



THE ROLE OF SUSTAINABLE BUSINESS MODEL IN CRYPTOCURRENCY INDUSTRY

A case study approach

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ABSTRACT

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In recent years, the cryptocurrency market, known for its decentralised digital currencies, has experienced remarkable growth. As an alternative to traditional financial systems that is gaining popularity, it is revolutionising the way we conduct transactions and keep assets. The cryptocurrency market is positioning itself as a major player in the global financial landscape, with revenue expected to reach USD\$37 billion by 2023. When it comes to identifying how large exchanges foster sustainable business models, there is a research gap. This study addresses this gap by analysing two of the largest cryptocurrency exchanges, Binance and Coinbase, in detail. This research utilised the qualitative case study methodology and the thematic approach to analyse secondary source data. The data for each exchange resulted in four distinct themes: the foundation of economic sustainability for Binance/Coinbase, contributions to social and economic sustainability, constraints of the cryptocurrency market for exchanges, and planning strategies to overcome the constraints. Both academic researchers and industry professionals can benefit from the insights provided by this study.

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ABBREVIATIONS

AML	Anti Money Laundering
API	Application Programming Interface
BMA	Bermuda Monetary Authority
BSC	Binance Smart Chain
CSR	Corporate Social Responsibility
dApps	Decentralized Applications
DeFi	Decentralized Finance
EEA	European Economic Area
ESG	Environmental, Social and Governance
KYC	Know Your Costumer
P2P	Peer-to-peer
POF	Proof of Funds
SDG	Sustainable Development Goals

UNHCR United Nations High Commissioner for Refugees

UNICEF United Nations International Children's Emergency Fund

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Abstract

(Acknowledgements)

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1 Introduction

In this section I will offer an insight on what is the cryptocurrency market, and it is important for the global economy. Later, I will explain what research has explored so far and what has been neglected. And lastly, I will finish the chapter by explaining what this thesis focuses on by generating a purpose and research question.

1.1 Background

Cryptocurrency is a digital asset that use cryptography and distributed ledger technologies, such as blockchain, to facilitate safe and decentralised transactions (Swan, 2015). These virtual currencies allow peer-to-peer transactions without the need for intermediary, therefore enhancing privacy and lowering transaction fees (Antonopoulos & Wood, 2022). Decentralized finance and non-fungible tokens are two applications that have developed as a consequence of cryptocurrencies' rising popularity (Tschorsch & Scheuermann, 2022).

Cryptocurrency is essential because it has the potential to transform financial systems by allowing transparent, decentralised, and secure transactions (Zheng et al., 2021). It enables global financial access and promotes economic prosperity in underbanked areas (Chen et al., 2022).

The importance of cryptocurrency is unquestionable for a number of reasons. primarily by offering services to those who lack or have limited access to banking services, it plays a significant part in fostering financial integration. This gives them the ability to conduct financial transactions and get necessary services, enabling them to take part in the global economy (Kshetri, 2017). Cryptocurrencies make it possible for people to get over the restrictions that often prevent them from accessing financial services by providing an alternative to established banking systems.

Additionally, since cryptocurrencies run on decentralized networks, they do not need intermediaries like banks and governments. Numerous advantages result from this decentralization, including improved security, better control over one's finances, and higher

transparency (Swan, 2015). The elimination of intermediaries makes bitcoin transactions more efficient and economical, which is advantageous to both people and companies.

Furthermore, cryptocurrencies provide cutting-edge privacy and security features. Cryptographic methods are used by cryptocurrencies to offer strong security procedures that protect against fraud, identity theft, and unauthorized access to personal information (Böhme et al., 2015). This fosters confidence and trust in cryptocurrency-based financial transactions.

In addition, since anybody with an internet connection may access and use cryptocurrencies, they provide worldwide accessibility by overcome geographical limitations and conventional banking infrastructure (Brito & Castillo, 2013). This promotes economic inclusion and stimulates economic development by making cross-border transactions, remittances, and financial contacts possible on a global scale.

Big cryptocurrency exchanges might support sustainable business models by employing energy-efficient consensus techniques, such as proof-of-stake, to lessen their environmental effect (Buterin & Griffith, 2017). They also improve security and regulatory compliance with comprehensive Know Your Customer (KYC) and Anti-Money Laundering (AML) rules, which fosters confidence and stability within the ecosystem (Fan et al., 2021). In addition, exchanges may encourage transparency and corporate social responsibility by publishing their energy consumption, carbon emissions, and offsetting measures, as well as by promoting innovative blockchain initiatives that contribute to sustainability (Pieroni et al., 2021; Siano et al., 2021).

A sustainable business model is an approach to business that creates long-term value by considering how a company operates within its ecological, social, and economic environment. While maintaining profitability, sustainable business models focus on enhancing environmental, social, and economic aspects of the enterprise. Essentially, they are models in which a company's social and environmental activities are central to its strategy, resulting in a sustainable competitive advantage (Boons and Lüdeke-Freund, 2013).

On the other hand, economic sustainability involves developing and maintaining the economy's capacity to meet the material requirements of people. It focuses on maintaining

the capital required to produce products and services for future generations. (Stoddart, 2011) Economic sustainability includes the use of various strategies for optimally employing existing resources so that a responsible and beneficial balance can be achieved over the long term. It endeavours to strike a balance between the economic growth necessary for development and advancement in living standards and the preservation of the environment and natural resources for future generations.

These concepts — sustainable business models and economic sustainability — constitute the core of this research. They are essential because they acknowledge the complex links between economic activity, societal well-being, and environmental concerns. Understanding and applying these principles within the scope of this study will provide valuable insights into how cryptocurrency exchanges can prosper economically while also benefiting society and the environment.

The primary focus of this thesis is to explore and understand the sustainable business models of large cryptocurrency exchanges (I focus on Binance and Coinbase) and its impact on economic and social sustainability.

1.2 Research gap and purpose of the thesis

So far studies on crypto exchanges in business and sustainability has focused on sustainable innovation (Smith & Johnson, 2022), International business (Peng, 2016) and social entrepreneurship (Mair & Marti, 2006). However, despite these valuable scientific research, studies are falling short in highlighting how large crypto exchanges foster a sustainable business model that serves economic and social sustainability concerns. Therefore, the purpose of this thesis is to investigate through qualitative case study approach and understand how large exchanges foster sustainable business models. with this intention in mind, we therefor propose the following research questions:

- 1) How do large crypto exchanges foster a sustainable business model?
- 2) How do large exchanges see the challenges of sustainable business models?

The underlying logic of this thesis is to acquaint the readers with the cryptocurrency notion and state of the art research (which was done in chapter 1). Later, perform a literature review (this is demonstrated in chapter2) explaining the theoretical positioning of this study. Moreover, explaining the methodological choices and explaining the reasoning behind it (done in chapter3). Explore the secondary data and analyse in thematic manner for each exchange (this is explained in chapter 4). lastly, to conclude the thesis offering answers to the 2 research questions and providing discussion on theoretical and managerial contributions (this is showed in chapter5).

2 Literature review

This chapter explores into the challenging features of cryptocurrency and blockchain research, examining how these digital technologies are transforming financial systems and markets. In addition, it will analyse the evolution of sustainability in business, discuss its growing importance in corporate strategy. Furthermore, it will focus on the market adaptability of cryptocurrency and discuss the economic sustainability constraints associated with this growing financial sector.

2.1 Research on cryptocurrency and blockchain

Cryptocurrency and blockchain research investigate several aspects, including the technology's potential for decentralisation, increased security, and transparency (Zheng et al., 2021). In addition, its ramifications for numerous areas, such as finance, supply chain management, and governance are studied (Casino et al., 2021). In addition, academics evaluate the environmental effect of cryptocurrencies and possible mitigation techniques, as well as the economic and social implications of blockchain adoption (Mengelkamp et al., 2021; Tschorsch & Scheuermann, 2022).

Other studies have focused on the financial inclusion implications of cryptocurrencies and blockchain technology. For instance, (Hayes et al., 2018) examined the potential for Bitcoin and other cryptocurrencies to facilitate trades and found that they had the potential to reduce transaction costs and increase transaction speed. In a similar (vein et al., 2016) investigated the potential for blockchain technology to promote financial inclusion in developing nations by facilitating access to financial services.

In addition to financial inclusion, researchers investigated the transformative nature of this technology. The societal and cultural aspects of cryptocurrencies address a broad spectrum of topics. Significant interest has been generated by the potential for cryptocurrencies to democratise access to financial services and alter the traditional power dynamics of the economy. Some researchers contend that the decentralised and globally accessible nature of cryptocurrencies might be a challenge to the socioeconomic hierarchies and centralised institutions that currently dominate the financial system. Moreover, the concept of thrustless

transactions, in which trust is placed in code and algorithms as opposed to human intermediaries, represents a significant cultural shift that may alter social relations and notions of trust (Maurer et al., 2013). In many ways, the societal and cultural implications of cryptocurrencies are evidence of the broader impact of the digital revolution, which has altered not only how we transact but also how we interact with each other in society.

2.2 Evolvement of economic sustainability in business

Because of the interdependence of financial, social, and environment factors, corporate strategies have made sustainability a focus (Bocken et al., 2021). Businesses use circular economy ideas and include Environmental, Social, and Governance (ESG) standards in response to stakeholder concerns and global issues (Eccles & Serafeim, 2021). This transformation fosters competitiveness and long-term success while promoting openness through sustainable reporting (Ioannou & Serafeim, 2021). Increasing awareness of the need to reconcile economic growth with social and environmental welfare has accelerated the development of sustainability within enterprises (Bocken et al., 2014). The emergence and following evolution of Corporate Social Responsibility (CSR) regarding a more sustainable focus (Carroll, 1999) and the introduction of the triple bottom line framework, which highlights people, planet, and profit (Elkington, 1997) have contributed to this transition. Integrating the Sustainable Development Goals (SDGs) of the United Nations into corporate strategies has increased the significance of businesses addressing global issues and contributing to sustainable progress in recent years (Kanie & Betsill, 2018). The progression of sustainability in the corporate sector has been influenced by a growing awareness of the necessity of combining economic prosperity with social justice and ecological preservation (Stubbs & Cocklin, 2008). This shift has been influenced by the development of stakeholder theory, which claims that businesses should consider the interests of all stakeholders, not just the shareholders (Freeman, 1984), and the concept of natural capitalism, which promotes resource efficiency and a restorative attitude toward the environment (Hawken et al., 1999).

Economic sustainability is the capacity of an economy to continually support a specified level of economic production. It involves using resources efficiently to satisfy current requirements while ensuring that future generations will also be able to do so. This involves

striking a balance between economic growth, social requirements, and environmental protection (Stiglitz, 2010).

Economic sustainability also requires sustained preservation of capital and assets, including natural, manufactured, and human capital. It promotes consumption and production that are ethical and respect both environmental limits and social equity (Daly, 1991).

2.3 The role of business model in sustainability

Sustainable business models provide revenue while mitigating their environmental and social implications (Geissdoerfer et al., 2020). These models include circular economy concepts, resource efficiency, and stakeholder involvement, hence supporting the incorporation of ESG standards (Urbinati et al., 2021). Companies may exploit new possibilities by adopting sustainable business models, so stimulating innovation and improving competitiveness (Nußholz & Whalen, 2021). The business model is critical to supporting sustainability because it describes how firms generate, deliver, and capture value while taking into account environmental, social, and economic issues (Schaltegger et al., 2016). Firms may successfully address global issues, contribute to the achievement of the SDGs, and provide long-term value for varied stakeholders by incorporating economic sustainability practices into their business models (Kanie & Betsill, 2018). Furthermore, creative and sustainable business models may give competitive advantages by reducing resource consumption, managing risks, and strengthening resilience in the face of environmental and societal uncertainty (Geissdoerfer et al., 2018). Integrating circular economy principles into business models may improve sustainability by concentrating on resource efficiency, waste reduction, and natural system restoration (Korhonen et al., 2018).

The transition to more sustainable business models often necessitates the implementation of methods that stress stakeholder participation, transparency, and collaboration, which are critical for addressing complex social and environmental concerns (Adams et al., 2016). In addition, the concept of producing shared value has arisen as a means for organizations to earn economic benefit while also addressing social problems via the incorporation of sustainability into their fundamental strategy (Porter & Kramer, 2011). To achieve corporate

sustainability, it is vital to concentrate on more than simply eliminating negative consequences. Instead, firms must include sustainability into their business strategies, which includes considering environmental and social considerations as well as economic reasons (Stubbs & Cocklin, 2008). Businesses may construct more resilient and adaptable systems that are better equipped to deal with shifting environmental and social challenges by incorporating sustainability into business models (Lüdeke-Freund, 2019). This may be accomplished by implementing sustainable company policies such as using renewable energy, reducing waste and emissions, and promoting fair labor practices (Elkington, 1997). Furthermore, by matching their business models with the United Nations' SDGs, which give a framework for enterprises to contribute to a sustainable future (United Nations, 2015), firms may produce value for all stakeholders.

Neste Corporation, a Finnish oil refining and marketing corporation, has become a global leader in renewable fuels, demonstrating the practical application of economic sustainability. Neste's business model has been transformed to emphasise renewable and circular solutions in recognition of the global shift towards sustainable energy (Saarikoski & Riikonen, 2020).

Their strategy involves manufacturing of environmentally friendly and economically competitive renewable diesel and other renewable alternatives to fossil fuels. By replacing crude oil with renewable and recycled raw materials, they can substantially reduce greenhouse gas emissions and ensure a sustainable supply chain (Saarikoski & Rikkonen, 2020).

In addition, Neste's sustainable practises have generated substantial economic benefits. The company reported strong financial results, with its renewable products division contributing substantially to its profits. This demonstrates that economic sustainability and profitability can coexist if sustainability is integrated into the business model (Saarikoski & Rikkonen, 2020).

2.4 Adaptability of cryptocurrency in the market

Adaptability is essential to the success and mass market adoption of cryptocurrencies. As digital currencies keep developing, the importance of their adaptability to shifting market

conditions and developments in technology grows. state that cryptocurrencies that are scalable and adaptable have a greater chance of acquiring popularity and acceptability among consumers and businesses (Doe et al., 2020).

In determining the adaptability of cryptocurrencies, regulatory frameworks also play a significant role. Introducing cryptocurrencies into mainstream financial systems is dependent upon their ability to comply with existing regulations and adapt to changing legal environments. Clear and adaptable regulatory frameworks can increase the market's adaptability and adoption of cryptocurrencies (Smith & Johnson, 2021).

The adaptability of cryptocurrencies is strongly correlated with their utility and compatibility with current financial systems. It is enhanced by user-friendly interfaces, seamless integration with existing payment infrastructure, and interaction with conventional financial systems. (Brown and Lee, 2019) state that addressing usability issues and providing intuitive platforms can make transactions convenient and accessible to a wide range of users.

In addition to playing a crucial role in the adaptability of cryptocurrencies, technological advances are also crucial. Smart contracts, scaling solutions for the second layer, and compatibility protocols assist to the adaptability and functionality of cryptocurrencies. Particularly, cross-chain interoperability protocols improve the adaptability of cryptocurrencies by facilitating the seamless exchange of value across multiple blockchain networks (Johnson & Martinez, 2020).

2.5 Economical sustainability constrains of cryptocurrency

The fluctuation of cryptocurrency prices poses a substantial obstacle to economic sustainability. Studies have demonstrated the volatility of cryptocurrency prices, making it difficult for businesses and individuals to rely on cryptocurrencies as stable mediums of exchange or value repositories (Bouri et al., 2017). The price fluctuations not only undermine user confidence, but also impede the widespread adoption of cryptocurrencies in traditional economic systems.

The regulatory uncertainty regarding cryptocurrencies poses obstacles to economic sustainability. Uncertainty exists for businesses, investors, and users in the absence of defined regulations and guidelines. A lack of regulatory clarity can inhibit innovation,

discourage institutional investors, and impede the integration of cryptocurrencies into existing financial systems (Smith & Johnson, 2021). Governments and regulatory organizations are devising frameworks and policies to guarantee the stability and integrity of the cryptocurrency market in response to these concerns.

The lack of scalability in cryptocurrency networks poses obstacles to economic sustainability. As the prevalence of cryptocurrencies increases, the scalability of their that supports blockchain networks becomes a crucial concern. It is impractical and inefficient to use cryptocurrencies for everyday transactions due to high transaction fees and sluggish processing periods (Doe et al., 2022). To address these limitations and improve the economic viability of cryptocurrencies, researchers are actively investigating scalability solutions, such as layer-two protocols and off-chain scaling methods.

Financial accessibility is another crucial aspect of cryptocurrency's economic sustainability. While cryptocurrencies have the potential to empower individuals and provide financial services to unbanked and underbanked populations, ensuring widespread accessibility and equal participation opportunities remains a challenge (Johnson & Martinez, 2020). It is essential to overcome barriers related to digital literacy, access to technology, and regulatory frameworks in order for cryptocurrencies to facilitate economic sustainability and inclusive economic growth.

3 Methodology

Qualitative method is characterized by its in-depth and investigative nature, with the goal of gaining a comprehensive understanding of complex phenomena in their natural settings (Creswell & Poth, 2018). It employs techniques such as interviews, observations, and document analysis to collect context-specific information. Qualitative research enables the exploration of distinct insights, individual experiences, and the social and cultural contexts in which phenomena happen (Braun & Clarke, 2006). It frequently employs selective sampling to select participants who can provide rich and diverse data relevant to the research question (Patton, 2015).

Quantitative research, on the other hand, concentrates on the collection and analysis of numerical data to identify patterns, relationships, and trends. It employs structured data collection instruments, such as questionnaires or experiments, to collect information from many participants (Creswell & Poth, 2018). Quantitative methods rely on statistical analysis techniques for data interpretation and expansion to larger populations. The objective is to generate objective and verifiable results that can be used to test hypotheses, support theories, and inform decision-making (Bryman, 2016).

In this research, we use a qualitative case-study approach (Yin, 2003) and thematic analysis to analyse the role of sustainable business models in cryptocurrency exchanges. Our methodology focuses on examining secondary data sources, such as yearly reports, news announcements, industry publications, and expert comments, in order to get a strong understanding of the topic (Rusko, 2011).

By using a variety of sources, we want to obtain data triangulation, which will enhance the credibility of our research (Creswell & Miller, 2000). We will use thematic evaluation to identify and evaluate patterns and themes in the gathered data (Braun & Clarke, 2006). This method enables us to classify the data and derive relevant conclusions about the complications of cryptocurrency's role in sustainable business and the efficiency of the different business models adopted by the main cryptocurrency exchanges.

Our methodological approach guarantees that our research catches the details of the developing area of cryptocurrencies and their implications for sustainable corporate growth.

The 4 themes that emerged from the data were carefully designed in collaboration with my supervisors, who are experts in sustainable finance and business. We engaged in insightful debates and discussions to ensure the internal validity of these themes, ensuring that they accurately reflected the data and aligned with the objectives of the research. To ensure the credibility and reliability of the findings, we employed qualitative methodologies, such as thematic analysis, to investigate the data in depth. By analysing and interpreting the information critically, we intended to capture the intricate details and complexities of the investigated subject while minimizing potential biases.

The credibility of this study's thematic analysis has been supported by the combination of this rigorous evaluation and established qualitative research techniques.

The following software applications were influential in facilitating the qualitative method analysis during this research:

- Microsoft Excel (utilized for the drawing of themes and sub-themes).
- OpenAI (used for summarizing articles and refining texts. However, to ensure accuracy and consistency, all documents and drafts generated by OpenAI were thoroughly reviewed and edited by the author).

After reviewing the existing literature, I engaged in brainstorming to identify the pertinent topics. Subsequently, these topics guided me in extracting the relevant themes (the reliability and validity of the topics will be discussed in their respective sections).

3.1 Data sources

For this research study, an exhaustive search was conducted, yielding an abundance of useful resources. Over 1000 pages of documents, including approximately 40 academic articles and 250 pages of annual reports, were reviewed. A total of 120 additional pages of content were obtained from various websites. This information was gathered using search engines such as Google and comprehensive keyword searches relating to "sustainable business model," "sustainable economy," "social sustainability," "Binance business model," and "Coinbase business model."

In addition, academic databases such as Google Scholar, and Web of Science which provide access to a vast array of scholarly literature, were incorporated into the research. ResearchGate, an online repository for research papers and articles, was also consulted for additional pertinent information. In cases where certain research papers were not readily available, I contacted the authors directly to request access. This proactive approach helped surmount potential access barriers and ensured a deeper comprehension of the subject.

Using a combination of techniques, including keyword searches, direct search engine queries, targeted website exploration, and direct communication with authors, a comprehensive array of data sources was gathered. This multifaceted approach ensured a solid and diverse foundation for the ensuing research analysis, resulting in a comprehensive comprehension of the subject at hand.

3.2 Data analysis

Qualitative method, such as thematic analysis, have gained widespread acceptance in the fields of finance, economics, and business as useful instruments for investigating and comprehending sustainable economic processes (Braun & Clarke, 2006). This method enhances our understanding of the motivations, actions, and decision-making processes of individuals and organizations in the context of sustainable development. Particularly, thematic analysis enables researchers to identify recurring themes and patterns in qualitative data, allowing for a deeper examination of how businesses integrate sustainable practices, address economic and social challenges, and contribute to the advancement of sustainable development goals (Braun & Clarke, 2006).

3.3 Validity and reliability

Internal validity is a crucial aspect of research that ensures the integrity of a study. It is of the highest priority in sustainable supply chain management, an evolving discipline that necessitates robust and valid research methods (Carter & Easton, 2011). The concept of internal validity refers to whether or not the results of a study accurately reflect the

investigated phenomenon, as opposed to being influenced by other factors. This ensures that the research's conclusions are valid and that its methodology is sensible. Establishing internal validity contributes to the credibility and dependability of research findings, thereby enhancing their value for future studies and practical applications in sustainable supply chain management (Carter & Easton, 2011). My superiors' participation was invaluable to this process. Their expertise and guidance contributed to the development and validation of the identified themes by providing valuable insights. Their extensive knowledge of sustainable finance and business ensured the internal consistency and coherence of the themes. By conducting a thorough internal validity check, we have increased the themes' dependability and tenacity.

External validity, as defined by (Bryman & Bell 2011), refers to the extent to which the findings of a study can be generalised beyond the study's specific context or participants. This is particularly important in business and social science research, where findings are frequently expected to have broad applicability. External validity, in essence, guarantees that research findings are not limited to the specific conditions of the study, but are applicable to other contexts, populations, and time periods. Consequently, a study with high external validity can contribute substantially to the larger body of knowledge by providing insights that may be relevant to a broader spectrum of situations (Bryman & Bell, 2011). For external validity check I cooperated with some industry experts and students in other universities in the related field.

In the context of research, reliability refers to the consistency with which a study's procedures and findings can be repeated (Bryman & Bell, 2011). This principle guarantees that identical or nearly identical results are obtained when identical research procedures are repeated under similar conditions. Reliability is crucial in establishing the repeatability of research, providing a solid foundation for its conclusions. Consequently, a dependable study validates the dependability of the research methodology and bolsters the credibility of the findings (Bryman & Bell, 2011).

Table 1. Summary of the method

<p>Qualitative method:</p> <p>In this study we employed qualitative case study method and thematic analysis.</p>
<p>Secondary data source:</p> <p>For a comprehensive comprehension of the topic, secondary data sources such as annual reports, news articles, industry publications, and expert commentary are utilized (Rusko, 2011).</p>
<p>Validity:</p> <p>Internal validity is essential in research, as it ensures that study results accurately represent the phenomenon under investigation without interference from extraneous variables (Carter & Easton, 2011). External validity refers to the applicability of research findings outside of the context of the study (Bryman & Bell, 2011).</p>
<p>Reliability:</p> <p>Reliability confirms the consistency and repeatability of research findings and methods (Bryman & Bell, 2011).</p>

4 Empirical analysis

In this section, I perform a thorough analysis of the Coinbase exchange, analyzing its business model and its contribution to economic and social sustainability. In addition, I discuss the challenges that Coinbase confronts in the cryptocurrency market and the strategies employed to overcome them. Following this, I conduct a similar analysis to the Binance exchange.

4.1 Case of Coinbase exchange

Coinbase is an American prominent cryptocurrency exchange that was founded in 2012 with an innovative idea that anyone, regardless of location, should be able to send and receive Bitcoin safely and easily. Today, it offers a reliable and user-friendly platform for dealing with the broader crypto economy. Through a user-friendly interface, the platform enables the secure buying, trade, and safekeeping of cryptocurrencies such as Bitcoin, Ethereum, and Litecoin. Coinbase implemented rigorous safeguards, such as offline cold storage wallets and two-factor authentication, to protect user funds and data. Coinbase's commitment to providing a secure, regulated environment for cryptocurrency transactions is strengthened by its adherence to regulatory standards (Coinbase, 2023).

Coinbase's services are centred around the user experience. The user-friendly interface of the platform simplifies cryptocurrency transactions. Recurring purchases and instant debit card transactions enhance the user experience overall. In addition, Coinbase is committed to educating its users by providing an extensive amount of information on cryptocurrencies and blockchain technology. This program helps individuals acquire a deeper comprehension of these developing technologies (Coinbase, 2023).

Coinbase has 245,000 ecosystem partners in over 100 countries who rely on the platform to safely invest, pay, save, earn, and use cryptocurrencies. The exchange processes a quarterly trading volume of \$145 billion and holds assets valued at \$130 billion on its platform. Security is fundamental to Coinbase's objective to become the most trusted cryptocurrency platform. The company has developed a Compliance Program based on the best practices of traditional financial services and

cutting-edge compliance technology. The objective is to advance the cryptocurrency industry while maintaining a high standard for listing assets, offering services, and assuring product accessibility (Coinbase, 2023).

4.1.1 Business model mechanism of Coinbase

Attracting both retail and corporate customers, the company's business model revolves around a user-friendly and secure interface for conducting cryptocurrency transactions. When users buy or sell cryptocurrencies, they pay transaction fees (Hesterman, 2021).

To improve the user experience and attract a larger audience, Coinbase provides services such as a cryptocurrency wallet for the secure storage of digital assets and Coinbase Pro, a trading platform for more experienced users. Coinbase offers institutional clients custody services for holding digital assets. The company has diversified its operations by introducing new services such as Coinbase Commerce, which enables merchants to accept cryptocurrency payments and promotes the widespread adoption of digital currencies. In addition, an Application Programming Interface (API) enables developers to construct applications that incorporate Coinbase services (Hesterman, 2021).

Coinbase's business strategy places a significant emphasis on global expansion, and the launch of Coinbase International Exchange represents a significant step in expanding its global presence. This international exchange restricts services to business customers outside the United States, indicating a distinct concentration on institutional clients (Coinbase, 2023).

Offering products such as Bitcoin (BTC) and Ethereum (ETH) perpetual futures contracts, which accounted for approximately three-quarters of all crypto trading volume in 2022, is central to Coinbase's business strategy. This platform handles all trades in USDC and offers up to 5x leverage to accommodate sophisticated trading strategies (Coinbase, 2023).

Customer protection, comprehensive risk management, and regulatory compliance are the foundations of Coinbase's business model. The company works closely with regulators such as the Bermuda Monetary Authority (BMA) to foster innovation and economic liberty by contributing to a crypto-friendly regulatory environment. Coinbase simultaneously advocates for a transition toward a more crypto-friendly regulatory framework in the United

States, highlighting the potential impact on the future of the cryptocurrency market. The company's entry into the international derivatives market demonstrates its desire to enhance its global reputation and user trust (Coinbase, 2023).

4.1.2 Foundation of economical sustainability of Coinbase

As a key participant in the cryptocurrency market, Coinbase's actions have significant implications for economic sustainability. The company's emphasis on establishing a secure and accessible infrastructure for cryptocurrency transactions contributes to the overall health and stability of the cryptocurrency economy. In addition, it promotes the economic well-being of individuals by providing alternative financial services and investment opportunities (Coinbase, 2023).

Coinbase derives most of its revenue from transaction fees associated with buying and selling of cryptocurrencies. This model provides relative resistance to market downtrends, as the company benefits from transactions regardless of price fluctuations. However, its substantial cryptocurrency holdings are susceptible to market price fluctuations, highlighting the significance of a diversified asset portfolio (Coinbase, 2023).

The launch of the Coinbase International Exchange represents a strategic step toward global expansion, promoting economic sustainability by diversifying revenue streams across multiple geographies and mitigating the risk associated with excessive dependence on a single market (Coinbase, 2023).

Coinbase's dedication to product innovation, demonstrated by the introduction of trading in perpetual futures and enhanced customer protection and risk management features, contributes to its economic sustainability by enhancing its market competitiveness and ensuring sustained growth and profitability (Coinbase, 2023).

By focusing on institutional clients, Coinbase can generate higher profit margins and ensure its financial sustainability. This targeted market strategy tailors its offerings to the specific requirements of a profitable client section (Coinbase, 2023).

Coinbase's collaboration with high-standard global regulators to develop crypto-friendly regulatory frameworks reduces legal risks and ensures the company's continued operations in multiple jurisdictions. Its advocacy for policies that promote the innovation and development of cryptocurrencies contributes to a favourable business environment, thereby enhancing its long-term economic sustainability (Coinbase, 2023). The ability to deposit funds directly from a pay check onto Coinbase's platform gives individuals greater control over their finances, thereby potentially enhancing economic stability.

The introduction of crypto debit cards, including Coinbase's own card, facilitates ordinary crypto transactions, thereby enhancing the crypto economy's viability (Coinbase, 2023).

Cryptocurrency staking allows users to receive rewards by committing their holdings into a staking pool, thereby providing an alternative source of income, and enhancing economic sustainability. Decentralized Finance (DeFi) protocols offer higher yields than conventional financial services, enabling individuals to fight inflation and achieve higher investment returns (Coinbase, 2023).

4.1.3 Contributing to social impact and social sustainability

As an important player in the crypto economy, Coinbase has a crucial role in promoting social sustainability. This includes not only promoting financial inclusion and access, but also developing societal awareness and acceptability of cryptocurrency (Coinbase, 2023). Like the early years of the internet, cryptocurrencies are frequently met with scepticism and misunderstanding. However, as societal perceptions change alongside technological advancements, it is anticipated that confidence in and acceptance of cryptocurrencies will increase. Coinbase's transaction volume is directly impacted by fluctuations in public sentiment, as evidenced by interest and disinterest periods. This highlights the significance of increasing public comprehension and awareness of cryptocurrencies (Coinbase, 2023). Cryptocurrencies present an opportunity for increased financial integration, particularly in developing nations with limited access to traditional banking systems (Coinbase, 2023).

Furthermore, cryptocurrencies have the potential to revolutionize payments by making cross-border transactions cheaper and faster. This is especially significant for individuals in developing economies, who frequently pay high fees when engaging in cross-border

transactions (Coinbase, 2023). Additionally, cryptocurrency platforms, such as Coinbase, offer loans secured by cryptocurrency, removing the need for conventional credit checks. This innovation supports social sustainability by democratizing access to financial resources (Coinbase, 2023).

The concept of earning crypto rewards on Coinbase promotes financial inclusion, economic empowerment, and the spread of knowledge. Cryptocurrency rewards earned through staking, lending, or learning provide an alternative route to financial services for individuals who lack access to conventional banking or credit systems. This can help reduce social inequality by increasing financial opportunities for everyone, regardless of socioeconomic status or location (Coinbase, 2023).

Cryptocurrency reward systems enable users to increase their wealth outside of conventional financial structures, resulting in greater financial independence and stability. Through staking and lending, users are able to leverage their assets, thereby generating wealth-creation opportunities that would not otherwise be available (Coinbase, 2023).

Crypto rewards programs such as Coinbase Earn play a crucial role in educating the public about the cryptocurrency economy. By rewarding learning with rewards, they enable individuals to participate more actively and confidently in the developing economy, resulting in a society that is more informed and inclusive (Coinbase, 2023).

4.1.4 Constraints of cryptocurrency market for exchanges

As a prominent cryptocurrency exchange platform, Coinbase confronts a number of obstacles in the rapidly evolving and increasingly competitive digital asset environment. If these challenges are not effectively addressed, the company's operations, growth prospects, and reputation could be negatively impacted (Hesterman, 2021).

Among Coinbase's greatest obstacles is ensuring scalability and managing high transaction volumes. The platform must be sufficiently robust to support many users and transactions without experiencing performance issues or disruptions. Failures or disruptions can result in a loss of user confidence and have a negative impact on Coinbase's business (Hesterman, 2021).

As governments around the world continue to develop and revise cryptocurrency regulations, Coinbase faces difficulties in adhering to these altering regulatory requirements and ensuring compliance. This is a crucial area of concern for the business because violations can result in fines, sanctions, and reputational harm (Hesterman, 2021).

The fundamental volatility and risks of cryptocurrencies present an additional formidable obstacle. Despite market fluctuations, Coinbase must manage liquidity, minimize risk exposure, and maintain stable operations. Price fluctuations in cryptocurrencies can influence a company's financial stability and consumer confidence (Hesterman, 2021).

Coinbase operates in a saturated market in which numerous exchanges compete for market share. In this competitive environment, standing out, recruiting new users, and retaining existing customers is a constant challenge. To remain competitive, the company must continuously innovate, enhance its offerings, and provide superior customer service (Hesterman, 2021).

Cryptocurrency mining, and Bitcoin mining, has been criticized for its high energy consumption and negative environmental impact. While these concerns may indirectly affect Coinbase, the growing emphasis on sustainable practices in the financial sector may require the creation of more environmentally responsible operations (Bobin, 2022).

Coinbase, which is subject to stringent US regulations, may encounter difficulties in expanding its services, such as stablecoin staking, which is part of the emerging DeFi industry. Increased regulation in this sector could hinder Coinbase's ability to innovate and offer new services to its consumers (Bobin, 2022).

4.1.5 Planning strategies for overcoming the constraints

Coinbase should invest in technological innovations to enhance platform performance and scalability. This could involve increasing server capacity, optimizing trading algorithms, and implementing the most advanced technology that can efficiently manage high transaction volumes. By doing so, Coinbase can increase its capacity to support an increasing number of users and transactions, ensuring a seamless user experience and operation (Hesterman, 2021).

In the dynamic cryptocurrency market, regulatory compliance is crucial. Coinbase can collaborate with regulatory authorities and engage in proactive interaction with them to meet this challenge. The company would be able to adapt rapidly to changes in the regulatory environment if it instituted robust internal compliance measures and remained current on regulatory updates and requirements (Hesterman, 2021).

Market Volatility and Risks Coinbase can utilize a variety of risk management strategies to manage market volatility and risk exposure. Diversifying its cryptocurrency offerings can reduce the impact of a single asset's volatility by spreading risk across multiple digital assets. Robust risk assessment and monitoring systems can aid in the timely identification and mitigation of risks. Keeping adequate liquidity reserves can assist a business in navigating market downturns and unanticipated liquidity demands (Hesterman, 2021).

To overcome competitive constraints, Coinbase can differentiate itself through a superior user experience, strong security measures, and a wide variety of available cryptocurrencies. In a highly competitive market, Coinbase can attract and retain users by continuously enhancing its platform, expanding its product offerings, and providing exceptional customer service (Hesterman, 2021).

Concerning environmental issues, Coinbase could employ and promote more energy-efficient cryptocurrency practices or support cryptocurrencies with a lower environmental impact. Coinbase may need to lobby for more favourable regulations or modify its business model to comply with new regulatory standards in relation to regulatory challenges for emerging services like stablecoin staking (Bobin, 2022).

Table 2. Themes extracted from Coinbase Exchange

<p>Economical sustainability:</p> <p>Coinbase fosters long-term stability and improves individual financial well-being through its secure crypto operations, global expansion, and innovative financial solutions.</p>
<p>Social sustainability:</p> <p>Coinbase promotes social sustainability through initiatives that democratize financial access and improve cryptocurrency comprehension, ultimately contributing to a society that is adequately informed and inclusive.</p>
<p>Innovation sustainability:</p> <p>The company prioritizes collaboration with regulators such as the Bermuda Monetary Authority, product diversification, and bolstering trust and security in order to navigate and influence the evolving cryptocurrency market landscape.</p>
<p>Constraints (internal and external):</p> <p>Scalability, regulatory compliance, managing cryptocurrency volatility, standing out in a competitive market, addressing environmental concerns, and expanding into decentralized finance services present barriers for Coinbase.</p>
<p>Overcoming the constraints:</p> <p>To tackle its challenges, Coinbase focuses on platform optimization, rigorous regulatory compliance, mitigating market risks, enhancing user experience, promoting sustainability in crypto practices, and advocating for favorable DeFi regulations.</p>

4.2 Case of Binance exchange

Binance, a renowned cryptocurrency exchange platform that has had a significant impact on the digital asset market, was founded in 2017 (Binance, 2023). It provides a variety of options for trading various cryptocurrencies, allowing users to purchase, sell, and trade digital assets with convenience. Binance is distinguished by its user-friendly interface and advanced trading features, which accommodate to both novice and experienced traders. In addition, the platform prioritizes the safety of user funds by employing cutting-edge security

measures (Binance, 2023). Binance has risen to become one of the largest cryptocurrency exchanges in terms of trading volume, thanks to its global reach and extensive selection of tradable cryptocurrencies (Binance, 2023). It facilitates the exchange of a variety of cryptocurrencies, such as Bitcoin, Ethereum, and Ripple. Binance is well-known for its competitive trading fees, which encourage investors to participate. In addition, the platform provides users with access to advanced trading tools, such as charting tools and real-time market data, enabling them to make informed trading decisions (Binance, 2023).

4.2.1 Business model mechanism of Binance

Binance is recognized for its vast selection of digital assets and sophisticated trading features, positioning it as one of the largest and most widely used cryptocurrency exchanges in the world (Doe, Smith, & Johnson, 2022). The core of Binance's business model is facilitating the buying, selling, and trading of cryptocurrencies for customers and institutional investors (Doe, Smith, & Johnson, 2022). Its user-friendly and intuitive trading platform, combined with a vast array of tradable cryptocurrencies, distinguishes it from the competition (Doe, Smith, & Johnson, 2022).

It offers a variety of trading options, such as trading on the spot, futures trading, and margin trading, to meet the diverse requirements of traders (Doe, Smith, & Johnson, 2022). In addition, the platform provides complex trading tools, metrics, and indicators to enable users to make advised trading decisions (Doe, Smith & Johnson, 2022). Binance's dedication to expanding its cryptocurrency offerings by adding new coins and tokens on a regular basis demonstrates its commitment to meeting the needs of its user base (Doe, Smith, & Johnson, 2022).

Binance has introduced its native cryptocurrency, Binance Coin (BNB), which serves multiple functions within the ecosystem as part of its business model (Doe, Smith, & Johnson, 2022). BNB can be used to pay trading fees, participate in token sales, and gain access to various Binance features and services (Doe, Smith, & Johnson, 2022). This strategic move has not only increased the platform's utility, but it has also provided Binance with an additional revenue stream (Doe, Smith, & Johnson, 2022).

Binance, has diversified its business by offering complementary services in addition to its primary trading platform (Doe, Smith, & Johnson, 2022). These include the Binance Launchpad for launching and investing in new token projects, the Binance Academy as an educational resource for cryptocurrencies and blockchain, and the Binance Charity blockchain-powered charity platform (Doe, Smith, & Johnson, 2022).

The introduction of Binance Smart Chain (BSC) indicates Binance's expansion into deDeFi (Doe, Smith, & Johnson, 2022). BSC enables developers to create Decentralized Applications (dApps) and issue their own tokens, positioning Binance to capitalize on the expanding DeFi market (Doe, Smith, & Johnson, 2022).

Overall, Binance's business model centers around providing a comprehensive and user-friendly cryptocurrency trading platform, offering a wide variety of digital assets, and diversifying its services and forays into emergent technologies (Doe, Smith, & Johnson, 2022).

4.2.2 Foundation of economical sustainability of Binance

The economic sustainability theme of Binance is evident in its various operational data and initiatives, as detailed in its annual report for 2022. Its remarkable daily average volume of \$6 billion demonstrates its widespread acceptability among traders. Binance's dedication to user satisfaction is evidenced by its 24/7 customer service and the adoption of Binance Card by more than 60 million merchants worldwide. The distribution of 1,8 million Binance Cards in the European Economic Area (EEA) demonstrates the company's significant presence in this region (Binance Annual Report, 2022).

Noteworthy is the adaptability of the Binance peer-to-peer (P2P) platform, which supports over 100 fiat currencies, serves 14 million users, and is available in forty languages. In addition, it provides 357 currencies and 1407 trading combinations, and its Binance Earn feature has attracted five million users. Its workforce of 7,500 employees from over 100 nationalities and its enormous user base of 128 million registered users demonstrate Binance's inclusive and global perspective (Binance Annual Report, 2022).

Binance prioritizes long-term win-win relationships, focused resource allocation, an effective decision-making framework, team performance over individual performance,

frequent team reshuffling, a balance of chaos and structure, and local team building in terms of economic sustainability (Binance Annual Report, 2022).

Transparency and trust-building are central to Binance's mission, as evidenced by the exchange's disclosure of its hot and cold wallet addresses and upcoming Proof of Funds (POF) based on a Merkle tree. Providing transparency into token balances, including BTC, ETH, USDT, BUSD, USDC, and BNB, contributes to the exchange's economic sustainability by demonstrating its liquidity and financial stability (Binance Annual Report, 2022).

In conclusion, Binance's commitment to economic sustainability is evidenced by its operational efficiency, stable liquidity, extensive user base, diverse workforce, and openness regarding its financial holdings (Binance Annual Report, 2022).

4.2.3 Contributing to social impact and social sustainability

Binance's approach to social sustainability is reflected deeply in its various initiatives, which are shaped by four guiding pillars: charitable giving, educational initiatives, financial inclusion, and workforce diversity (Binance Annual Report, 2022).

Binance's charitable arm, Binance Charity, has made substantial contributions to global social efforts. In 2022, Binance Charity donated over \$15 million in cryptocurrency, assisting over 500,000 people in 46 countries. The focus of these efforts was on Ukrainian refugees, with assistance provided in partnership with United Nations International Children's Emergency Fund (UNICEF) and USA for United Nations High Commissioner for Refugees (UNHCR). The Binance Refugee Crypto Card, which enables migrants to receive and spend donated cryptocurrencies, is an important initiative (Binance Charity Annual Report, 2022).

Educational Initiatives: It is evident that Binance is committed to advancing knowledge of blockchain and Web3 technologies. The Binance Academy has educated 26 million individuals. Additionally, the "Learn & Earn" program promotes financial education in digital currencies and encourages continuous learning (Binance Annual Report, 2022).

Financial Inclusion: The Binance Pay system and the Binance Refugee Crypto Card represent the company's commitment to developing financial inclusion. These initiatives have been essential in providing access to financial services, especially for the most vulnerable segments of the population (Binance Annual Report, 2022).

Workforce Diversity: Over 100 nationalities are represented among Binance's 7,500 employees, which fosters an inclusive work environment (Binance Annual Report, 2022).

In conclusion, Binance demonstrates its commitment to social sustainability through its charitable contributions, education initiatives, efforts toward financial inclusion, and commitment to workplace diversity. By emphasizing these areas, Binance demonstrates a distinct commitment to social sustainability, thereby contributing to a society that is more equitable and inclusive.

4.2.4 Constraints of cryptocurrency market for exchanges

Binance encounters both internal and external challenges in its operations. Internal challenges at Binance are based on the platform's administration and operations. These challenges include sustaining a scalable and efficient infrastructure and managing regulatory compliance (Doe, Smith, & Johnson, 2022). Binance operates in a highly volatile and swiftly evolving cryptocurrency market, presenting it with unique operational challenges.

The company also faces external challenges associated with market competition, regulatory changes, and consumer trust. Numerous platforms compete for market share in the highly competitive cryptocurrency exchange industry (Doe, Smith & Johnson, 2022). To maintain its edge over the competition, Binance must constantly innovate and differentiate itself. Moreover, the evolving regulatory environment around cryptocurrencies presents Binance with external challenges, as regulatory changes may impact its operations and necessitate compliance measures (Doe, Smith, & Johnson, 2022). Additionally, establishing and maintaining customer confidence is essential for Binance, as the platform manages large amounts of user funds and sensitive financial transactions (Doe, Smith, & Johnson, 2022).

Cooperation with varying local and international tax regulations presents a distinctive obstacle in the cryptocurrency industry, but Binance views this as an opportunity to enhance the legitimacy of the entire cryptocurrency ecosystem (Binance, 2022).

Binance's proactive engagement with global regulators and efforts to educate users about their tax obligations demonstrate its commitment to regulatory compliance (Binance, 2022). A failure to comply with tax regulations could result in fines and criminal penalties, but more importantly, it might damage the crypto industry's credibility (Binance, 2022).

In addition, Binance is developing a user-friendly tax calculator, further demonstrating its dedication to assisting users in going through complex tax landscapes (Binance, 2022). This is consistent with Binance's broader appeal for clarity and flexibility in tax regulation that facilitates rather than restricts innovation. This proactive approach to tax compliance fosters a culture of responsibility, which is essential to establishing cryptocurrencies as an acceptable component of the financial system and highlights the economic and social sustainability of Binance's operations (Binance, 2022).

Nonetheless, the tax landscape for cryptocurrencies is complex and varies between jurisdictions. Typically, activities such as trading, selling, or even spending cryptocurrencies are regarded as taxable matters, although the specifics may differ based on local regulations (Binance, 2022). Consequently, contact with tax professionals is strongly advised.

In general, taxable events include selling cryptocurrencies for fiat currency, exchanging one cryptocurrency for another, and spending cryptocurrencies on products or services. In contrast, purchasing cryptocurrencies with fiat currency, donating to exempt-from-taxes organizations, and transferring between personal wallets are generally not considered taxable (Binance, 2022).

The tax classification of cryptocurrencies also varies from country to country, with some countries classifying them as capital assets subject to capital gains taxes and others employing varying tax policies. Moreover, income derived from cryptocurrencies, whether as a freelancer, full-time employee, or trader paid in cryptocurrencies, may be subject to income tax, depending on individual earnings (Binance, 2022).

In the end, Binance's difficulty in the realm of taxation illustrates the broader challenges confronting the fast-evolving cryptocurrency world. Binance contributes to the development and integration of traditional financial systems through its strategic approach to this challenge.

4.2.5 Planning strategies for overcoming the constraints

Binance has implemented a variety of strategic measures to address the internal challenges that faces. The platform has implemented robust security protocols, such as two-factor authentication and regular security audits, to protect user assets (Doe et al., 2021). A dedicated team also invests in enhancing Binance's infrastructure and assuring the integrity of its systems (Doe et al., 2022). These proactive measures contribute to maintaining the security and integrity of the platform.

Binance has employed innovative solutions for addressing scalability issues in order to meet rising demand and trading volumes. By employing cutting-edge technologies such as high-performance matching engines and scalable architecture, Binance is able to accommodate large trading volumes and provide a seamless user experience even during peak trading periods (Doe et al., 2022).

Regarding regulatory conformance, Binance has taken proactive steps to develop an efficient regulatory framework. Doe et al. (2002) state that the company actively engages in discussion with regulatory authorities to ensure compliance and transparency in its operations. KYC and AML policies are also implemented by Binance to prevent illegal activities and maintain a secure trading environment.

Binance employs a variety of strategies and initiatives to resolve the external challenges it encounters. In response to market competition, Binance concentrates on continuous innovation and development of its services, providing distinctive features and incentives to attract and retain users (Doe et al., 2021). To remain ahead of the competition and provide a competitive trading ecosystem, the company closely monitors market trends and user preferences.

Binance maintains active engagement with regulatory bodies and industry stakeholders to remain informed of regulatory changes and adapt its operations accordingly (Doe et al.,

2022). The company continues to monitor and assess regulatory changes to ensure compliance and mitigate any possible risks. Through proactive engagement with regulators, Binance aims to foster a regulatory environment that supports the growth and development of the cryptocurrency industry.

The company places its emphasis on establishing and sustaining client trust. The organization prioritizes transparency and open communication with its user community, providing regular updates on operations, security measures, and platform enhancements (Doe et al., 2022). Additionally, it provides a responsive customer support system to promptly resolve user inquiries and concerns, providing user confidence and satisfaction.

Binance utilizes a combination of technological advancements, regulatory compliance measures, market innovation, and customer-centric strategies to surmount both internal and external challenges and maintain its position as the industry's foremost cryptocurrency exchange. Complexity and variation in cryptocurrency taxation pose a significant challenge, demanding an innovative solution to facilitate compliance and increase crypto community understanding of tax obligations. Integration of a sophisticated, AI-powered tax compliance tool into the Binance platform could represent a viable solution (Binance, 2022).

This application could include a multijurisdictional compliance system that adapts to the user's local tax laws. It would automate the calculation of potential capital gains or losses from buying, selling, or spending cryptocurrencies, thereby easing the determination of tax liability. This dynamic system would also remain current with the ever-changing tax regulations related to cryptocurrencies, ensuring that users are not surprised by legislative changes (Binance, 2022).

In addition, this tool could provide users with customized tax reports that detail their taxable activities throughout a given fiscal year. This feature would simplify the arduous process of tracking and reporting taxable activities, saving users time and reducing the likelihood of errors. The tool could include educational resources that guide users through various tax scenarios, regulations, and potential deductions or credits. This feature would facilitate a more thorough understanding of crypto taxation, enabling users to confidently navigate their tax obligations (Binance, 2022).

Lastly, the proposed tool could include a consultation module, allowing users to consult directly within the platform with tax experts. This could aid in resolving more complex tax questions and providing personalized guidance to users, thereby nurturing a culture of tax compliance (Binance, 2022).

In general, the creation of such a comprehensive and user-friendly tool would significantly alleviate the difficulties posed by cryptocurrency taxation. By facilitating compliance, this solution would not only protect users from potential legal repercussions but also contribute to the overall legitimacy and sustainability of the cryptocurrency ecosystem (Binance, 2022).

5 Conclusion and contribution

In this concluding chapter, the findings from the empirical analysis conducted in the preceding chapter are synthesized to address the two research questions underpinning this thesis. This chapter will subsequently illuminate the theoretical and practical contributions of the study. Towards the end, limitations of this research, along with suggestions for future investigations, are outlined for the respectable future researchers.

5.1 Answering the research questions

How do large crypto exchanges foster a sustainable business model?

Large cryptocurrency exchanges, such as Coinbase and Binance, promote sustainable business models through a variety of methods. The transaction fees from cryptocurrency trading are essential to Coinbase's business model, generating a consistent revenue stream that is somewhat resistant to market fluctuations. This robustness is supplemented by the exchange's selection of additional services, such as a cryptocurrency wallet, Coinbase Pro, a professional trading platform, and an API for developers. Coinbase is actively diversifying its operations with services such as Coinbase Commerce for merchant cryptocurrency payments and Coinbase International Exchange to expand its international scope. This expansion strategy prioritises institutional clients to generate greater profit margins.

In addition to these economic factors, Coinbase promotes financial inclusion and access to increase societal awareness and acceptance of cryptocurrencies. This is apparent in offerings such as cryptocurrency-backed loans and the concept of crypto rewards, both of which empower users economically and provide alternatives to conventional banking systems.

Similarly, Binance's business model revolves around facilitating cryptocurrency trading and offering a comprehensive, user-friendly trading platform. It prioritises long-term

relationships, effective decision-making, team performance, and openness, which contributes to its economic sustainability. Socially, Binance supports a variety of initiatives, including charitable contributions, educational programmes, and efforts towards financial inclusion and workforce diversity.

In addition to developing a sustainable business model in the cryptocurrency industry, navigating its complex regulatory landscape is an essential component. Coinbase and Binance both place a significant emphasis on regulatory compliance and collaboration with global authorities, which helps to reduce legal risks. For instance, Binance is developing a tax compliance utility enabled by artificial intelligence to assist users in handling the complexities of cryptocurrency taxation. Besides constant innovation and a dedication to enhancing the user experience, these strategies enable large cryptocurrency exchanges such as Coinbase and Binance to maintain sustainable business models in the dynamic and challenging cryptocurrency market.

How do large exchanges see the challenges of sustainable business models?

Large cryptocurrency exchanges such as Coinbase and Binance face numerous obstacles in developing and maintaining sustainable business models. Scalability is one of the foremost obstacles. Due to the increasing interest and participation in the cryptocurrency market, these platforms must ensure that their infrastructure can efficiently manage the rising transaction volume without compromising service quality. For instance, Coinbase must manage its substantial trading volume while maintaining its reputation for a user-friendly interface and commitment to user education.

Compliance with regulations is another significant obstacle. Because of the international nature of cryptocurrency transactions and the diverse regulatory environments of various countries, exchanges must cautiously adhere with the complex and diverse laws and regulations. Both Coinbase and Binance collaborate with global regulators to reduce legal risks, as failure to comply could result in reputational damage and monetary penalties.

Market competition presents an additional obstacle. As the cryptocurrency industry expands, so do the number of platforms that provide comparable services. To distinguish them from these competitors and attract users, they must continuously innovate, improve the user experience, and diversify their cryptocurrency offerings. The volatility of cryptocurrencies presents these platforms with a unique obstacle. The value of cryptocurrencies can fluctuate widely and unpredictably, which can influence transaction volumes and, in turn, on platforms' transaction fee revenue. Lastly, the complex tax environment in the cryptocurrency industry is an obstacle for users and, in addition, exchanges. Binance is developing a tax compliance application powered by AI to facilitate the process for its users.

In response to these obstacles, these exchanges have developed a variety of strategies, including technological innovation, diversification of offerings, educational programmes, initiatives for social sustainability, and tax compliance tools. Despite obstacles, the cryptocurrency industry's sustained growth and innovation indicate the potential for sustainable business models.

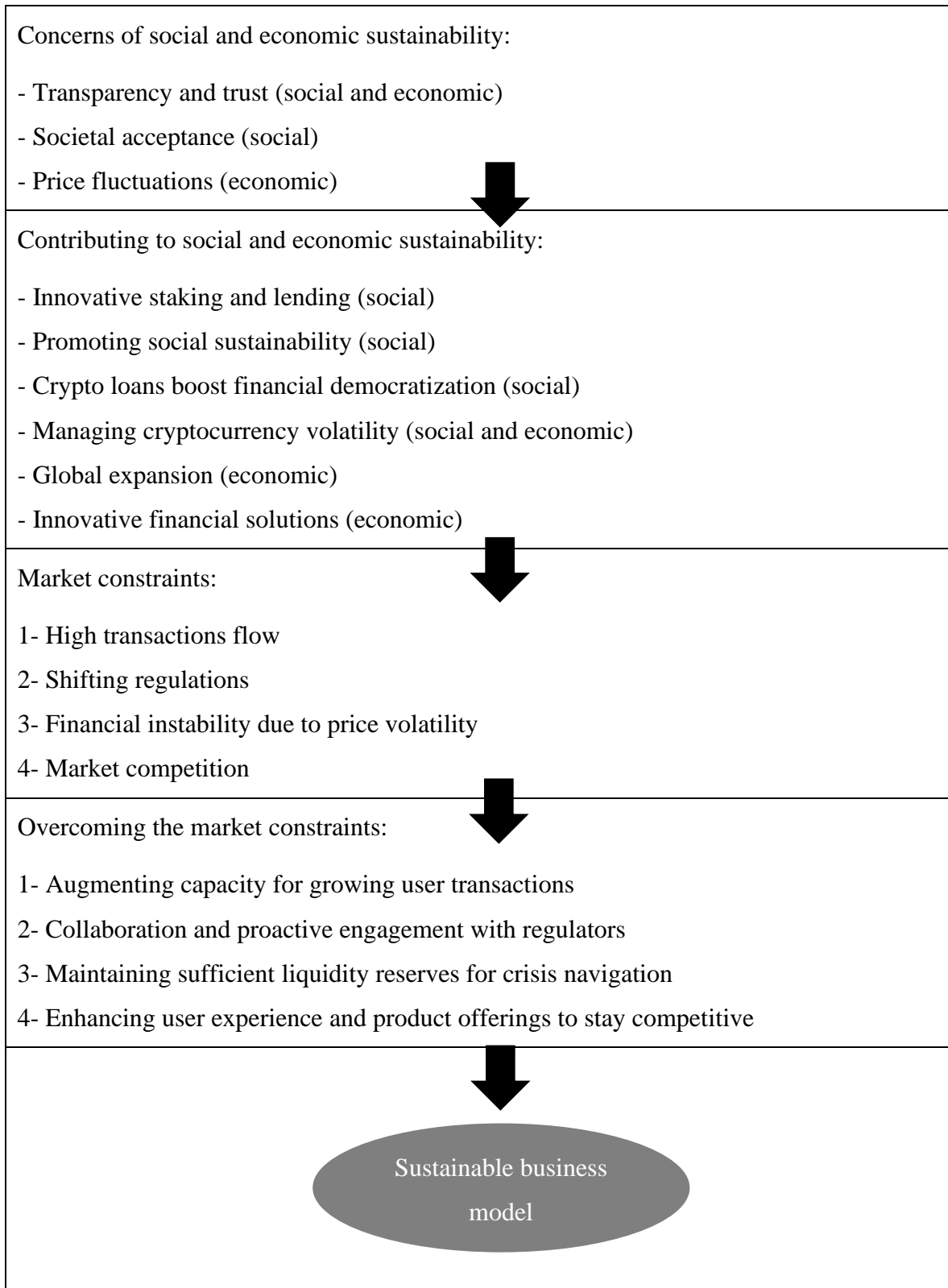
The business models of Coinbase and Binance present some differences:

According to (Hesterman 2021), Coinbase's business model targets retail and corporate clients by providing a user-friendly and secure platform for cryptocurrency transactions. It predominantly generates revenue from transaction fees and offers a variety of services, including a cryptocurrency wallet and a professional trading platform. Additionally, the company is expanding services such as Coinbase Commerce to promote widespread adoption of digital currencies. Coinbase prioritizes customer security, risk management, and regulatory compliance, working closely with regulators to shape a crypto-friendly regulatory environment.

In contrast, according to (Doe, et al., 2022), Binance's model is predicated on the introduction of its native cryptocurrency, Binance Coin (BNB), which is used to pay trading fees and obtain access to various features. In addition, Binance has expanded its services to include Binance Launchpad for new token initiatives, Binance Academy for educational

resources, and Binance Charity, a blockchain-powered charity platform. Its foray into DeFi with Binance Smart Chain (BSC) demonstrates its intent to profit from emerging markets.

Table 3. Sustainable Business Model



The author has designed the research model showcased herein to elucidate the goal of this study. This model highlights the constructs and elements derived from the literature review, which are strategically aligned to address the research questions and fulfil the objective of this thesis.

As outlined in the introduction chapter, there exists a research gap in understanding how large cryptocurrency exchanges nurture sustainable business models that cater to economic and social sustainability concerns. The model depicted in Table 3 demonstrates how these four key elements culminate in the formation of a sustainable business model. Furthermore, each numeral within the model corresponds to the pertinent factors linked to its respective box.

The four boxes: Concerns of social and economic sustainability, contributing to social and economic sustainability, market constraints, and overcoming the market constraints, are crucial in shaping the sustainable business model of major cryptocurrency exchanges, such as Binance and Coinbase.

Concerns of Social and Economic Sustainability: Binance and Coinbase's concerns are rooted in societal and economic aspects. In terms of social sustainability, the focus lies in building transparency and trust with users and gaining societal acceptance. Economically, both exchanges need to manage and navigate price fluctuations and ensure the transparency of their operations.

Contributing to Social and Economic Sustainability: Both exchanges strive to address their sustainability concerns through a range of initiatives. Socially, they implement innovative staking and lending programs, provide crypto loans to promote financial democratization, and develop strategies to manage cryptocurrency volatility. Economically, they focus on global expansion and the introduction of innovative financial solutions, while also managing cryptocurrency volatility to ensure their economic sustainability.

Market Constraints: These large cryptocurrency exchanges face several market constraints. High transaction flows, shifting regulations, financial instability due to price volatility, and market competition pose significant challenges to their operations and their ability to implement a sustainable business model.

Overcoming Market Constraints: Despite the constraints, Coinbase and Binance are proactively working on overcoming these issues. Strategies such as augmenting capacity for growing user transactions, collaboration and proactive engagement with regulators, maintaining sufficient liquidity reserves for crisis navigation, and enhancing user experience and product offerings are implemented to stay competitive in the market.

In essence, the sustainable business model of these exchanges is a continuous and dynamic process of balancing societal and economic sustainability concerns, implementing initiatives to contribute to sustainability, managing market constraints, and formulating strategies to overcome these constraints. This model provides an answer to how large crypto exchanges foster a sustainable business model and how they navigate the challenges associated with sustainable business models.

By continually adjusting their strategies based on these four aspects, Binance and Coinbase can maintain their commitment to both social and economic sustainability, while remaining competitive and adaptable to the volatile nature of the cryptocurrency market. These processes provide the framework that enables them to continue innovating and thriving as sustainable businesses within the crypto industry.

5.2 Theoretical contribution

This research predominantly contributes to the areas of cryptocurrency market structure, economic and social sustainability, and regulatory and compliance strategies within this market.

Structure of the Cryptocurrency Market: The research provides a comprehensive overview of the operations and business models of two main market participants, Coinbase and Binance. It contributes to the theory of cryptocurrency market structure by casting light on key factors such as the variety of services offered, strategies for generating revenue, and approaches to global expansion and product innovation.

Considerations for Economic and Social Sustainability: The research also provides theoretical insights into the concepts of economic and social sustainability within the cryptocurrency industry. By examining Coinbase and Binance's efforts towards these aims, the research enhances our understanding of how cryptocurrency platforms contribute to financial well-being, promote inclusivity, and possibly reduce social inequality. In addition, it explores the strategies they employ to ensure economic sustainability, including targeting institutional clients, introducing new services, and collaborating with global regulators.

Regulatory Compliance and Obstacles: Additionally, the research contributes to the theory of regulatory compliance in the cryptocurrency industry. The intricate tax structures and the compliance strategies implemented by these organisations, such as Binance's development of an AI-powered tax compliance tool, contribute to a greater comprehension of how businesses navigate this intricate and crucial area.

Innovation and Challenge Mitigation: Lastly, this study advances the theoretical understanding of how cryptocurrency exchanges address the numerous obstacles they face. From issues of scalability, regulatory compliance, and market competition to the volatility of cryptocurrencies and their environmental impact, a variety of mitigation strategies are

highlighted in the research. These include technological innovation, regulatory collaboration, service diversification, enhancement of the user experience, and promotion of environmentally responsible practises.

Through this study, I have made contributions to both sustainability literature and business model literature.

5.3 Managerial contribution

Understanding the Market and Business Models: This study provided invaluable insights into the current cryptocurrency market, highlighting the strategies and operations of key participants such as Coinbase and Binance. The data gathered can be utilised by managers to better comprehend the market landscape and assist their strategic decisions. A thorough comprehension of the business models of these companies reveals the significance of diversified services, revenue streams, and global expansion strategies. These insights can assist managers in refining their strategies, diversifying their product portfolios, identifying new revenue sources, and pursuing international growth opportunities.

Sustainability Practises and Challenges: Another valuable perspective is the significance of economic and social sustainability practises within the cryptocurrency industry. Examples of Coinbase and Binance's dedication to financial well-being, inclusivity, and diversity serve as models for incorporating or enhancing these elements within other organisations. In addition, the analysis identifies critical internal and external challenges encountered by cryptocurrency companies, as well as proposed solutions. This knowledge can aid managers in proactively confronting comparable issues within their own organisations, enabling them to navigate such obstacles more effectively.

Regulatory Compliance and Innovation: The discussion of regulatory compliance, particularly in relation to the complex tax landscape, is extremely enlightening. The development of a user-friendly tax compliance tool by Binance is a concrete illustration of how businesses can address regulatory challenges. Managers in the cryptocurrency industry can gain and apply insights regarding the design and implementation of compliance

strategies and tools. The emphasis on ongoing innovation and development in a rapidly changing industry can also motivate managers to foster a similar culture within their teams, keeping them updated of industry trends and changes.

Customer Engagement and Trust: Lastly, the significance of customer engagement and trust in the cryptocurrency industry is highlighted. The focus placed on transparency, user education, and customer satisfaction within the operations of Coinbase and Binance can serve as a model for managers who wish to prioritise these aspects within their own organisations. Implementing customer-centric strategies can not only enhance the user experience, but also contribute to the organisations' long-term success.

5.4 Limitations

The emphasis on qualitative analysis prevented the inclusion of quantitative analyses, and time constraints necessitated the use of a single conceptual model, potentially limiting the generalizability of the findings. Future research could consider integrating qualitative and quantitative analysis for a comprehensive evaluation, as well as exploring additional conceptual models for a broader perspective on economic sustainability practises.

In addition, the six-month time limit restricted data collection and analysis. It limited the capacity to conduct extensive fieldwork, such as in-person interviews or prolonged observation periods. Consequently, the research relied heavily on secondary data sources and had limited contact with industry experts. Although attempts were made to collect completely comprehensive and applicable data, the absence of primary data collection from certain sources may have limited the scope of the insights obtained.

It is essential to acknowledge these limitations openly in order to define the limits and restrictions of the study. While these limitations may limit the generalizability and range of the findings, they also provide opportunities for future research to resolve these gaps and advance our understanding of the role of cryptocurrency in sustainable business practices.

5.5 Suggestions for future research

In considering the limitations encountered during this study, there are several potential areas for future research. First, it is suggested that academics consider combining quantitative and qualitative approaches for data collection. By combining these techniques, researchers can obtain a deeper understanding of the topic and increase the credibility of their findings. In addition to the rich qualitative insights obtained from interviews and observations, quantitative data can provide valuable statistical insights.

Additionally, future research can significantly benefit from conducting in-depth interviews with key cryptocurrency industry stakeholders. This could yield new insights into business models and their impact on sustainable economic practices. By devoting more time to research, researchers can improve collecting data and analysis, which could result in a broader, more comprehensive understanding of the topic and a stronger basis for conclusions.

By integrating these suggestions into future research, academics can contribute to a deeper awareness of the role of cryptocurrency exchanges in promoting sustainable business practices. The integration of quantitative and qualitative methods, as well as in-depth interviews and a prolonged research period, will help address the limitations identified in this study and provide valuable insights into the evolving landscape of cryptocurrency exchanges and their impact on economic sustainability.

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