies like blockchain?*

**22. Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?**

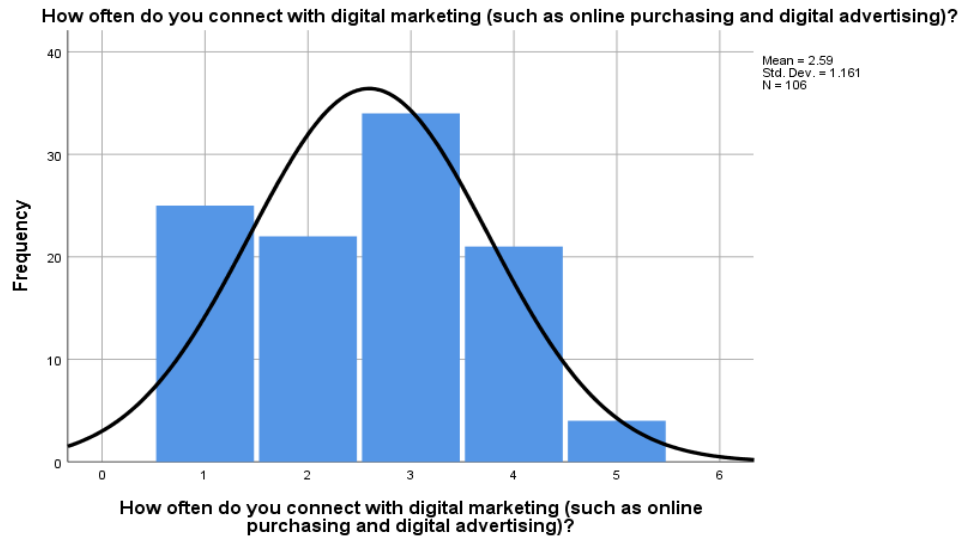
A total of 54.7 % of respondents hold an interest in attending seminars or webinars on blockchain technology, indicating great room for opportunities for educational events.



*Figure 22: Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?*

### **23. How often do you connect with digital marketing (such as online purchasing and digital advertising)?**

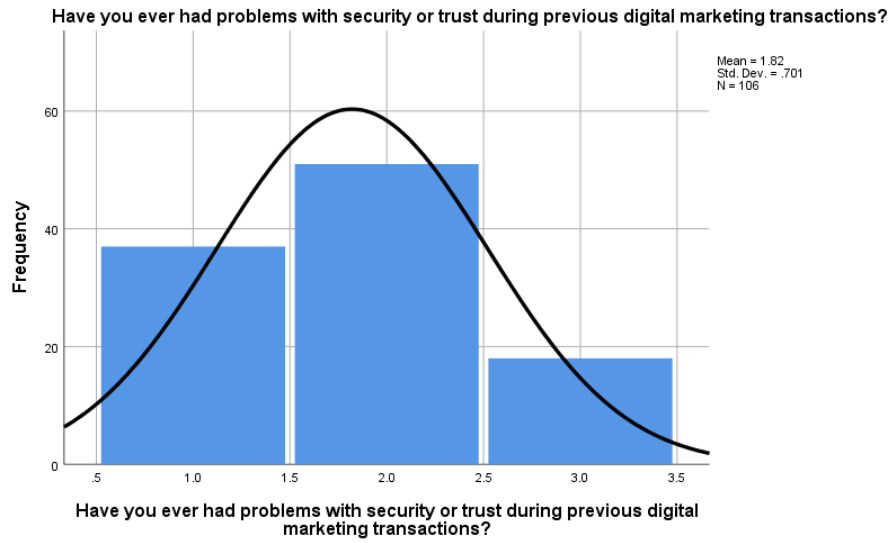
According to the data, more than a fourth of respondents (23.6 %) regularly interact with digital marketing, which amounts to a considerable presence and involvement in the field.



*Figure 23: How often do you connect with digital marketing (such as online purchasing and digital advertising)?*

**24. Have you ever had problems with security or trust during previous digital marketing transactions?**

Across the surveyed population, a noteworthy 34.9 % of respondents have encountered security or trust problems with previous digital marketing arrangements.



*Figure 24: Have you ever had problems with security or trust during previous digital marketing transactions?*

## 4.2.2 Descriptive Statistics

Table 1: Descriptive Statistics

	Descriptive Statistics										
	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness	Std. Error	Kurtosis	Std. Error
What is your Age?	106	4	1	5	2.13	.840	.706	1.118	.235	1.929	.465
What's your gender?	106	1	1	2	1.21	.407	.166	1.463	.235	.143	.465
What's your academic background ?	106	3	1	4	2.73	.594	.353	-1.222	.235	1.675	.465
What's your Current Profession?	106	4	1	5	2.38	1.028	1.056	.472	.235	-.724	.465
Do you know what blockchain technology is?	106	1	1	2	1.20	.400	.160	1.537	.235	.368	.465
In your own words, how would you sum up blockchain technology?	106	2	1	3	1.57	.781	.610	.938	.235	-.708	.465
Are you aware of the ways in which blockchain might improve the reliability of digital marketing transactions?	106	2	1	3	1.68	.737	.544	.592	.235	-.939	.465

The following are descriptive statistics on respondents' demographic information and their views on blockchain technology. Regarding age, the mean age is 2.13, with a range of 4, and the age group is very mixed. Category 1 (1.21 mean) tends to favour one gender over the other. The academic background has a mean of 2.73, which suggests a moderate level of educational diversity. With a mean of 2.38, current professions show a scattered occupational structure. Most participants have heard a little about blockchain technology (mean 1.20). Open-ended answers



which summarize blockchain technology have a mean of 1.57, which indicates a medium-level understanding by respondents. Moreover, respondents also believe that they understand that blockchain could increase the security of digital marketing sales (means of 1.68). All in all, the data reflect a group that is much more diverse with a wide range of views on the subject of blockchain technology, so one could say the surveyed population had a somewhat complicated understanding of the topic.

Can blockchain technology increase the security of transactions involving digital marketing?	106	2	1	3	1.35	.553	.306	1.316	.235	.801	.465
What advantages may blockchain technology provide for digital marketing transactions?	106	4	1	5	2.44	1.367	1.868	.862	.235	-.524	.465
How likely are you to believe a blockchain-powered digital marketing transaction?	106	4	1	5	1.75	.884	.782	1.032	.235	.662	.465
Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?	106	3	1	4	1.57	.851	.724	1.633	.235	2.109	.465
What doubts do you have regarding blockchain technology being used in digital marketing transactions?	106	4	1	5	1.79	1.161	1.347	1.459	.235	1.272	.465

The following table is descriptive statistics for survey responses about feelings about blockchain technology in digital marketing. On the question of whether or not the blockchain makes you more secure, the respondents have a clear positive tilt (mean = 1.35), manifesting a wary optimism. In terms of the advantages offered by blockchain in digital marketing, the mean is 2.44, which indicates a generally optimistic viewpoint. On the question of believing in blockchain transactions

for marketing, respondents express a moderate degree (mean = 1.75). They also express a low to moderate likelihood to participate if blockchain is involved (mean = 1.57). The average score for doubts about blockchain in marketing is 1.79, which reflects a diversity of opinions. These figures in sum reveal complex opinions, with respondents, on the whole, being optimistic, sceptical and uncertain about the prospects for blockchain reforming digital marketing transfers.

Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?	106	3	1	4	1.63	.772	.597	1.252	.235	1.434	.465
What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?	106	3	1	4	1.66	.827	.684	1.018	.235	.138	.465
Have you ever employed a blockchain-based digital marketing platform?	106	1	1	2	1.46	.501	.251	.154	.235	-2.015	.465
If so, how would you rank your interaction with the digital marketing platform built on the blockchain?	106	3	1	4	2.01	.900	.809	.621	.235	-.330	.465
Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?	106	4	1	5	1.96	1.242	1.541	1.320	.235	.664	.465

These descriptive statistics provide interesting insight into how respondents view the impact of blockchain in digital marketing. While privacy (mean = 1.63) tended to be skewed positively, there were varying degrees of concern. Recognizing the biggest obstacles to blockchaining (mean = 1.66) indicates a moderate level of difficulty. For example, a mean interaction rank with blockchain-based platforms (mean = 1.46) indicates an overall positive experience. Skewness and kurtosis values are the shape and tail characteristics of the data distribution. Also, views on how much various sectors will benefit from blockchain (mean = 1.96) are largely positive, with a skewed distribution and moderate kurtosis. Altogether, these findings highlight the complex attitudes toward the respondent cohort, nurturing concern, praise, and the potential benefits of blockchain for digital marketing tools for greater acceptance and application.

What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?	106	3	1	4	1.80	1.027	1.056	.946	.235	-.441	.465
What general impression do you have of blockchain technology?	106	3	1	4	1.67	.765	.585	1.034	.235	.756	.465
Do you believe blockchain technology will soon become widely used?	106	2	1	3	1.46	.620	.384	1.001	.235	-.015	.465
What sources do you often use to learn about emerging technologies like blockchain?	106	4	1	5	2.10	1.146	1.313	1.419	.235	1.491	.465
Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?	106	2	1	3	1.57	.690	.477	.820	.235	-.514	.465
How often do you connect with digital marketing (such as online purchasing and digital advertising)?	106	4	1	5	2.59	1.161	1.348	.064	.235	-.973	.465
Have you ever had problems with security or trust during previous digital marketing transactions?	106	2	1	3	1.82	.701	.491	.264	.235	-.930	.465
Valid N (list wise)	106										

These descriptive statistics provide potent clues to the attitudes respondents have toward blockchain technology. Traits sought in a blockchain-based digital marketing platform (mean = 1.80) show a reasonable demand for building trust. Blockchain is seen in general terms (mean = 1.67) as fairly positive with positive skewness and mild kurtosis. The mean value for widespread blockchain adoption (1.46) is relatively positive; people are optimistic. There is a large variation in the learning sources of developing technologies (mean = 2.10). The information channels are



also very different. Attendance at blockchain seminars or webinars (mean = 1.57) shows only a balanced interest. The average frequency of digital marketing engagement is 2.59; the landscape for interaction is varied. The average score for feeling moderately cautious about any history of security or trust issues in past transactions is 1.82. This overall perspective is one of cautious optimism, with a positive disposition toward blockchain and different exterior ways of studying, and offers reason to look forward healthily.

### 4.2.3 ANOVA

Table 2: ANOVA

ANOVA <sup>a</sup>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.752	19	2.408	6.838	.000 <sup>b</sup>
	Residual	30.286	86	.352		
	Total	76.038	105			

a. Dependent Variable: Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?

b. Predictors: (Constant), Have you ever had problems with security or trust during previous digital marketing transactions?, What doubts do you have regarding blockchain technology being used in digital marketing transactions?, What advantages may blockchain technology provide for digital marketing transactions?, What sources do you often use to learn about emerging technologies like blockchain?, How likely are you to believe a blockchain-powered digital marketing transaction?, What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?, In your own words, how would you sum up blockchain technology?, What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?, Have you ever employed a blockchain-based digital marketing platform?, Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?, How often do you connect with digital marketing (such as online purchasing and digital advertising)?, What general impression do you have of blockchain technology?, If so, how would you rank your interaction with the digital marketing platform built on the blockchain?, Do you believe blockchain technology will soon become widely used?, Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?, Are you aware of the ways in which blockchain might improve the reliability of digital marketing transactions?, Do you know what blockchain technology is?, Can blockchain technology increase the security of transactions involving digital marketing?, Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?

Information about the relationship between different predictors and the dependent variable, would the use of blockchain technology increase your willingness to participate in digital marketing transactions? The model is significant under F (6.838,  $p = 0.004 < 0.05$ ). So at least one of the

predictor variables affects whether you are prepared to do digital marketing transactions with blockchain.

Altogether, the predictors account for a large proportion of the variance in participants' willingness ( $R$ -squared = 0.601). In terms of the variables we have chosen, they explain a sizeable chunk of the factors influencing blockchain in digital marketing.

By examining every separate predictor, you see its contribution. Variables like "What are the advantages blockchain technologies may offer for digital marketing transactions?" and "What kinds of sources do you often rely on to learn about new technologies like blockchain?" appear particularly persuasive by the sizes of their mean square values.

This ANOVA is clear evidence of the critical role that variables related to perceptions, knowledge and confidence in blockchain technology play in determining individual inclination to participate in digital marketing activities. This fully-qualified model warrants much further investigation into the various effects of specific predictors on consumer attitudes. Knowing these subtleties is important for planning specifically directed efforts to promote the adoption of blockchain technology in digital marketing. The benefits and reasons for concern reflected in the survey responses are quite clearly expressed.

### **4.3 Thematic Analysis**

#### **4.3.1 Theme 1: Safety and Reliability of Current Digital Advertising Interactions in Ireland**

Overwhelmingly positive orientation on safety, security and reliability mechanisms Their answers spread across the blockchain-based digital marketing platforms. What is transparency, as understood by the participants? Many believed that transparency was the need to make possible a clean history of transfer, so that users can see and track, and legitimately authenticating, marketing events at a glance. Seeking security (a prerequisite in all aspects of life) entailed encryption mechanisms capable of protecting information of a sensitive nature, a fortress for resisting the tidal wave of possible cyber threats. Requirements for more private methodologies were demanded incessantly, and a thunderous demand was expressed for increased protection of the information



of users. In particular, the discussions concentrated on how to set up a complete shell around user data, offering ideas which go beyond the security concepts of the past. This is an all-encompassing concern for transparency, security and privacy, the result of the participants' extremely well-developed sense of vigilance, their strong feeling of horror at the shortcomings of the digital marketing environment and their exacting sense that the blockchain platform must be paradigmatic of trustworthiness and data integrity. A wide range of expectations: Their expectations are multifaceted, and reflect a sense of the complex tension between transparency, security, and privacy in building user trust in the current state of flux for digital marketing.



*Figure 25: Hierarchy chart for theme 1*

#### **4.3.2 Theme 2: Blockchain Solutions for Enhancing Trust and Safety in Digital Advertising Purchases**

Throughout the blockchain-based digital marketing platforms, the three participants highlighted the key concept of functionality. They all expressed a wish for a feature-rich environment. Its participants' desire for growing transaction volumes and user interactions with efficiency nevertheless made scalability an important consideration. Another critical functionality was real-

time tracking. This points to the user's tendency to favour platforms that offer immediate and dynamic insights into the action regarding marketing. Further, the concept of contract capability came through particularly strongly: people want digital contracts that are self-executing and automated, enhancing the efficiency and reliability of digital marketing processes.



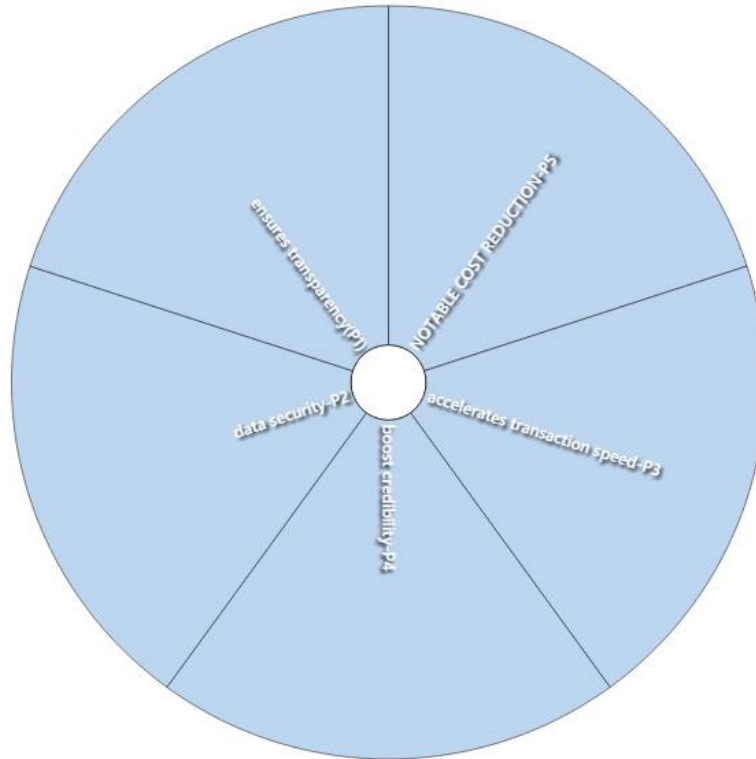
*Figure 26: hierarchy chart for theme 2.*

Although integration was a theme of complement to participants, it became a focal point in their responses. The issue of integrating seamlessly with existing systems always came up, showing the

participants' awareness of the critical nature of interoperability. This is evidence of a larger trend toward seamless integrations within the marketing environment and integrated marketing strategies. Streamlined workflows are where it's at. This theme is an expression of participants' pragmatism and articulates the intricate web of tools and systems comprising the digital marketing landscape, with a strong stance in favour of robust blockchain platforms that function naturally within this messy environment. Those multifaceted discussions of functionality and integration offer insight into participants' desires for a complex, unified digital marketing scene, featuring advanced functions and highly compatible with the existing marketing structure.

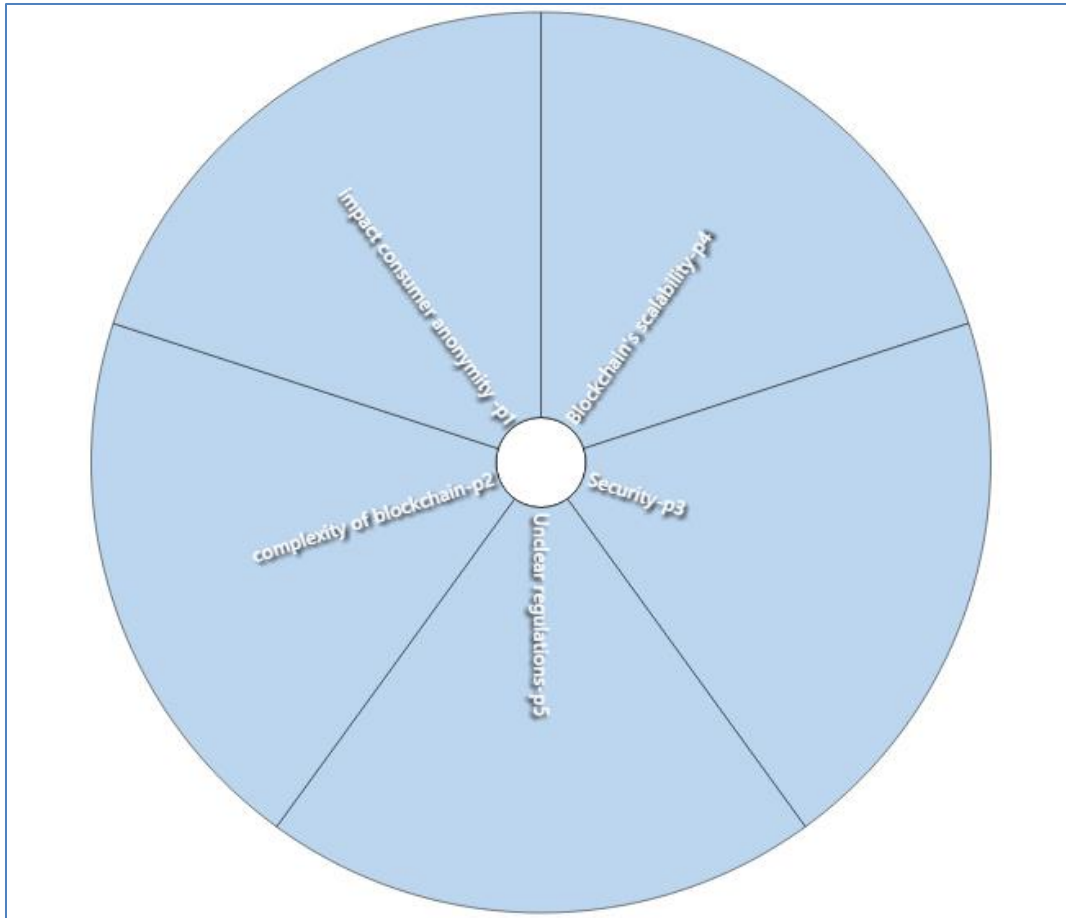
#### **4.3.3 Theme 3: Advantages and Disadvantages of Blockchain Technology in Digital Advertising Engagement**

A user-friendly interface emerged as the major theme in the responses of many participants, reflecting a strong collective focus on the important role to play by design and accessibility in inspiring confidence. Unsurprisingly, a platform's usability was universally seen as a necessary condition for building trust. Participants especially pointed to the clarity of the way transaction details are displayed. It was observed that the more intuitively and transparently a blockchain-based digital marketing platform can display detailed transaction data, the more it can be trusted.



*Figure 27: hierarchy chart for advantage.*

In this theme, attendees expressed that the interface must be visually pleasing and concise, to add to the user experience. But the definition of user-friendliness was more than just an aesthetic idea—it included navigational ease and logical layout. Participants expressed the desire for an easier such platform so that users can go through interactions, their transaction histories, and any relevant information smoothly and conveniently. The desire for a user-friendly interface is a response by participants to the awareness that design can help smooth over some of the complexities that blockchain technology is often burdened with.



*Figure 28: hierarchy chart for disadvantage.*

In addition, players believed easy-to-use interfaces mean greater transparency. An understandable structure meant that the complexities of blockchain transactions are de-mystified. This theme presents the more nuanced point of view of the participants, and touches upon the paradoxical relationship of design and usability in a blockchain-based digital marketing platform built on trust.

#### **4.3.4 Theme 4: Strengthening Confidence and Safety in Digital Advertising Initiatives through Blockchain**

Several participants mentioned this topic. In their reflections they demonstrated an understanding that blockchain can offer very high-level functions for digital marketing transactions, but at the same time can be relatively anonymous. Automation was one factor that made people sure of these

platforms, and smart contracts were part of that. Excitement was expressed at the prospect running agreements through to completion without a middleman, with advantages of speed and credibility. Because of this theme, anonymity itself also became an important topic. Participants, in particular, commented on the critical need for data privacy. They were repeatedly reminded: firm and suitable steps are needed to ensure anonymization of digital marketing transactions on the blockchain. The request for characteristics that hide sensitive information reinforced their thinking that anonymity was an influential factor that determines the credibility of blockchain-based systems.



*Figure 29: hierarchy chart for theme 4.*

This theme appeals to participants 'outward orientation, bringing them to believe that automation is transformational while anonymity is the foundation for trust. Not only do they understand the



complexities of implementing blockchain technology into digital marketing transactions, but participants' understanding of the need for simplified processes via automation and their attention to the adage of user privacy demonstrate the subtlety of digital marketing participants in all respects.

## **Chapter 5: Discussion/ Recommendations/ Conclusion**

### **5.1 Introduction to the Chapter**

The end of this big paper leads to a careful look in the Ways and Finish chapter, where the complicated results of using blockchain thing in Ireland's computer talking business are closely studied. This part talks deeply about the results found. It looks closely at how blockchain can improve trust and safety in online transactions. Beyond just ideas, it breaks down the real complexity of using blockchain. It strongly shows how it's changing digital marketing plans. The talk is about the need for training and working together. It gives ideas on how people in practice can manage the changing world. The part also shows us where to study more in the future. It points out places that have not been explored yet, where new tech and different industries meet up with the exciting world of online advertising. As we go through this big discussion, ends by showing the main findings, explaining what has been added to the subject, and helping how research in this new area will go forward in the future.

### **5.2 Discussion**

#### **5.2.1 Blockchain Integration in Digital Marketing**

The study finds that blockchain is being used in digital marketing strategies, showing a major change in how things work. Looking deeper into how these things connect, our study shows that blockchain is a big change maker. It is key to developing trust and safety in online sales. The study shows that unchangeable records can increase openness and reduce dishonesty, changing how online selling deals happen. By connecting real-life results with hands-on uses, we create a complete guide for people who want to use blockchain power. By doing this, we reveal useful information that demonstrates how the trustworthy and secure nature of blockchain can not only strengthen but change the basic foundation of trust in online advertising. This search goes past normal ideas, giving ways that people can use to handle the changing world of digital marketing plans helped by blockchain technology (Abderahman Rejeb, 2020).

### **5.2.2 Training and Skill Development**

Training and skill improvement are very important for people who work in digital marketing. This is a key part of our big talk. By closely looking at issues, we find big holes in things people know and can do in the industry. This makes us look carefully at ways to connect these important missing parts. In this situation, learning comes across as a strong helper. It's there for marketers who want to skillfully manage the difficulties of blockchain technology. This is about ideas and then going into real-life situations. It gives a plan for school projects made just for the digital marketing world that changes over time. It stresses the importance of always learning, pushing for an active way that makes sure people keep up and go past the latest changes in using blockchain fully. This part wants people to put money into always getting better at skills needed in an area. This is because this area is changing fast because of blockchain and how it is used in digital marketing (Clohessy and Acton, 2019).

### **5.2.3 Collaboration with Blockchain Experts**

Digital marketing people and blockchain experts need each other. This section shows how they work together, not just for support, but also to study its details more closely. Here, we look at how people working together is important. We also talk about learning from each other and the shared knowledge needed for smoothly using blockchain in online marketing. We talk about more than just guessing and go into real parts of working together with different fields. We show how these different topics can join up to work better together. Real-life examples and stories are added to the story, shining like lighthouses and showing how much knowing things together is worth. These pictures show the real benefits of working together and they also show how it can help join the understanding space between digital marketing experts and blockchain experts. In simple words, this part helps workers understand how teamwork can move beyond just ideas to start good and smooth integration projects (Torres de Oliveira et al., 2020).

### **5.2.4 Regulatory Implications**

It discusses rules, we carefully look at the balance needed between encouraging new ideas and making sure there is control by rules. Our study looks at the best ways to make rules, focusing on

the need for flexible plans that can skillfully handle the changing character of blockchain technology. Rules, seen as a main part of making rules, are looked at closely. They play a big role in shaping a responsible and accountable online marketing world. The main goal is to make a place that not only encourages everyone to use blockchain in digital marketing but also protects customer rights and keeps the best moral rules. By having a deep talk about the difficulties of writing rules, we find a balanced way that makes innovation possible in the business. At the same time, this makes sure that digital marketing deals follow the correct rules. This part is like a guide for rule-making groups. It gives them ideas on how to make rules that allow progress while keeping in mind what's right and wrong (Alex and Athira, 2020).

### **5.2.5 Future Research Directions**

Looking to the future, it explores new things at the point where blockchain technology meets digital marketing. New technologies and uses across different industries get attention. They give a guide for students and experts wanting to improve how they understand what blockchain can do in digital marketing. The talk goes beyond the nearby area, looking at how new technologies could change how well blockchain works in digital marketing methods. New ways of using blockchain in different industries make researchers look for connections between them. This future-focused study not only sums up the findings but also moves the conversation into new areas. It sets up future work in this fast-changing field. As researchers and people working in businesses start this learning adventure, they are told to look into unknown areas. They need to find new ideas and push the limits of wisdom inside blockchain technology's role in making trust and safety better in digital advertisements (Upadhyay, 2020).

### **5.3 Recommendations**

It offers many smart tips that come from a big search into the complicated blend of blockchain and Ireland's online advertising industry. These astute suggestions, crafted on the bedrock of meticulous research findings and thoughtful reflections, are tailored to serve the paramount objective of enriching stakeholders in the inquiry of "Investigating the Role of Blockchain Technology in Ireland: These guidelines include a clear plan for how to use blockchain in a way

that makes online shopping more secure and trustworthy. This part explains the important steps needed to use blockchain well. Each step is carefully made to make Ireland's online ads and safety better for buying and selling things online. These smart advice ideas show a change towards a safer and trusted way of buying online. This helps keep confidence in the fast world of digital marketing.

### **5.3.1 Recapitulation of Research Objectives**

To get useful advice, it's very important to go back and check the main goals that started this study about blockchain tech in Ireland, especially focusing on improving trust and safety in digital business deals.

The primary aim of this study was threefold: First, we have to look closely at how digital marketing works in Ireland right now. Next, we need to explain the good sides and problems that might come from using blockchain. Lastly, we suggest ways to make trust and safety better in the world of digital marketing (Clohessy, 2023).

The first goal was to understand what common digital marketing methods are used in Ireland. This included a deep look at how money is spent, spotting weak spots, and measuring how much people trust those involved. Detailed surveys, talks, and studies showed a clear view of how digital marketing is working now. This basic understanding set the stage for further goals, guiding how blockchain could be used (Clohessy, 2023).

The second goal was to carefully look at what blockchain technology can and can't do in the field of digital marketing. The study looked into the technical side of blockchain. It checked if it can make things clear, unchangeable, and trust others without needing a central power. At the same time, problems like how to make it bigger, combine it with other things, and rule worries were carefully checked. This deep study helped to better understand how the technology might work in the Irish online marketing world (Clohessy, 2023).

After understanding these ideas, the final goal was to make useful suggestions for people involved in digital marketing and rule groups. By putting together what researchers have found, the goal

was to offer useful information that could move the business toward a safer and more reliable way of doing things. The goal was not just to know about the good things about blockchain. It was to turn these good ideas into plans that could be easily used in everyday work. This would bring together technology and selling adequately (Clohessy, 2023).

### **5.3.2 Recommendations for Digital Marketing Practitioners**

As digital marketing moves into a time of fast change, the added use of blockchain technology becomes very important for changing how the industry works. These tips give clear steps for online marketers. They help build trust and safety in their work (Abderahman Rejeb, 2020).

#### *5.3.2.1 Adoption of Blockchain in Marketing Strategies*

Using blockchain in marketing plans is a big change that can make trust and safety different. People who do online marketing should quickly add blockchain to their plans. They should use the special features of blockchain to create a strong base for buying and selling things. For example, smart contracts can be used to make deals automatic and safe. This helps stop the need for middle people and possible places where things can go wrong. Clear, another great thing about blockchain, can be used to make customers trust more by giving them a permanent record of transactions that can't be changed. Sharing these improvements clearly in marketing ads can help build more trust with customers (Abderahman Rejeb, 2020).

Practitioners should look into tokenization ideas, making electronic things that stand for real-life worth. These symbols can be added to rewards schemes, encouraging customer involvement and at the same time making sure that the rewards can be tracked. By combining blockchain technology with marketing efforts, people not only make transactions more secure but also help create a new and trustworthy story. This can set their brand apart in a tough world (Abderahman Rejeb, 2020).

#### *5.3.2.2 Training and Skill Development*

Understanding how blockchain can change things requires us to help marketing experts learn what they need. Training should teach all about blockchain technology, explaining its intricacies and

usefulness in marketing. People who know about these skills can use them to make blockchain work well. This way they can get the most out of it (Cole et al., 2019).

Making a habit of always learning is very important. Workshops, online sessions, and team projects can help us keep growing our skills. This helps doctors keep up-to-date with changing blockchain patterns. It also makes workers able to come up with clever marketing plans that use all of the things blockchain can do. Putting money into teaching marketing groups is like investing in the company's strength and ability to change as the digital world keeps changing (Cole et al., 2019).

#### *5.3.2.3 Collaboration with Blockchain Experts*

The teamwork between digital marketing workers and blockchain people is very important for a smooth and good mix of technology. We should actively promote teamwork between different fields. This will help everyone understand common goals and problems more clearly. Digital marketers should look for teamwork with blockchain experts to handle the complex technical parts of putting it into action (Qian and Papadonikolaki, 2021).

Working together goes beyond only technical parts; it includes a common view of the future of advertising. Working together, like doing test projects or research together, can help create new ways to solve problems. Blockchain experts have a lot of knowledge about tech stuff. They advise on what works best, things to watch out for, and what's coming next in this area. Working together is important for blockchain. This way, it's easily added to online marketing plans. Doing this makes trust and safety better for everyone (Qian and Papadonikolaki, 2021).

#### **5.3.3 Implications for Regulatory Bodies**

The use of blockchain technology in digital marketing needs us to change rules so it can deal with its special problems and get the good things it brings. Regulation groups, in charge of watching online marketing rules, are at the point of making a system that is both new and safe to use. Here are some tips for authorities to handle this complicated situation (Treiblmaier and Sillaber, 2021).

### *5.3.3.1 Policy Development*

The use of blockchain technology brings new factors that need action from lawmakers. People who make rules should work together with businesses, tech experts, and people who speak for consumers. They need to create rules that help new ideas grow but also protect people's interests (Treiblmaier and Sillaber, 2021).

First off, rulemakers need to see that blockchain is always changing and improving. Rules should be made to be adaptable, and able to fit growing technology standards and good practices in the business. Creating places to test new marketing ideas based on blockchain, called regulatory sandboxes, can help improve rules. They let us learn from real-world situations and change rules as needed (Treiblmaier and Sillaber, 2021).

Next, it's very important to deal with privacy worries. Blockchain's openness, good for building trust, needs careful methods to keep private things secret. The groups that make rules should work with people who know about keeping information safe. They need to create rules to make sure good decisions are made when using customer data in marketing plans using blockchain technology. Finding a middle ground between showing things clearly and keeping secrets protects consumer rights. It also helps to build trust in the world of online selling (Treiblmaier and Sillaber, 2021).

### *5.3.3.2 Compliance Standards*

Making rules for using blockchain in digital marketing deals is very important. This makes sure everything is good and safe. People in charge need to work closely with professionals in the field. They should make rules that promote sharing, openness, and safety for all kinds of online marketing (Wylde et al., 2022).

When making compliance rules, the focus should be on checking and confirming parts that come naturally with blockchain technology. Smart people who make rules should work together with those who create blockchain and digital marketing stuff to set up standards for safe smart contracts, data that can't be changed, and ways to agree without just one big boss. These rules can be a guide

for businesses, making sure everything is fair and giving customers a trustworthy online advertising place (Wylde et al., 2022).

In addition, rule-making groups should think about the worldwide aspect of blockchain technology. Working together across the world can make standards the same, so no split happens and there's a smooth global plan for using blockchain in online marketing. This agreement helps big businesses follow rules more easily in different countries. It also increases the trust of people in blockchain transactions (Wylde et al., 2022).

### **5.3.4 Future Research Directions**

The changing world of blockchain and digital marketing calls for researchers to look deeper into new areas. This shows opportunities and deals with new problems. The search for new study areas shows important areas that need careful study to understand the changing connection between blockchain and digital marketing (Karger et al., 2021).

#### *5.3.4.1 Emerging Technologies*

As technology keeps changing, scientists should study how new tech affects the future path of blockchain use in digital advertising. One way to explore is bringing together blockchain with artificial intelligence (AI) and the Internet of Things (IoT). Looking at how these technologies work together can show new options for marketing with data, giving personal experiences to customers, and making security better (Madhani, 2022).

Also, the arrival of quantum computing brings both problems and chances for blockchain systems. Future work needs to look at how strong current blockchain systems are against quantum risks and come up with strong codes that can stand up to the idea of quantum computers. Knowing how blockchain, quantum computing, and digital marketing connect is very important to make blockchain-made deals more secure (Madhani, 2022).

Using blockchain with 5G technology is another area that needs to be explored. Scientists should study how 5G's fast speed and short delay can make blockchain better for digital marketing. This

search might discover new uses, like getting real-time data analysis, using augmented reality (AR) for marketing, and easy talks with customers. It can help to develop a modern digital marketing community that's always connected (Madhani, 2022).

#### *5.3.4.2 Cross-Industry Applications*

The possible uses of blockchain go beyond digital marketing. This makes scientists look closely at how it can be used in different industries. Future research should look at how blockchain can help bring big changes to areas like health care, supply chain, and finance. This will affect how digital marketing is done as well (Attaran and Gunasekaran, 2019).

For example, looking at how blockchain helps make sure supply chains are real and open may help us understand its influence on digital marketing plans about where products come from and how they are made to last. Likewise, knowing how blockchain and decentralized finance (DeFi) connect can show chances for new ways of handling money. These might also impact digital marketing efforts (Attaran and Gunasekaran, 2019).

In different industries, researchers are being called to look at how well blockchain platforms work together in many areas. Looking at the problems and ways to fix them when using blockchain information from different businesses can clear the path for standard rules. These rules help make it easy to work together and share data (Attaran and Gunasekaran, 2019).

## **5.4 Conclusion**

### **5.4.1 Recapitulation of Key Findings**

At the end of our journey, it's very important to remember and sum up the main things we have learned in this big writing project. The main focus of our study is how blockchain technology can change the way digital marketing deals are done. Our real-world study has found a lot of facts. It shows us how important blockchain can be in making trust and safety better in this fast-moving area. Blockchain's ledgers can't be changed. This makes them a strong way to make things clear and stop people from cheating. This changes how buying and selling on the internet happens. As we go through our discoveries, a loud message keeps coming back — blockchain is not just new

tech; it helps make online talks more trustworthy. It traveled through Ireland's digital advertising area. It learned about agreements and code security. Blockchain can be very important in making online advertising feel safer and more trusted (Clohessy, 2023).

The story goes beyond just writing down results. It shows how blockchain can be used in real life and gives a helpful plan for people in the digital marketing world. The close connection between technology and trust is carefully built into the things we find out. This means that people who work in different fields must see and use the power of blockchain to change things. This sums up these big results, we make a path for the coming end. There, we will show the wider effects and urge to do something for the future (Clohessy, 2023).

#### **5.4.2 Contributions to the Field**

The study of digital marketing makes important contributions that go past just its main area. Adding blockchain to digital marketing plans is not just a small change but a big shift that could have big effects. The main help is in finding out how blockchain can change trust and safety in online marketing deals. The study, by carefully examining this connection, gives a detailed understanding that connects theory and practice (Cole et al., 2019).

Additionally, this study helps give a useful guide for people who work in digital marketing, policymakers, and learners. It explains what practical steps are needed to use blockchain to its fullest. The advice given before helps people who are trying to learn about online ads in Ireland. It acts as a direction sign for them. This mix of theory and practical knowledge makes the academic talk about blockchain in digital marketing more useful (Cole et al., 2019).

Moreover, the research helps in the ongoing talk about new tech by looking at how blockchain connects with digital marketing. It explains the good things and problems, making the big talk about technology in marketing better. As the online marketing world keeps changing, this study shows we need to change and create new solutions to handle the challenges of a more connected and technology-driven future (Cole et al., 2019).

### **5.4.3 Limitations and Recommendations for Future Research**

The study gives us important information about using blockchain in digital marketing. But we need to remember its problems too. One big problem is how quickly blockchain technology and digital marketing methods are changing. These areas move quickly, which adds time to what we found out. So, our suggestions might not work the same way in the future. The concentrate on the Irish online marketing field, while giving a detailed look, might not work for a wider global situation (Abderahman Rejeb et al., 2020).

To fix these problems and make way for more research in the future, some suggestions are given. First, we can study for a long time to see how adding blockchain tech to online ads affects them for a very long time. This would make it easier for us to know the future results. It also lets us change our plans with time. Next, comparing different fields and businesses will help us see how blockchain technology is used differently in different places (Rejeb et al., 2020).

Understanding how people use and view transactions in blockchain can help us see if these methods improve trust and safety. Looking at the big problems and potential harm to nature that might happen from using blockchain in digital marketing would make the current talk better (Abderahman Rejeb et al., 2020).

### **5.4.4 Final Thoughts**

The study shows a big and interesting story about online ads in Ireland. The study showed how powerful blockchain can be. It also showed a way to make a safer and more dependable system. When we think about Ireland's digital marketing area, it becomes clear that using blockchain is not just a choice but a very important goal. The loud call sounds in the halls of this work, reaching people and workers together. It tells everyone to work together to smoothly add blockchain. Ireland is ready for a big technology change. It wants business leaders, people who make decisions, and creative people to come together to build a future where trust and safety are very important parts of every digital marketing deal. Let these last words make us all work together to use the full power



of blockchain. This will help create a world where digital marketing in Ireland does well with strong trust in new technology.

### **5.5 Summary of the Chapter**

In chapter 5, it looks at how blockchain can be used in online marketing, learning, and skill improvement. It explores working with blockchain pros, legal issues that may come up, and where to go next with further studies. Each part talks about real-life advice, focusing on how blockchain can change things. The result shows the main points, gives importance to digital marketing contributions, admits shortcomings, and suggests ways for future study. Lastly, it asks everyone to use blockchain for a safer and more reliable online advertising world. This shows a big change for Ireland's digital stuff.

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## Appendix

### Survey Questionnaire

#### 1. Age

- a) 18-25
- b) 26-35
- c) 36-45
- d) 46-55
- e) 55+

#### 2. Gender

- a) Male
- b) Female
- c) Non-binary/Other

#### 3. Academic Background

- a) High School or equivalent
- b) Bachelor's degree
- c) Master's degree or higher
- d) Other (please specify)

#### 4. Current Profession

- a) Student

b) Employed (full-time)

c) Employed (part-time)

d) Self-employed

e) Unemployed

5. Do you know what blockchain technology is?

a) Yes

b) No

6. In your own words, how would you sum up blockchain technology?

a) A decentralized and immutable digital ledger

b) A type of cryptocurrency

c) Not sure

7. Are you aware of the ways in which blockchain might improve the reliability of digital marketing transactions?

a) Yes, I have a good understanding

b) Somewhat, but I would like to learn more

c) No, I'm not familiar with it

8. Can blockchain technology increase the security of transactions involving digital marketing?

a) Yes, I strongly believe it can

b) I'm not sure; I need more information

c) No, I don't think it can

9. What advantages may blockchain technology provide for digital marketing transactions? (Check each applicable box.)

a) Increased transparency

b) Enhanced security against fraud

c) Reduced transaction costs

d) Improved data privacy

e) Faster and more efficient transactions

10. How likely are you to believe a blockchain-powered digital marketing transaction?

a) Very likely

b) Moderately likely

c) Neutral

d) Unlikely

e) Very unlikely

11. Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?

a) Yes, significantly more willing

b) Yes, slightly more willing

c) No, it wouldn't make a difference

d) No, I would be less willing

12. What qualms do you have regarding blockchain technology being used in digital marketing transactions?

- a) Lack of understanding of how it works
- b) Potential security vulnerabilities
- c) Integration challenges with existing systems
- d) High upfront implementation costs
- e) Regulatory uncertainties
- f) Scalability issues

13. Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?

- a) Yes, very concerned
- b) Somewhat concerned
- c) Neutral
- d) Not concerned

14. What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?

- a) Lack of awareness and education
- b) Resistance to change from traditional systems
- c) Uncertain legal and regulatory landscape
- d) Limited scalability of current blockchain solutions

15. Have you ever employed a blockchain-based digital marketing platform?

- a) Yes
- b) No

16. If so, how would you rank your interaction with the digital marketing platform built on the blockchain?

- a) Excellent
- b) Good
- c) Average
- d) Poor

17. Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?

- a) Retail and e-commerce
- b) Finance and banking
- c) Healthcare and pharmaceuticals
- d) Advertising and media
- e) Supply chain and logistics

18. What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?

- a) Transparency of data and transactions
- b) Immutable data records

- c) Smart contract functionality for secure agreements
- d) User anonymity and data privacy protections

19. What general impression do you have of blockchain technology?

- a) Revolutionary and game-changing
- b) Promising but needs further development
- c) Overhyped and not practical
- d) Not sure

20. Do you believe blockchain technology will soon become widely used?

- a) Yes, within the next 2-5 years
- b) Yes, but it will take more than five years
- c) No, it won't become mainstream

21. What sources do you often use to learn about emerging technologies like blockchain?

- a) News websites and blogs
- b) Social media platforms
- c) Tech forums and communities
- d) Academic journals and research papers
- e) Other (please specify)

22. Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?

- a) Yes, very interested
- b) Somewhat interested
- c) Not interested

23. How often do you connect with digital marketing (such as online purchasing and digital advertising)?

- a) Daily
- b) Weekly
- c) Monthly
- d) Rarely
- e) Never

24. Have you ever had problems with security or trust during previous digital marketing transactions?

- a) Yes, frequently
- b) Yes, occasionally
- c) No, never

### **Interview Questionnaire**

1. How would you describe your current level of familiarity with blockchain technology?

**Participant 1:** "I'm quite familiar with blockchain, having researched and used it in previous projects; confident in its capabilities."

**Participant 2:** "Limited familiarity; heard about blockchain but haven't delved deep into its applications in digital marketing."

**Participant 3:** "Moderate familiarity; attended a few blockchain webinars, grasped basics, but need more hands-on experience."

**Participant 4:** "Extensive knowledge; worked on blockchain-based projects, comfortable with its potential in enhancing digital marketing transactions."

**Participant 5:** "Basic understanding; heard about blockchain but haven't actively explored its relevance in the digital marketing landscape."

2. In your opinion, what potential advantages do you see in using blockchain for digital marketing transactions?

**Participant 1:** "Blockchain ensures transparency, reducing fraud risks in transactions and building trust among marketers and consumers."

**Participant 2:** "The key advantage is data security. Blockchain's decentralized nature minimizes fraud and ensures the integrity of digital marketing transactions."

**Participant 3:** "Efficiency stands out. Blockchain streamlines processes, minimizes intermediaries, and accelerates transaction speed, benefiting both marketers and consumers."

**Participant 4:** "Enhanced trust is crucial. Blockchain's immutability and transparency boost credibility, fostering trust in digital marketing transactions."

**Participant 5:** "Cost reduction is notable. Blockchain's efficiency cuts transaction costs, making digital marketing more economical and appealing for businesses and consumers."

3. Have you ever encountered challenges or concerns related to security or trust in your past digital marketing transactions?

**Participant 1:** "Yes, I've faced security issues. Instances of data breaches and online fraud have made me cautious in digital transactions."

**Participant 2:** "Absolutely, security is a concern. I've encountered fraudulent activities and doubted the authenticity of certain digital marketing transactions."

**Participant 3:** "Security challenges are common. Issues like unauthorized access and scams have made me more vigilant in my digital marketing engagements."

**Participant 4:** "Yes, trust has been an issue. I've experienced misleading ads and uncertainties in the reliability of some digital marketing platforms."

**Participant 5:** "Certainly, security is a worry. Instances of data leaks and online scams have made me question the safety of digital marketing transactions."

4. What sources or platforms do you often consult to stay informed about emerging technologies like blockchain?

**Participant 1:** "I regularly follow tech blogs like TechCrunch and subscribe to newsletters from industry experts to stay updated on blockchain advancements."

**Participant 2:** "I mainly rely on online forums such as Reddit and participate in blockchain-related webinars to stay informed about emerging technologies."

**Participant 3:** "My primary sources are podcasts, especially those featuring interviews with blockchain experts, and I also attend tech conferences focused on innovative technologies."

**Participant 4:** "I follow blockchain-related accounts on social media platforms like Twitter and LinkedIn, and I'm part of online communities where discussions on blockchain are prevalent."

**Participant 5:** "I stay informed through reputable news websites such as Wired and Forbes Tech, and I actively engage in online discussions on blockchain forums."

5. How likely would you be to trust a digital marketing transaction powered by blockchain technology?

**Participant 1:** "I would highly trust it as blockchain ensures transparency, security, and immutability in transactions, enhancing overall trustworthiness."

**Participant 2:** "Moderately likely. While blockchain offers security benefits, I would consider other factors like usability and widespread adoption."

**Participant 3:** "Very likely. Blockchain's decentralized and tamper-resistant nature instills confidence, making me more inclined to trust digital marketing transactions."

**Participant 4:** "Slightly likely. While blockchain has its merits, I still harbor reservations about its real-world applications and potential vulnerabilities."

**Participant 5:** "Extremely likely. Blockchain's cryptographic security and decentralized structure create a reliable foundation, significantly boosting my trust in digital marketing transactions."

6. Do you believe blockchain can enhance the reliability of digital marketing transactions?  
Why or why not?

**Participant 1:** "Yes, blockchain's decentralized and transparent nature minimizes fraud risk, providing a trustworthy foundation for digital marketing transactions."

**Participant 2:** "I'm skeptical. While blockchain offers transparency, its complexity and potential technical glitches could introduce uncertainties in transactions."

**Participant 3:** "Absolutely. The immutable and tamper-resistant nature of blockchain ensures data integrity, making digital marketing transactions more reliable and secure."

**Participant 4:** "Not convinced. Blockchain may introduce complexities, and its widespread adoption and understanding could be obstacles to reliability in digital marketing."

**Participant 5:** "Yes, blockchain's transparency and smart contract capabilities can automate and secure processes, fostering a more dependable environment for digital marketing transactions."

7. What doubts or concerns do you have regarding the use of blockchain in digital marketing transactions?

**Participant 1:** "I worry about data privacy and how blockchain may impact consumer anonymity during digital marketing interactions."

**Participant 2:** "My concern lies in the complexity of blockchain implementation and its potential to confuse or alienate users."

**Participant 3:** "Security is a big question. I'm unsure about the vulnerability of smart contracts and how they might be exploited."

**Participant 4:** "Blockchain's scalability concerns me. If it can't handle a high volume of transactions, it might hinder marketing operations."

**Participant 5:** "I have reservations about the regulatory landscape. Unclear regulations could pose legal challenges in blockchain-based marketing transactions."

8. Are you aware of any specific obstacles that could hinder the adoption of blockchain in the digital marketing sector?

**Participant 1:** "Yes, concerns about integrating blockchain with existing systems and uncertainties about regulatory compliance are potential obstacles."

**Participant 2:** "Absolutely, scalability issues and the need for industry-wide standards pose challenges for widespread blockchain adoption in digital marketing."

**Participant 3:** "Yes, the complexity of implementing blockchain, coupled with the lack of understanding among marketers, could hinder its seamless adoption."

**Participant 4:** "Indeed, issues related to data privacy and the high initial costs of implementing blockchain solutions may impede its adoption in digital marketing."

**Participant 5:** "Certainly, the slow pace of blockchain technology development and the reluctance of stakeholders to embrace change are notable obstacles in digital marketing."

9. If you've used a blockchain-based digital marketing platform, how would you rate your overall experience with it?

**Participant 1:** "Exceptional experience—enhanced security and transparency made transactions seamless and boosted trust in the digital marketing platform."

**Participant 2:** "Satisfactory. Blockchain brought efficiency, but some complexities affected user-friendliness in the digital marketing platform."

**Participant 3:** "Positive overall. Blockchain ensured reliability, but a learning curve impacted ease of use in the digital marketing platform."

**Participant 4:** "Neutral experience. Blockchain offered security, yet occasional technical issues affected the digital marketing platform's performance."

**Participant 5:** "Very positive. Blockchain's impact on transparency and trust significantly improved my overall satisfaction with the digital marketing platform."

10. What characteristics would you consider essential in a blockchain-based digital marketing platform to instill confidence in its dealings?

**Participant 1:** "I believe transparency and a user-friendly interface are crucial. Clear transaction history and robust security measures would instill confidence."

**Participant 2:** "Scalability and real-time tracking matter. A reliable blockchain platform should ensure fast transactions and provide detailed analytics for marketing activities."

**Participant 3:** "Security is paramount, but I'd also value integration capabilities with existing systems. Flexibility, coupled with strong encryption, would boost confidence in blockchain transactions."

**Participant 4:** "Anonymity and data privacy are key. A blockchain-based platform should prioritize protecting user information while delivering seamless and efficient marketing transactions."

**Participant 5:** "Smart contract functionality is essential for trust. Automation and execution of agreements without intermediaries would significantly enhance confidence in a blockchain-based digital marketing platform."

## SPSS Analysis

### Statistics

		What is your Age?	What's your gender?	What's your academic background ?	What's your Current Profession?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		2.13	1.21	2.73	2.38
Median		2.00	1.00	3.00	2.00
Mode		2	1	3	2
Std. Deviation		.840	.407	.594	1.028
Variance		.706	.166	.353	1.056
Skewness		1.118	1.463	-1.222	.472
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		1.929	.143	1.675	-.724
Std. Error of Kurtosis		.465	.465	.465	.465
Range		4	1	3	4

Minimum		1	1	1	1
Maximum		5	2	4	5
Sum		226	128	289	252
Percentiles	25	2.00	1.00	2.00	2.00
	50	2.00	1.00	3.00	2.00
	75	2.00	1.00	3.00	3.00

### Statistics

		Do you know what blockchain technology is?	In your own words, how would you sum up blockchain technology?	Are you aware of the ways in which blockchain might improve the reliability of digital marketing transactions?	Can blockchain technology increase the security of transactions involving digital marketing?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		1.20	1.57	1.68	1.35
Median		1.00	1.00	2.00	1.00
Mode		1	1	1	1
Std. Deviation		.400	.781	.737	.553
Variance		.160	.610	.544	.306

Skewness		1.537	.938	.592	1.316
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		.368	-.708	-.939	.801
Std. Error of Kurtosis		.465	.465	.465	.465
Range		1	2	2	2
Minimum		1	1	1	1
Maximum		2	3	3	3
Sum		127	166	178	143
Percentiles	25	1.00	1.00	1.00	1.00
	50	1.00	1.00	2.00	1.00
	75	1.00	2.00	2.00	2.00

### Statistics

		What advantages may blockchain technology provide for digital marketing transactions?	How likely are you to believe a blockchain-powered digital marketing transaction?	Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?	What doubts do you have regarding blockchain technology being used in digital marketing transactions?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		2.44	1.75	1.57	1.79

Median		2.00	1.50	1.00	1.00
Mode		2	1	1	1
Std. Deviation		1.367	.884	.851	1.161
Variance		1.868	.782	.724	1.347
Skewness		.862	1.032	1.633	1.459
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		-.524	.662	2.109	1.272
Std. Error of Kurtosis		.465	.465	.465	.465
Range		4	4	3	4
Minimum		1	1	1	1
Maximum		5	5	4	5
Sum		259	185	166	190
Percentiles	25	1.00	1.00	1.00	1.00
	50	2.00	1.50	1.00	1.00
	75	3.00	2.00	2.00	2.00

### Statistics

		Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?	What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?	Have you ever employed a blockchain-based digital marketing platform?	If so, how would you rank your interaction with the digital marketing platform built on the blockchain?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		1.63	1.66	1.46	2.01
Median		1.00	1.00	1.00	2.00
Mode		1	1	1	2
Std. Deviation		.772	.827	.501	.900
Variance		.597	.684	.251	.809
Skewness		1.252	1.018	.154	.621
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		1.434	.138	-2.015	-.330
Std. Error of Kurtosis		.465	.465	.465	.465
Range		3	3	1	3
Minimum		1	1	1	1
Maximum		4	4	2	4
Sum		173	176	155	213
Percentiles	25	1.00	1.00	1.00	1.00

50	1.00	1.00	1.00	2.00
75	2.00	2.00	2.00	3.00

### Statistics

		Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?	What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?	What general impression do you have of blockchain technology?	Do you believe blockchain technology will soon become widely used?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		1.96	1.80	1.67	1.46
Median		2.00	1.00	2.00	1.00
Mode		1	1	1	1
Std. Deviation		1.242	1.027	.765	.620
Variance		1.541	1.056	.585	.384
Skewness		1.320	.946	1.034	1.001
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		.664	-.441	.756	-.015
Std. Error of Kurtosis		.465	.465	.465	.465

Range		4	3	3	2
Minimum		1	1	1	1
Maximum		5	4	4	3
Sum		208	191	177	155
Percentiles	25	1.00	1.00	1.00	1.00
	50	2.00	1.00	2.00	1.00
	75	2.00	3.00	2.00	2.00

### Statistics

		What sources do you often use to learn about emerging technologies like blockchain?	Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?	How often do you connect with digital marketing (such as online purchasing and digital advertising)?	Have you ever had problems with security or trust during previous digital marketing transactions?
N	Valid	106	106	106	106
	Missing	0	0	0	0
Mean		2.10	1.57	2.59	1.82
Median		2.00	1.00	3.00	2.00
Mode		2	1	3	2
Std. Deviation		1.146	.690	1.161	.701

Variance		1.313	.477	1.348	.491
Skewness		1.419	.820	.064	.264
Std. Error of Skewness		.235	.235	.235	.235
Kurtosis		1.491	-.514	-.973	-.930
Std. Error of Kurtosis		.465	.465	.465	.465
Range		4	2	4	2
Minimum		1	1	1	1
Maximum		5	3	5	3
Sum		223	166	275	193
Percentiles	25	1.00	1.00	2.00	1.00
	50	2.00	1.00	3.00	2.00
	75	2.00	2.00	3.00	2.00

#### Demographics and Background:

Age: Mean age is 2.13, Median is 2.00, indicating a relatively young respondent group.

Gender: Coded as 1 for male and 2 for female, with more male respondents (mean = 1.21).

Academic Background and Profession: The mean scores suggest a moderate level of education (mean = 2.73) and a diverse range of professions (mean = 2.38) among respondents.

#### Awareness and Understanding of Blockchain:

Respondents seem to have a moderate understanding of blockchain technology. Mean scores indicate some awareness but not extensive knowledge.

Reliability and security aspects of blockchain in digital marketing transactions are viewed moderately positively.

#### Perception and Trust in Blockchain for Digital Marketing:

Respondents generally see advantages in blockchain for digital marketing (mean = 2.44) but express moderate skepticism (mean = 1.79).

Privacy concerns and doubts regarding the impact of blockchain on digital marketing transactions are moderate.

#### Adoption and Future Expectations of Blockchain:

The adoption of blockchain-based digital marketing platforms seems relatively low (mean = 1.46).

Expectations regarding the widespread use of blockchain technology in the near future are moderate (mean = 1.67).

#### Learning and Engagement:

Respondents appear moderately engaged with digital marketing but relatively less so with emerging tech like blockchain.

Interest in learning about blockchain through seminars or webinars is moderate.

#### Concerns and Trust Issues in Digital Marketing:

Concerns regarding security and trust in digital marketing transactions are present but not too high among respondents.

Overall, the analysis suggests a moderate level of awareness, some skepticism, and a cautious yet positive attitude towards the adoption and implications of blockchain in digital marketing among the surveyed population.

## Frequency Table

### What is your Age?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	19	17.9	17.9	17.9
	2	64	60.4	60.4	78.3
	3	15	14.2	14.2	92.5
	4	6	5.7	5.7	98.1
	5	2	1.9	1.9	100.0
	Total	106	100.0	100.0	

### What's your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	84	79.2	79.2	79.2
	2	22	20.8	20.8	100.0
	Total	106	100.0	100.0	

### What's your academic background ?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	5	4.7	4.7	4.7
	2	22	20.8	20.8	25.5
	3	76	71.7	71.7	97.2
	4	3	2.8	2.8	100.0
	Total	106	100.0	100.0	

### What's your Current Profession?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	20	18.9	18.9	18.9

	2	48	45.3	45.3	64.2
	3	17	16.0	16.0	80.2
	4	20	18.9	18.9	99.1
	5	1	.9	.9	100.0
	Total	106	100.0	100.0	

### Do you know what blockchain technology is?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	85	80.2	80.2	80.2
	2	21	19.8	19.8	100.0
	Total	106	100.0	100.0	

### In your own words, how would you sum up blockchain technology?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	65	61.3	61.3	61.3
	2	22	20.8	20.8	82.1

	3	19	17.9	17.9	100.0
	Total	106	100.0	100.0	

**Are you aware of the ways in which blockchain might improve the reliability of digital marketing transactions?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	51	48.1	48.1	48.1
	2	38	35.8	35.8	84.0
	3	17	16.0	16.0	100.0
	Total	106	100.0	100.0	

**Can blockchain technology increase the security of transactions involving digital marketing?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	73	68.9	68.9	68.9
	2	29	27.4	27.4	96.2
	3	4	3.8	3.8	100.0
	Total	106	100.0	100.0	

**What advantages may blockchain technology provide for digital marketing transactions?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	27	25.5	25.5	25.5
	2	46	43.4	43.4	68.9
	3	9	8.5	8.5	77.4
	4	7	6.6	6.6	84.0
	5	17	16.0	16.0	100.0
	Total		106	100.0	100.0

**How likely are you to believe a blockchain-powered digital marketing transaction?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	53	50.0	50.0	50.0
	2	31	29.2	29.2	79.2
	3	19	17.9	17.9	97.2
	4	2	1.9	1.9	99.1

5	1	.9	.9	100.0
Total	106	100.0	100.0	

**Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	64	60.4	60.4	60.4
	2	31	29.2	29.2	89.6
	3	4	3.8	3.8	93.4
	4	7	6.6	6.6	100.0
	Total	106	100.0	100.0	

**What doubts do you have regarding blockchain technology being used in digital marketing transactions?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	62	58.5	58.5	58.5
	2	20	18.9	18.9	77.4
	3	14	13.2	13.2	90.6

	4	4	3.8	3.8	94.3
	5	6	5.7	5.7	100.0
	Total	106	100.0	100.0	

**Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	54	50.9	50.9	50.9
	2	41	38.7	38.7	89.6
	3	7	6.6	6.6	96.2
	4	4	3.8	3.8	100.0
	Total	106	100.0	100.0	

**What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	57	53.8	53.8	53.8
	2	31	29.2	29.2	83.0

	3	15	14.2	14.2	97.2
	4	3	2.8	2.8	100.0
	Total	106	100.0	100.0	

**Have you ever employed a blockchain-based digital marketing platform?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	57	53.8	53.8	53.8
	2	49	46.2	46.2	100.0
	Total	106	100.0	100.0	

**If so, how would you rank your interaction with the digital marketing platform built on the blockchain?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	34	32.1	32.1	32.1
	2	45	42.5	42.5	74.5
	3	19	17.9	17.9	92.5
	4	8	7.5	7.5	100.0

Total	106	100.0	100.0	
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**Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	50	47.2	47.2	47.2
	2	35	33.0	33.0	80.2
	3	4	3.8	3.8	84.0
	4	9	8.5	8.5	92.5
	5	8	7.5	7.5	100.0
	Total	106	100.0	100.0	

**What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	58	54.7	54.7	54.7
	2	21	19.8	19.8	74.5

	3	17	16.0	16.0	90.6
	4	10	9.4	9.4	100.0
	Total	106	100.0	100.0	

**What general impression do you have of blockchain technology?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	51	48.1	48.1	48.1
	2	42	39.6	39.6	87.7
	3	10	9.4	9.4	97.2
	4	3	2.8	2.8	100.0
	Total	106	100.0	100.0	

**Do you believe blockchain technology will soon become widely used?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	64	60.4	60.4	60.4
	2	35	33.0	33.0	93.4

	3	7	6.6	6.6	100.0
	Total	106	100.0	100.0	

**What sources do you often use to learn about emerging technologies like blockchain?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	32	30.2	30.2	30.2
	2	53	50.0	50.0	80.2
	3	9	8.5	8.5	88.7
	4	2	1.9	1.9	90.6
	5	10	9.4	9.4	100.0
	Total	106	100.0	100.0	

**Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	58	54.7	54.7	54.7

	2	36	34.0	34.0	88.7
	3	12	11.3	11.3	100.0
	Total	106	100.0	100.0	

**How often do you connect with digital marketing (such as online purchasing and digital advertising)?**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	25	23.6	23.6	23.6
	2	22	20.8	20.8	44.3
	3	34	32.1	32.1	76.4
	4	21	19.8	19.8	96.2
	5	4	3.8	3.8	100.0
	Total	106	100.0	100.0	

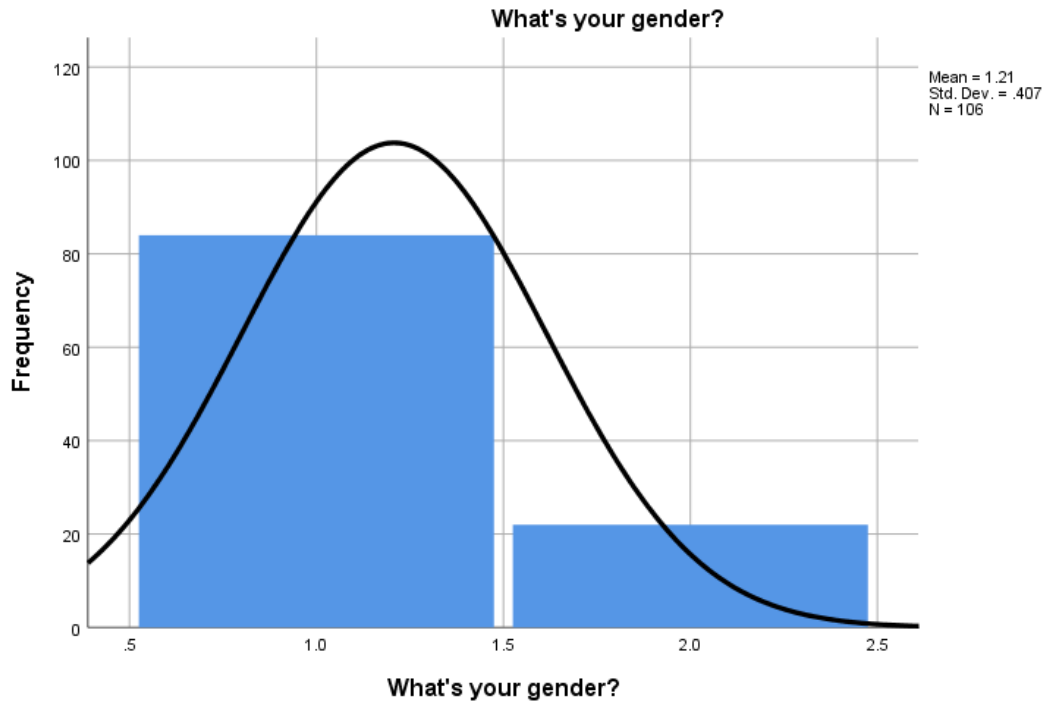
**Have you ever had problems with security or trust during previous digital marketing transactions?**

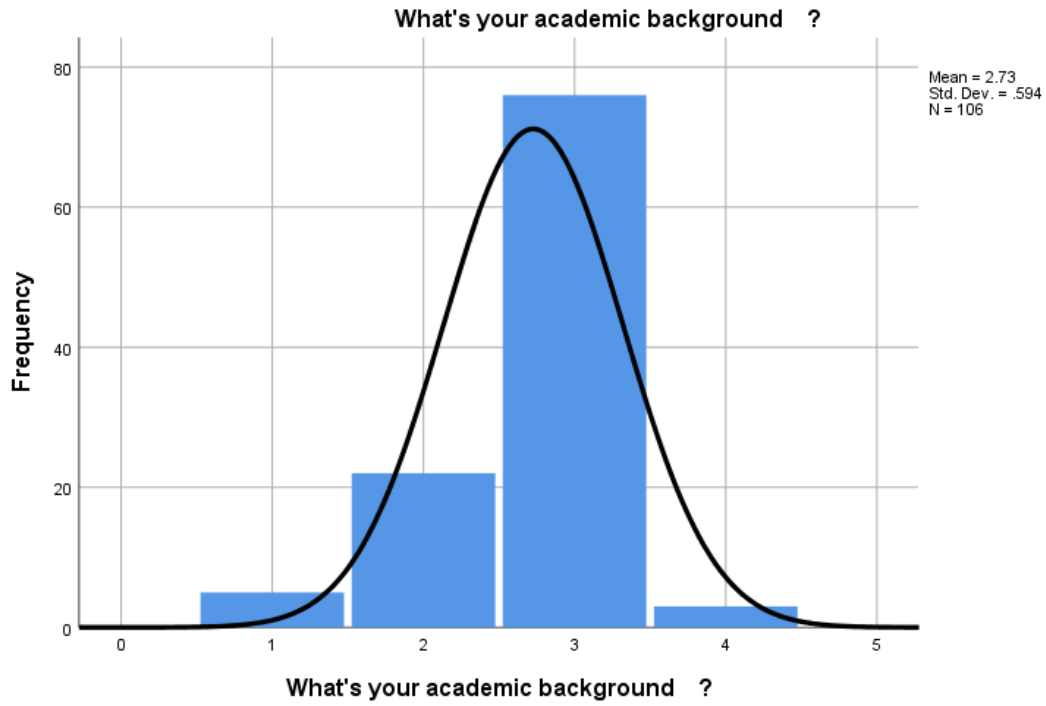
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	37	34.9	34.9	34.9

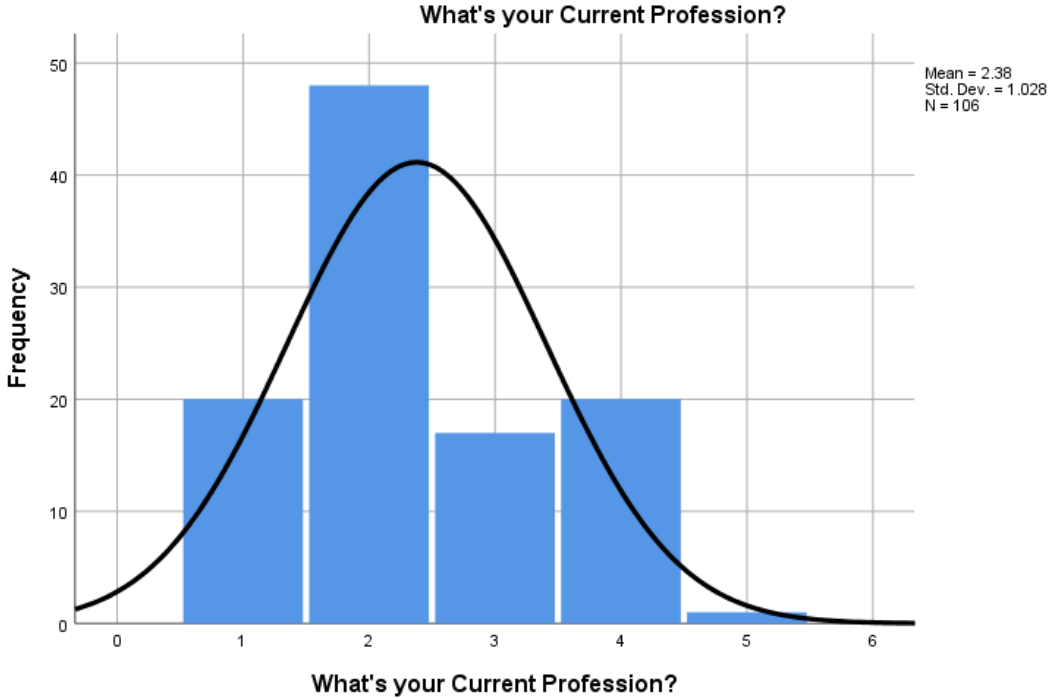
2	51	48.1	48.1	83.0
3	18	17.0	17.0	100.0
Total	106	100.0	100.0	

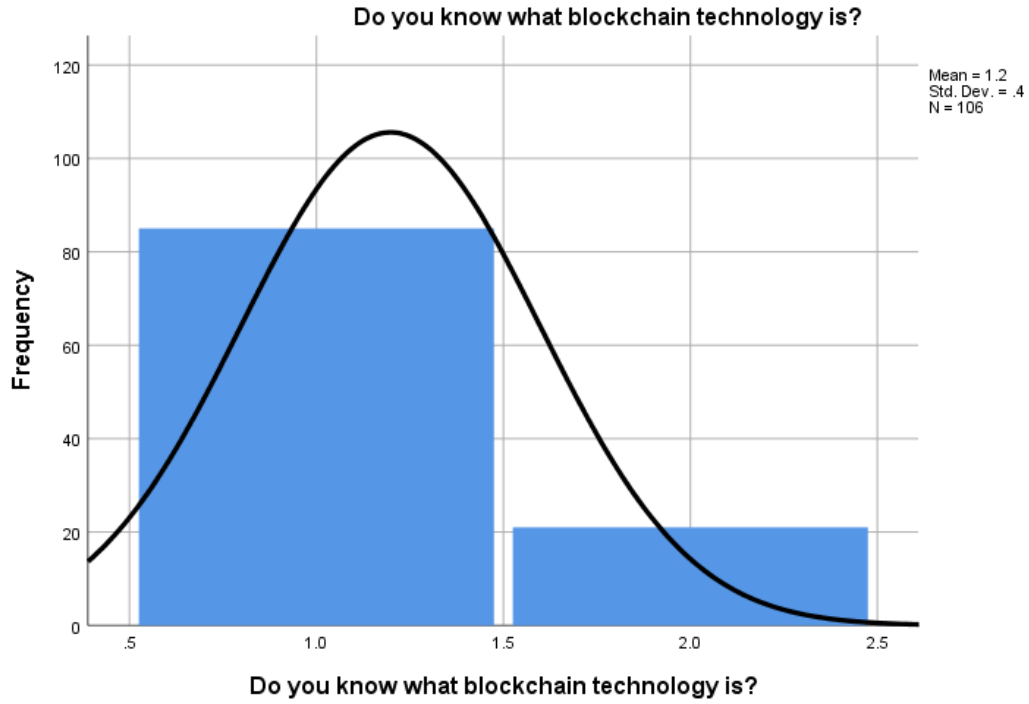
## Histogram

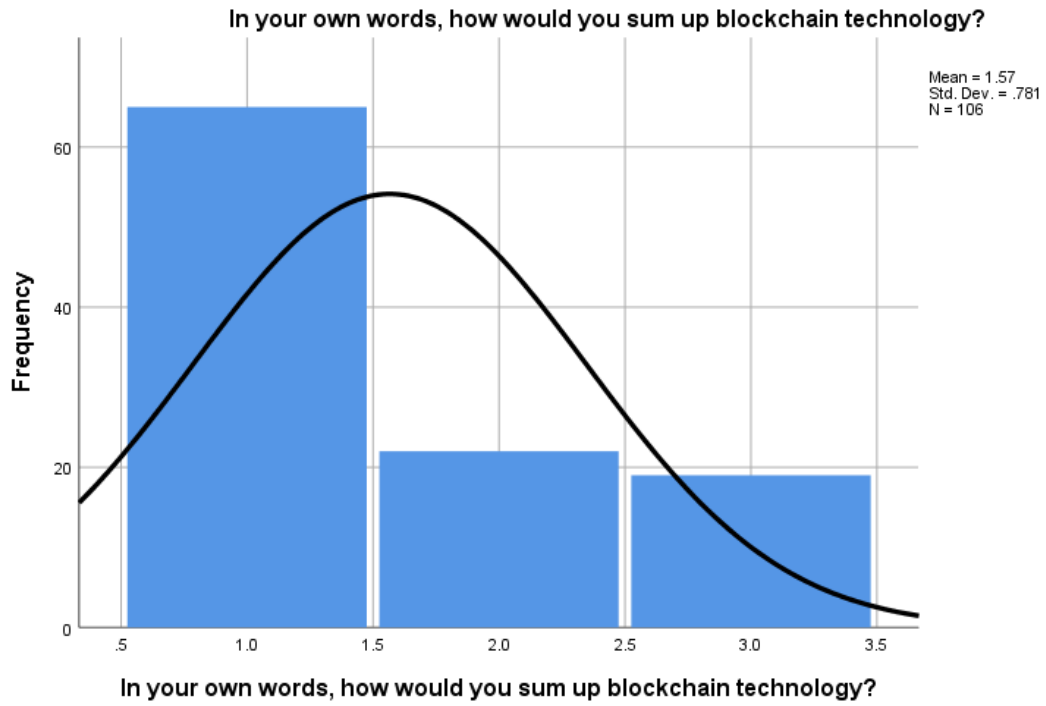




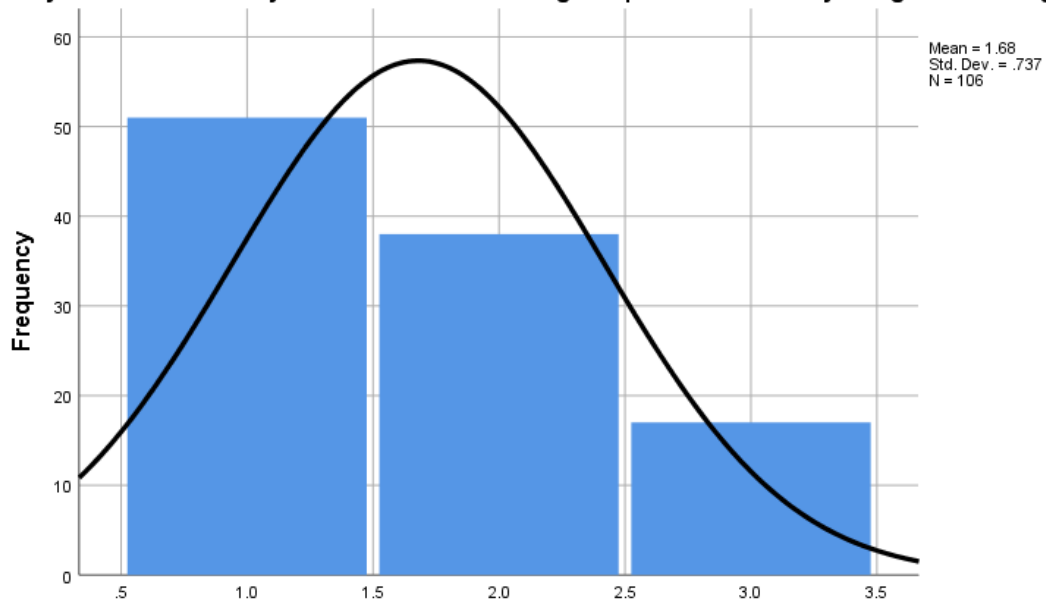




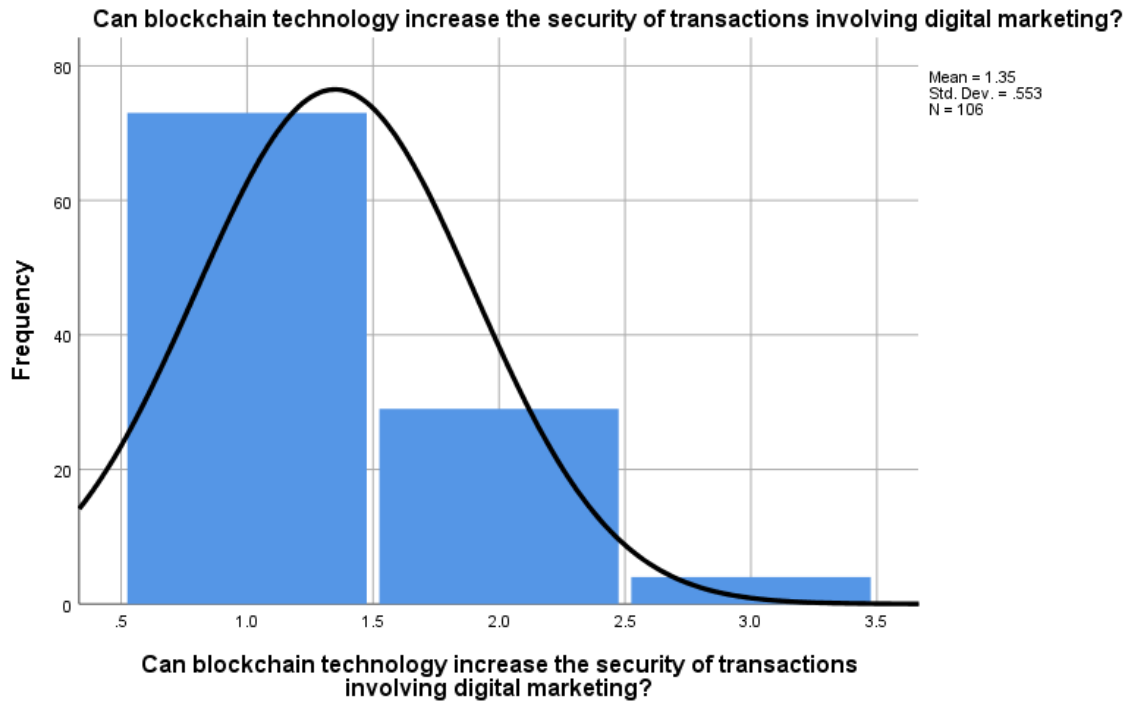


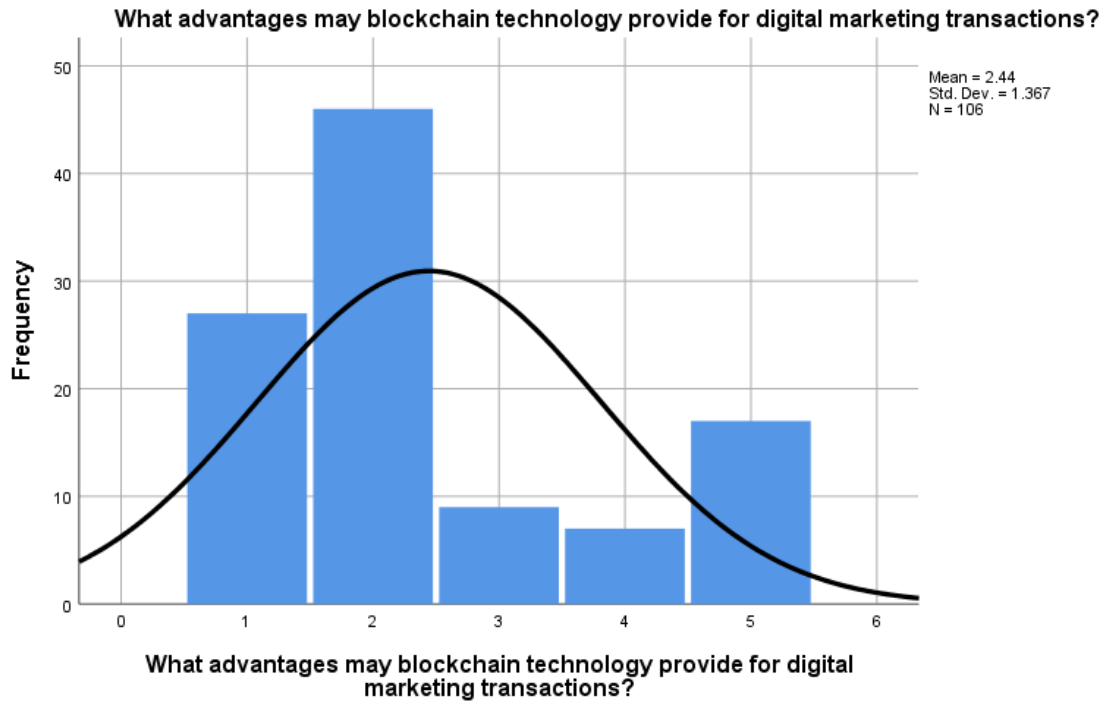


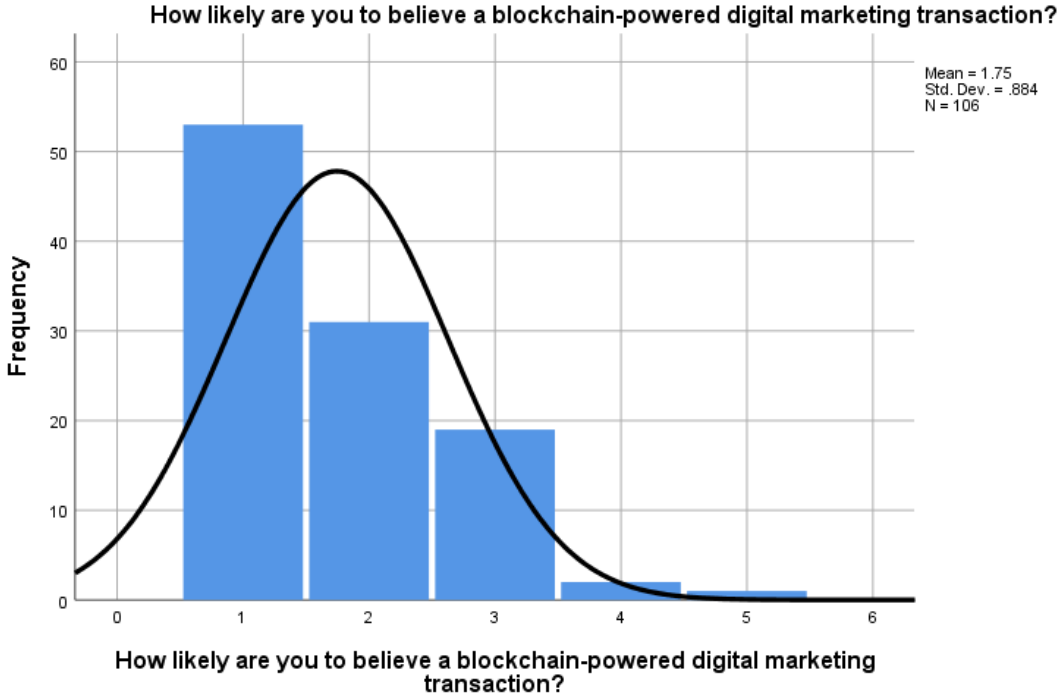
Are you aware of the ways in which blockchain might improve the reliability of digital marketing transactions?



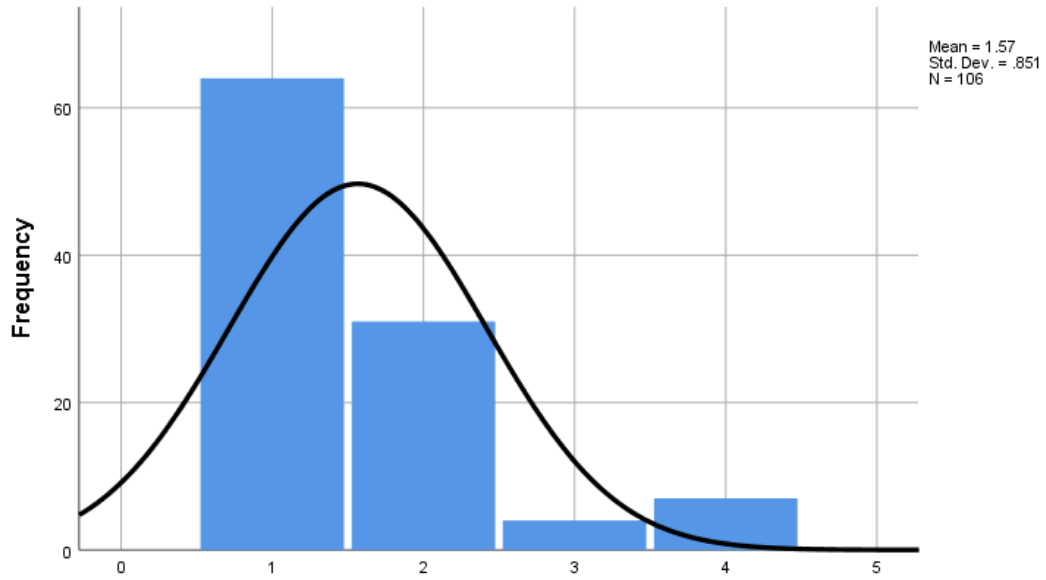
Are you aware of the ways in which blockchain might improve the reliability of digital marketing transactions?





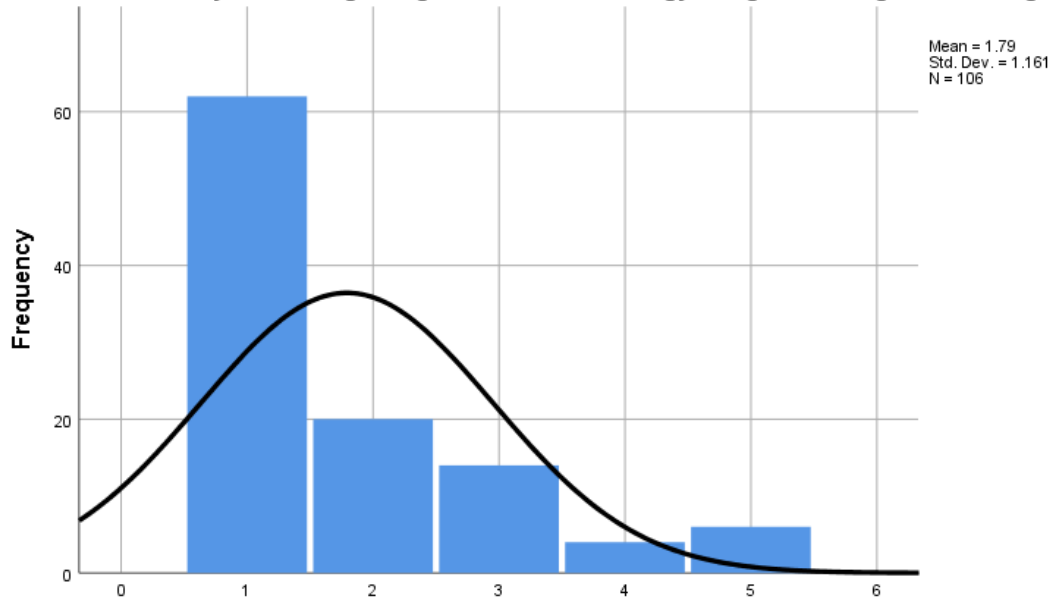


**Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?**



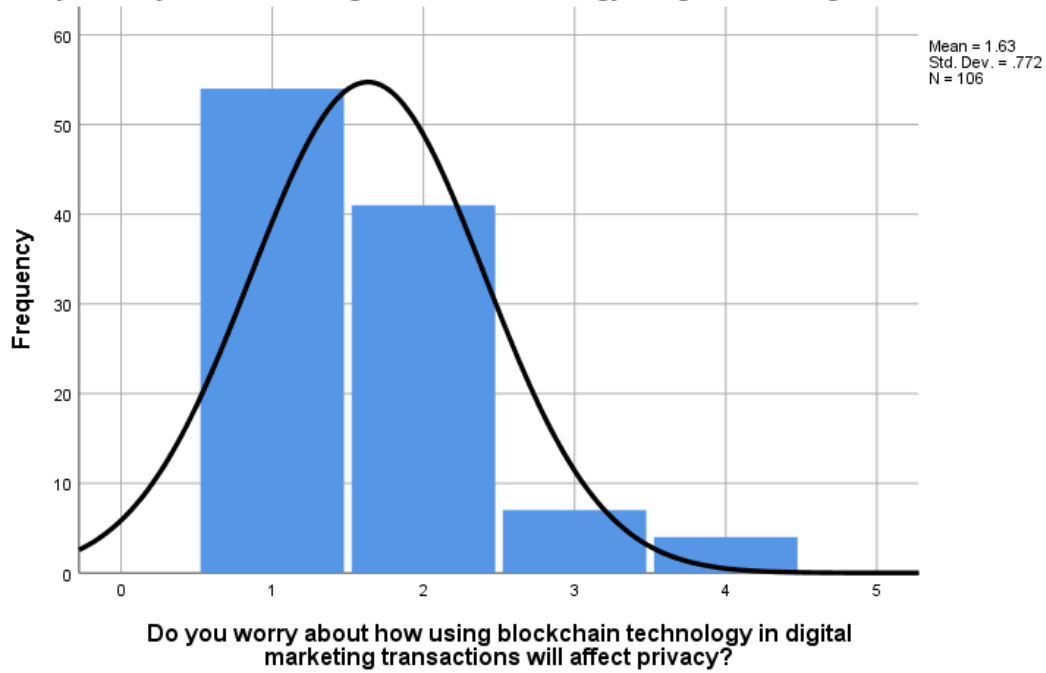
**Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?**

What doubts do you have regarding blockchain technology being used in digital marketing transactions?

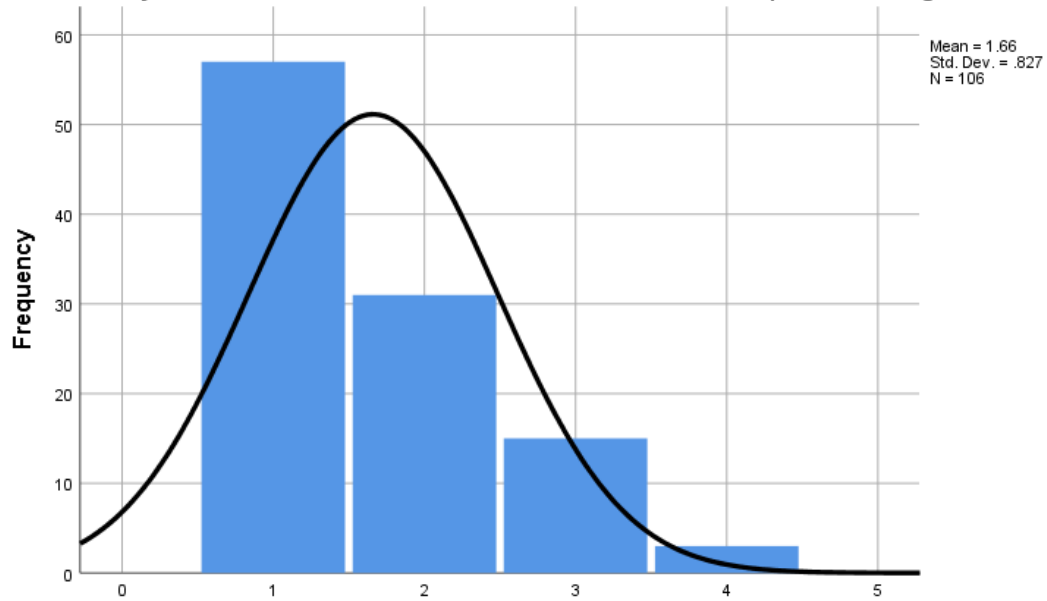


What doubts do you have regarding blockchain technology being used in digital marketing transactions?

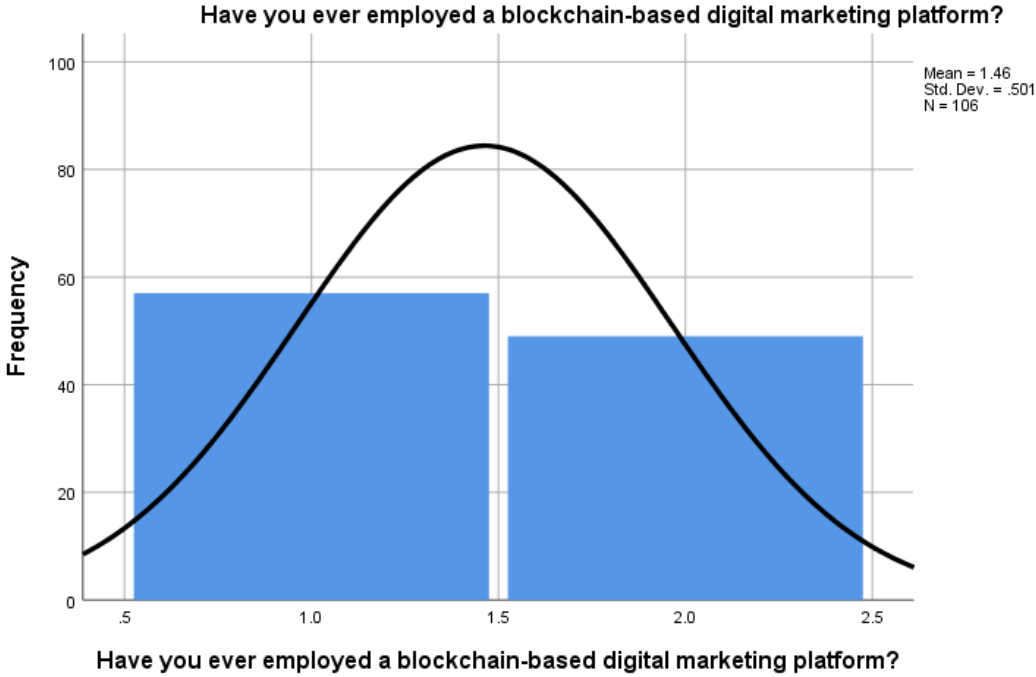
Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?



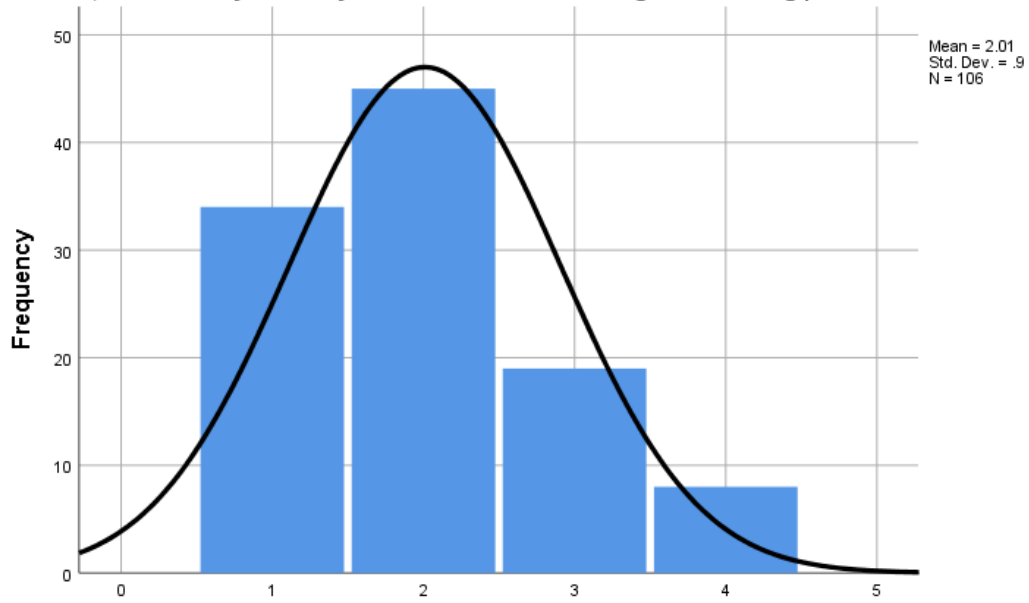
What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?



What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?

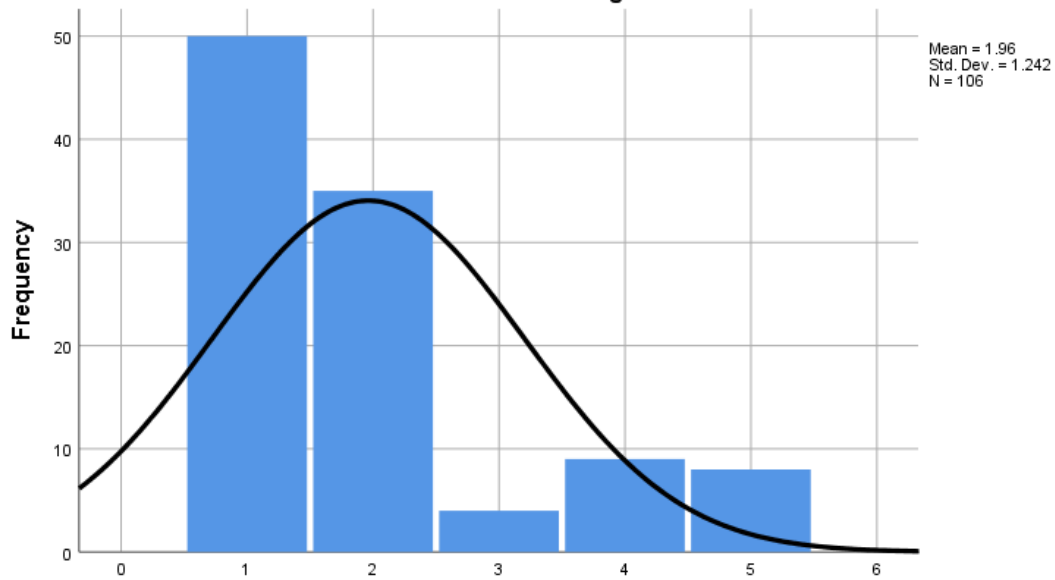


If so, how would you rank your interaction with the digital marketing platform built on the blockchain?



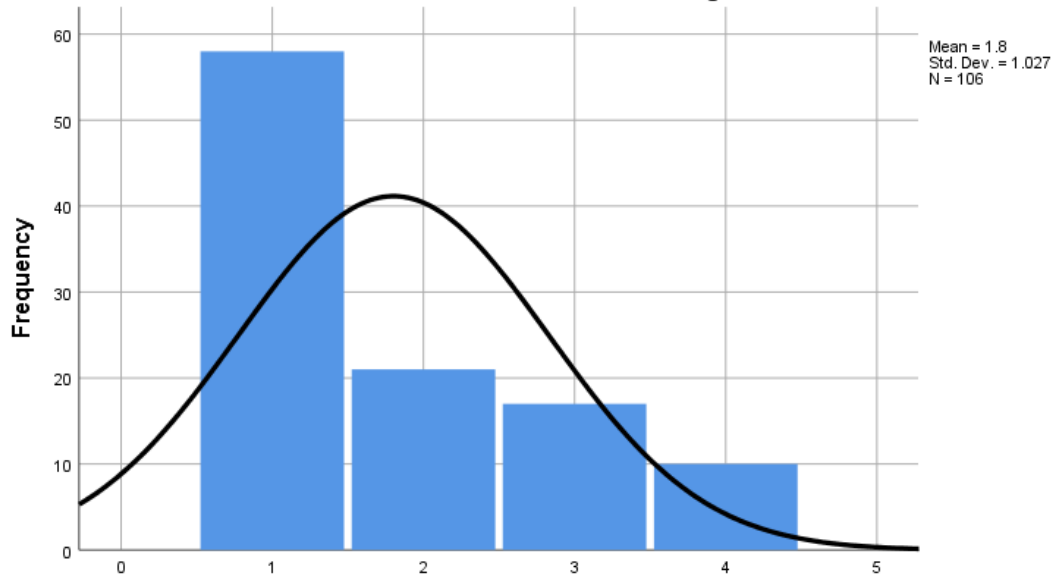
If so, how would you rank your interaction with the digital marketing platform built on the blockchain?

Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?

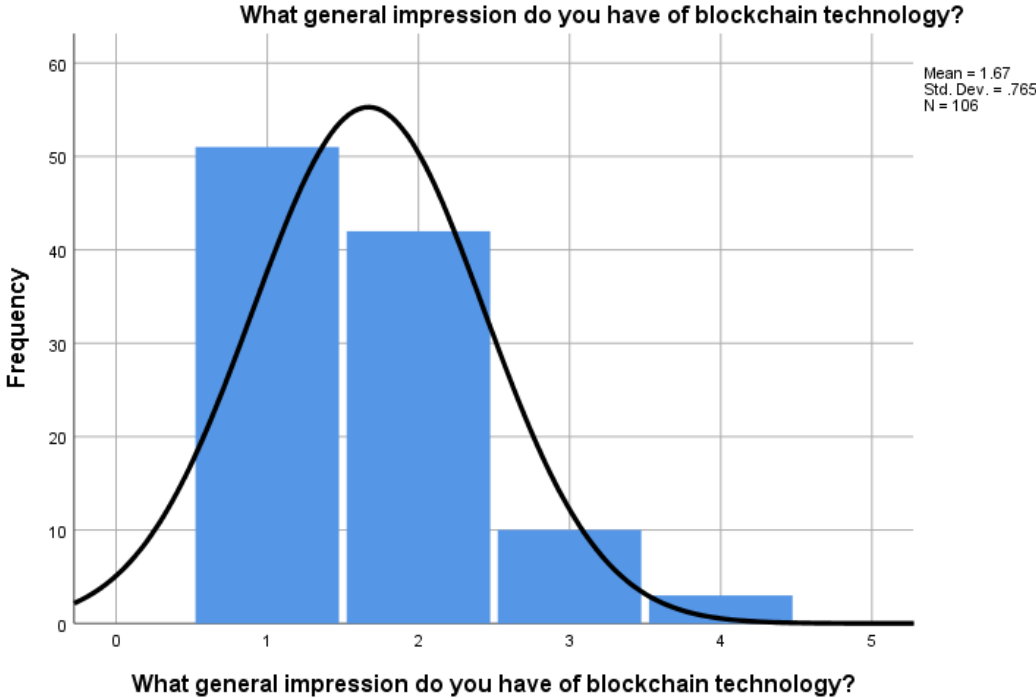


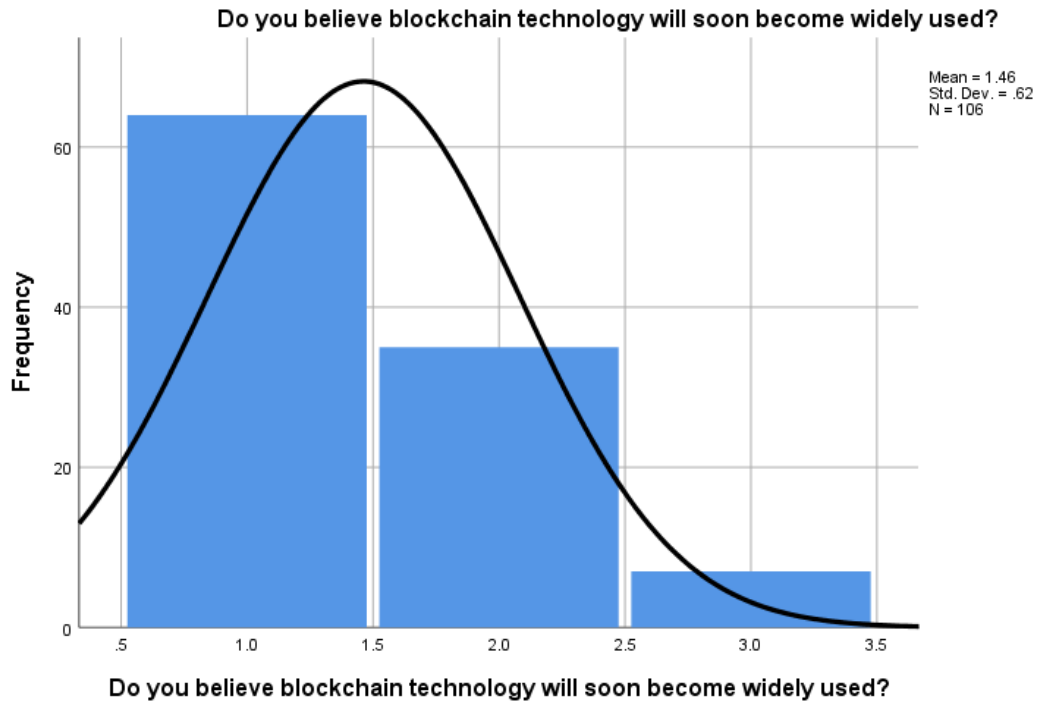
Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?

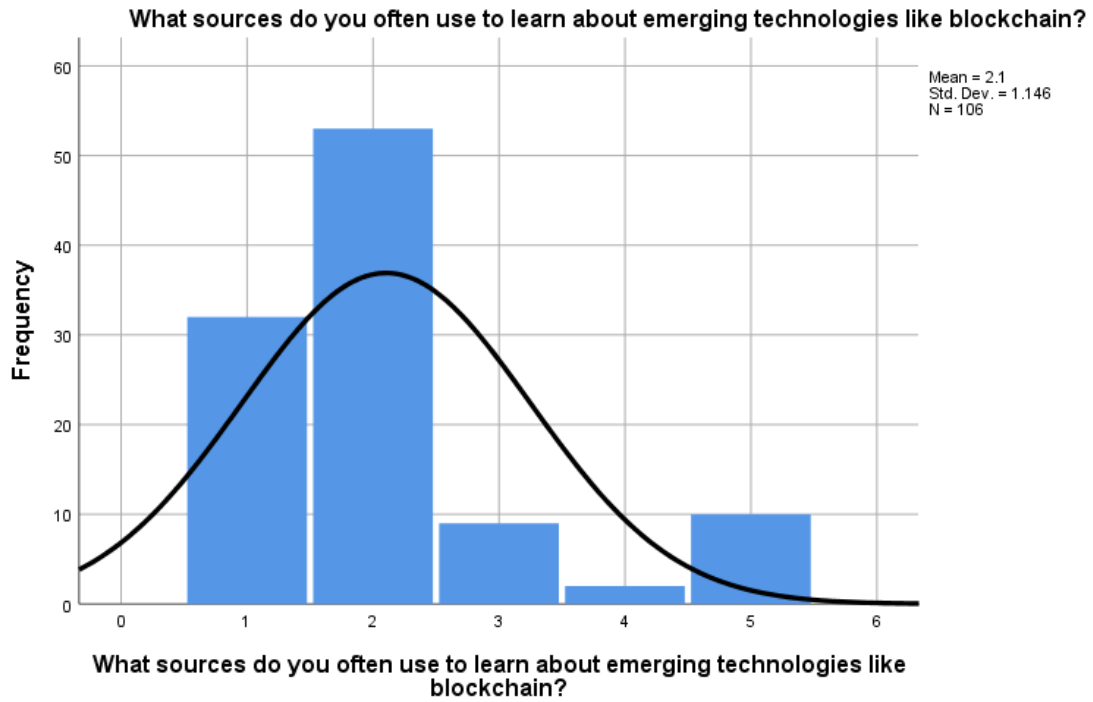
What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?



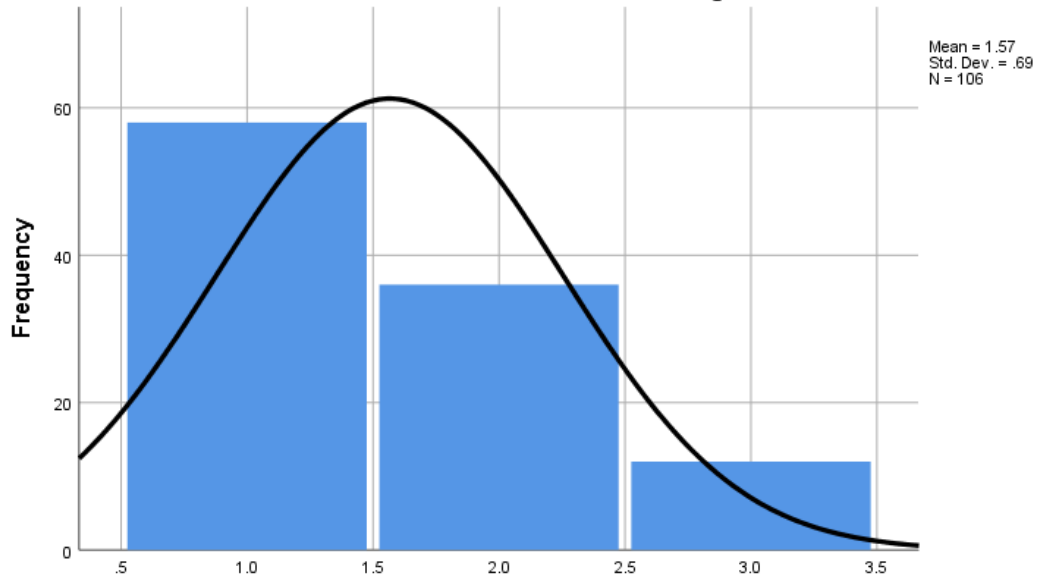
What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?





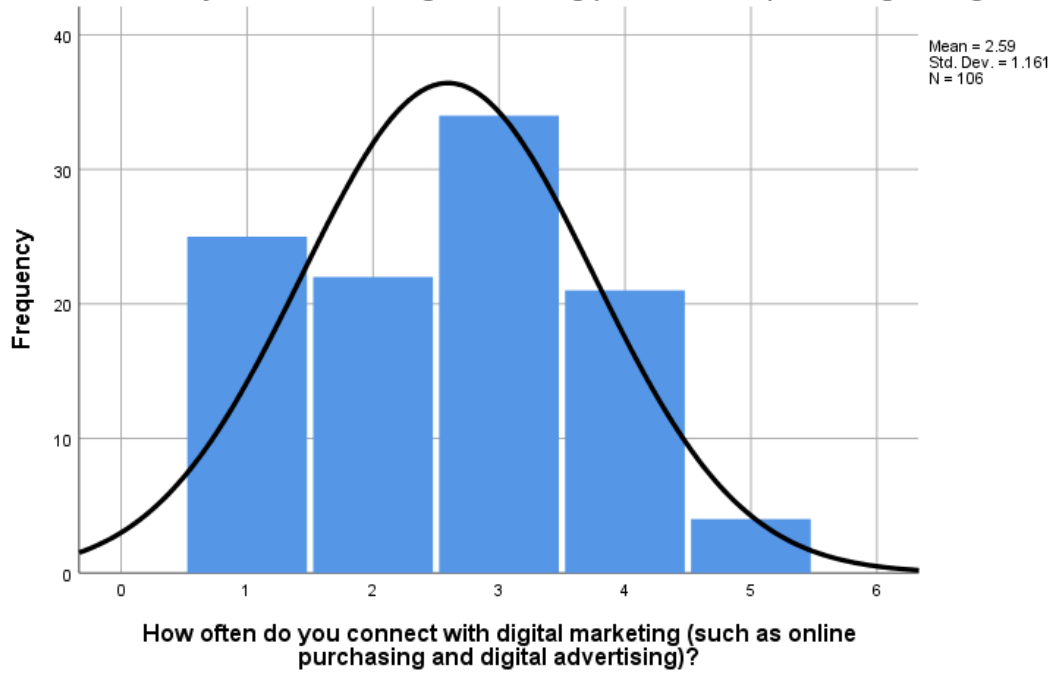


**Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?**

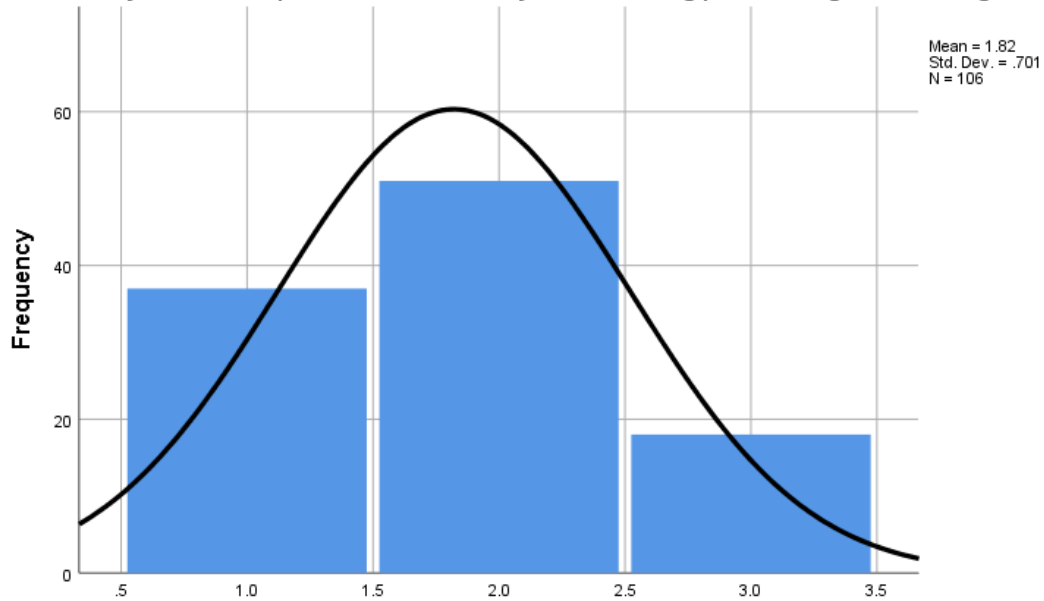


**Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?**

How often do you connect with digital marketing (such as online purchasing and digital advertising)?



Have you ever had problems with security or trust during previous digital marketing transactions?



Have you ever had problems with security or trust during previous digital marketing transactions?

## Descriptives

### Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
What is your Age?	106	4	1	5	2.13	.840	.706	1.118	.235	1.929	.465

What's your gender?	106	1	1	2	1.21	.407	.166	1.463	.235	.143	.465
What's your academic background ?	106	3	1	4	2.73	.594	.353	-1.222	.235	1.675	.465
What's your Current Profession?	106	4	1	5	2.38	1.028	1.056	.472	.235	-.724	.465
Do you know what blockchain technology is?	106	1	1	2	1.20	.400	.160	1.537	.235	.368	.465
In your own words, how would you sum up blockchain technology?	106	2	1	3	1.57	.781	.610	.938	.235	-.708	.465
Are you aware of the ways in which blockchain might improve the reliability of digital marketing transactions?	106	2	1	3	1.68	.737	.544	.592	.235	-.939	.465
Can blockchain technology increase the security of transactions involving digital marketing?	106	2	1	3	1.35	.553	.306	1.316	.235	.801	.465

What advantages may blockchain technology provide for digital marketing transactions?	106	4	1	5	2.44	1.367	1.868	.862	.235	-.524	.465
How likely are you to believe a blockchain-powered digital marketing transaction?	106	4	1	5	1.75	.884	.782	1.032	.235	.662	.465
Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?	106	3	1	4	1.57	.851	.724	1.633	.235	2.109	.465
What doubts do you have regarding blockchain technology being used in digital marketing transactions?	106	4	1	5	1.79	1.161	1.347	1.459	.235	1.272	.465

Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?	106	3	1	4	1.63	.772	.597	1.252	.235	1.434	.465
What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?	106	3	1	4	1.66	.827	.684	1.018	.235	.138	.465
Have you ever employed a blockchain-based digital marketing platform?	106	1	1	2	1.46	.501	.251	.154	.235	-2.015	.465
If so, how would you rank your interaction with the digital marketing platform built on the blockchain?	106	3	1	4	2.01	.900	.809	.621	.235	-.330	.465

Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?	106	4	1	5	1.96	1.242	1.541	1.320	.235	.664	.465
What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?	106	3	1	4	1.80	1.027	1.056	.946	.235	-.441	.465
What general impression do you have of blockchain technology?	106	3	1	4	1.67	.765	.585	1.034	.235	.756	.465
Do you believe blockchain technology will soon become widely used?	106	2	1	3	1.46	.620	.384	1.001	.235	-.015	.465



The analysis involves data from a survey of 106 respondents encompassing various demographics and perceptions regarding blockchain in digital marketing. Numerically, the mean age is 2.13 (out of 5), indicating a moderately young respondent group. The gender distribution leans slightly towards males (mean = 1.21). In terms of academic background and profession, the mean scores are 2.73 and 2.38, respectively, showcasing moderate diversity in education and professional backgrounds.

Regarding blockchain awareness and understanding, the mean scores for comprehension of blockchain technology (1.57) and its potential in enhancing reliability (1.68) and security (1.35) in digital marketing reflect a moderate level of understanding and optimism.

However, there are reservations: respondents express doubts about blockchain's use in digital marketing (mean = 1.79), concerns about its impact on privacy (mean = 1.63), and identification of obstacles to its adoption in the digital marketing sector (mean = 1.66). Despite these concerns, there's a moderately positive impression of blockchain (mean = 1.67) and a belief in its potential widespread use (mean = 1.46).

Engagement-wise, respondents show moderate interest in learning about blockchain (mean = 2.10) through various sources and seminars/webinars (mean = 1.57). Their connection with digital marketing activities also falls within a

moderate range (mean = 2.59), with some having experienced security or trust issues in the past (mean = 1.82).

These numerical representations indicate a nuanced outlook: while there's enthusiasm and a moderate understanding of blockchain's potential, it's tempered by reservations and concerns, shaping a cautiously optimistic stance toward its integration into digital marketing strategies.

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	45.752	19	2.408	6.838	.000 <sup>b</sup>
	Residual	30.286	86	.352		
	Total	76.038	105			

a. Dependent Variable: Would the use of blockchain technology increase your willingness to participate in digital marketing transactions?

b. Predictors: (Constant), Have you ever had problems with security or trust during previous digital marketing transactions?, What doubts do you have regarding blockchain technology being used in digital marketing transactions?, What advantages may blockchain technology provide for digital marketing transactions?, What sources do you often use to learn about emerging technologies like blockchain?, How likely are you to believe a blockchain-powered digital marketing transaction?, What characteristics would you look for in a blockchain-based digital marketing platform to make you more confident in its dealings?, In your own words, how would you sum up blockchain technology?, What do you consider to be the main obstacles to blockchain adoption in the digital marketing sector?, Have you ever employed a blockchain-based digital marketing platform?, Which sectors, in your opinion, stand to gain the most from using blockchain technology in their advertising strategies?, How often do you connect with digital marketing (such as online purchasing and digital advertising)?, What general impression do you have of blockchain technology?, If so, how would you rank your interaction with the digital marketing platform built on the blockchain?, Do you believe blockchain technology will soon become widely used?, Do you worry about how using blockchain technology in digital marketing transactions will affect privacy?, Are you aware of the ways in which blockchain might improve the reliability of digital marketing transactions?, Do you know what blockchain technology is?, Can blockchain technology increase the security of transactions involving digital marketing?, Are seminars or webinars on blockchain technology and its uses in digital marketing something you'd be interested in attending?

#### ANOVA Results:

**Model Summary:** The predictors collectively contribute significantly to explaining the variation in the willingness to participate in digital marketing transactions ( $F(19, 86) = 6.838, p < 0.001$ ). This suggests that the predictors as a whole have a statistically significant impact on the willingness to engage in digital marketing with the introduction of blockchain technology.

#### NVIVO Analysis

Theme 1 - Safety and Reliability of Current Digital Advertising Interactions in Ireland

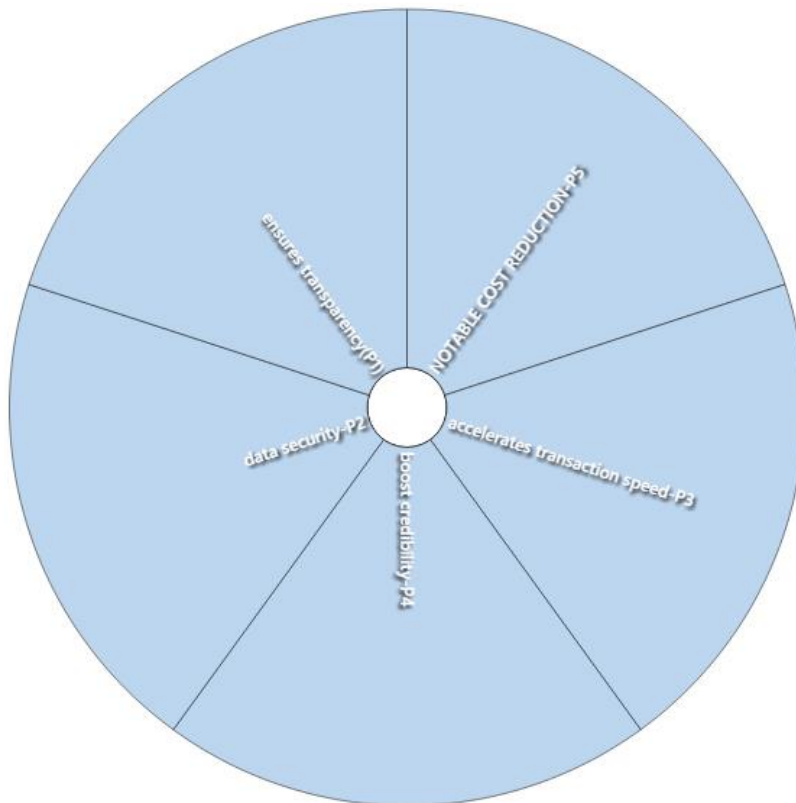
Safety and Reliability of Current Digital Advertising Interactions in Ireland	
unauthorized access and scams-p3	data leaks and online scams-p5
misleading ads-p4	data breaches and online fraud-P1
fraudulent activities in current system - p2	

## Theme 2 Blockchain Solutions for Enhancing Trust and Safety in Digital Advertising Purchases

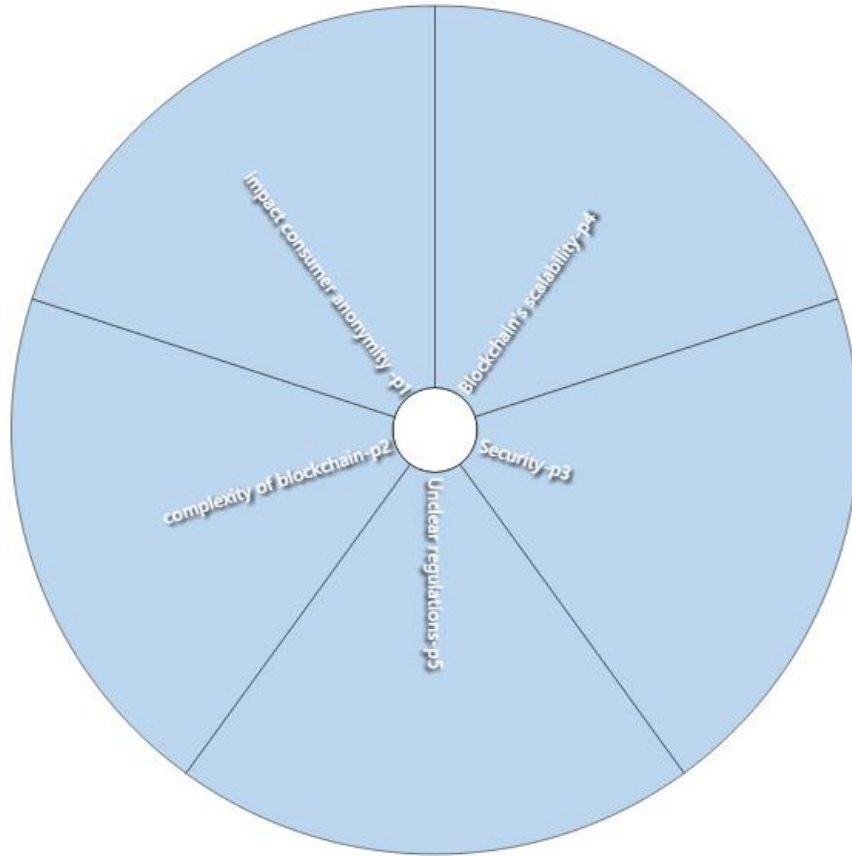
Blockchain Solutions for Enhancing Trust and Safety in Digital Advertising Purchases	
usability and widespread adoption-p2	cryptographic security-p5
decentralized and tamper-resistant nature-p3	Transparency, security, and immutability-p1

### Theme 3 Advantages and Disadvantages of Blockchain Technology in Digital Advertising Engagement

#### Advantages



#### Disadvantage



Theme 4 Strengthening Confidence and Safety in Digital Advertising Initiatives through Blockchain

Strengthening Confidence and Safety in Digital Advertising Initiatives through Blockchain	
transparency and a user-friendly interface are crucial-p1	Scalability and real-time tracking matter-p2
Smart contract functionality is essential-p5	Anonymity and data privacy are key-p4
Security is paramount-p3	



## Information Participant Sheet

Research Project Title: Investigating the Role of Blockchain Technology in Ireland; Enhancing Trust and Security in Digital Marketing Transactions

Student Researcher: Sajjad Ali (10636449)      Email Address: 10636449@mydbs.ie

Research Supervisor: Kean Gilbert

### About the Project

I am a student of MSc. In Management Practice at Dublin Business School and I am carrying out my thesis project under the direct supervision of Kean Gilbert. The aim of the project is to examine how blockchain might improve security and trust in online marketing interactions in Ireland. By safely storing and tracking client information and allowing more specialized and individualized marketing efforts, the blockchain system can transform how businesses function and connect with their customers completely how businesses work and connect with their customers. Blockchain technology is revolutionizing digital marketing by redistributing the value of data to consumers and eliminating the ability for companies to collect customer data without providing a financial incentive. Organizations may use blockchain technology successfully by exploring these possibilities and offering insights into how to increase confidence and safety in their online advertising interactions.

I would like to invite you to take part in a (e.g., survey, recorded interview, focus group, questionnaire, experiment, test etc.)



As a participant in the study, you would be required to (e.g. answer questions about, share your experiences/feelings of, carry out a task etc.)

### **Data Protection**

The data you provide as part of this questionnaire/experiment will be fully anonymous. I will not gather any direct personally identifying information about you or anyone close to you. You will be asked to provide optional demographic information of a broad nature about yourself. Your data will be collated into a larger dataset and analyzed at the group rather than the individual level. Your data will only be used for academic purposes and will not be shared with anyone for commercial purposes.

What are the risks and benefits of taking part in this study?

In addition to providing much appreciated assistance to the student researcher, the main benefit of taking part in this study will be your contribution to academic research, which aims to expand knowledge and generate new insights. There will be no risks posed to you as a participant in this study, either physical or psychological, beyond that which is normally expected of day-to-day activities.

If you are interested in taking part...

If you are interested in taking part please review the information provided in the consent form and if you are happy to proceed with the study then please indicate your willingness to take part by ticking the appropriate box / signing your name where appropriate.

You are under no obligation to take part in this study or to provide a reason if you decide not to take part. You may choose not to take part without fear of penalty. If you agree to take part you have the right to cease participation and withdraw your data at any time for any reason without fear of penalty. The data will not be used by any member of the project team for commercial purposes.



## Consent Form

I----- voluntarily agree to take part in this research study.

I understand that I am not obliged to take part in this study and that my participation in the study is entirely voluntary.

I understand that I am free to withdraw from the study at any time or refuse to answer any question without the need to provide reason and without fear of negative consequences.

I understand that my responses will be anonymous

I understand that I will not benefit directly from participating in this research.

I understand that I am free to contact any of the people involved in the research to seek further clarification and information.

I understand that signed consent forms will be retained for some time until the exam board confirms the results of their dissertation.

I confirm that I have had the purpose and nature of the study explained to me in writing and I have had the opportunity to ask questions about the study with satisfactory answers provided.

I confirm that I have read and fully understood the information provided and statements above.