BLOCKCHAIN AND THE TRANSFORMATION OF INEQUITABLE MARKETS

by

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Abstract

RITA WINBORNE. Blockchain and The Transformation of Inequitable Markets.
(Under the direction of DR. SUNIL EREVELLES)

Markets are inherently inequitable. Markets replicate historical social norms and outdated business beliefs, they perpetuate systemic institutionalized culture and biases, they bolster unbalanced hierarchies innately built into market structures, they have unequal distributions of wealth, resources, and power, they inherently promote a "winner-take-all" mentality, they favor unfair competition between privileged incumbents and underprivileged newcomers, and they are built on inherited means or capital. This results in a gap between the privileged and the underprivileged, including gaps in trust, security, transparency, privacy, disintermediation, and monetary freedom. Blockchain has emerged as a non-linear shift to fill those gaps. It represents a profound paradigm shift from a marketplace that shares information to one that shares value. This results in greater upward mobility, economic freedom, equity in opportunities, reduced generational poverty, etc. In this research, an initial theoretical framework is first developed for "blockchain in inequitable markets," utilizing Hunt's indigenous theory development inductive realist methodology. Then, an empirical analysis was conducted using data from an underprivileged marketplace - undocumented immigrants from El Salvador. Blockchain-centric solutions for inequitable markets are then discussed to answer a call to action for better marketing for a better world (BMBW). The initial theoretical framework may provide a foundation for future academic research on blockchain and inequitable markets. Suggestions for future research and guidelines for practitioners are finally provided.

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Chapter 1 Introduction

Markets are inherently inequitable, as they replicate historical social norms and traditional business beliefs (e.g., Gray 2019), perpetuate systemic institutionalized culture and biases (Albiston 2009; Berger and Luckmann 1966), bolster unbalanced hierarchies innately built into institutional structures (e.g., Gray 2019), and create unequal distributions of wealth, resources, and power (e.g., Bahar 2020; Pinker 2018). They also inherently promote a "winner-take-all" mentality (e.g., Pinker 2018), favor unfair competition between privileged incumbents and underprivileged newcomers (e.g., Wessel 2018), and are built on inherited means or capital (e.g., Hodgson 2016). Furthermore, despite failures and violations of trust, such as those that occurred during the 2008 global financial crisis (Stockhammer, 2015), markets continue to retain control over capital resources and economic opportunities; they foster a relatively permanent underclass (Murray, 1984), enhance generational poverty (Sharkey, 2013), and create substantial barriers to entry for underprivileged consumers. This results in a rise in inequity (Qureshi, 2017) and an ever-increasing gap between the privileged and the underprivileged. In other words, privileged consumers continue to become more privileged while underprivileged consumers continue to become less privileged (Dannefer, 1987; O'Rand, 1996; Rigney 2010).

Markets depend on consistent rules that encompass trust, security, transparency, privacy, etc. (Erevelles et al., 2022). In essence, if trust is eroded, fewer people will want to freely participate in markets (Galford & Drapeau, 2003), which will eventually lead to inefficiency and inequity. In practice, inequitable markets are characterized by those individuals who avoid banks

(Baradaran 2012), use false identification (Srivastava 2012), and tend to limit their interactions to places they trust (Banerjee and Duflo 2007). Such individuals have difficulty finding and maintaining employment due to childcare expenses, transportation costs, etc. (Rozgonyi-Horváth 2019); are often targeted for predatory short-term loans (Graves 2003); and are fined more for illegal activity (Simpson 2002). They spend less time and less money on activities to promote their children's educational and social development (Evans 2004), often living in unsafe neighborhoods with poor schools (Jencks and Mayer 1990).

Wages of the underprivileged are stagnant while those of the privileged steadily increase (Morris and Western 1999), allowing for the higher costs associated with a "well-raised" child (Deaton 2006). The underprivileged are unable to enter the housing market while housing consumption is on the rise for the privileged (Friedmann 2005), and governments limit consumption and education spending on children's enrichment and school opportunities for the underprivileged while enhancing the opportunities of the rich and privileged (Corak 2013).

Blockchain could potentially shift control from institutions that create unfair barriers to entry in the marketplace (Pineda & Paraskevas, 2004) to a more equitable distribution of control between the privileged and the underprivileged (De Filippi et al., 2020). More than technology, blockchain represents a fundamental shift in values and attitude (Baldwin & Von Hippel, 2011) and creates a platform to share opportunity with those who have been unable to participate in prosperity in the past. Blockchain represents a profound paradigm shift from the "Internet of information to the Internet of value and trust" (Rejeb et al., 2020, p. 2). "The Trust Machine," a phrase often used to refer to blockchain, describes perhaps its most important attribute

(Auinder & Riedi, 2018). In addition, blockchain has the potential to provide a secure and transparent environment for transactions and help participants have complete control of the use of their identity and personal information.

Motivation and Research Gap

For decades, economic inequity has increased substantially throughout the world (Piketty & Saez, 2003). Putnam (2000), Rothstein (2018), and Keele (2007) suggest that as inequity increases, there appears to be a corresponding downward shift in trust. In essence, there is a relatively high correlation between societal trust and economic inequity (Uslaner & Brown , 2002; Jordahl, 2009; Graafland & Lous, 2019). As trust erodes, participation in markets also erodes (Huotari & Iivonen, 2004); when opportunities abound, so too will trust (Keele, 2007). In essence, trust, the foundation of the blockchain marketplace (Erevelles et al., 2022), is a central prerequisite for equitable marketplaces (Bloche, 2002). It thus appears highly likely that blockchain will play an important role in increasing trust and bridging the inequity gap (Nguyen, 2023).

This blockchain paradigm shift could potentially give those typically excluded from current marketplaces a route to prosperity; for example, providing underprivileged consumers with a way to open their own financial accounts, to send money across borders, and to apply for loans. As a relatively new field of study, academic research is practically nonexistent (Erevelles et al., 2022; Trudel et al., 2021) on blockchain technology as well as the use of blockchain for social change purposes, despite recent urgent calls for better marketing for a better world (BMBW)

(Chandy et al., 2021). The motivation of this research is to fill that substantial gap in the literature.

Research Goals

As no theoretical framework currently exists for either blockchain or blockchain in equitable markets, this research aims to: (1) develop a blockchain marketplace initial theoretical framework, (2) conduct exploratory empirical research with actual consumers in inequitable markets, (3) make a difference in the lives of consumers in inequitable markets, and (4) provide an agenda for future research. The subject pool included undocumented and originally undocumented immigrants from El Salvador who have been shut out of prosperity. Empirical analysis provided additional insight into inequitable markets; this insight was compared with the theoretical framework, which was modified as needed.

Theoretically, the initial framework may provide a foundation for future academic research on blockchain and inequitable markets; practically, it may provide insight to help make markets more equitable, thus improving the marketplace for everyone. The framework and foundational premises for inequitable markets were developed utilizing the inductive realist model of theory development (Hunt, 2020), a rigorous and well-tested seven-step process for indigenous theory development. Hunt's (2020) methodology is particularly suited for building theory indigenously, especially for the field of marketing, which typically borrows theory from other fields that may not be fully relevant.

Hunt's procedures (2020) and foundational premises (statements that are accepted as true and used as underlying logic) were introduced to solidify the arguments proposed for blockchain solutions. These foundational premises stand alone as valid statements that require no elaboration for understanding; inarguably, they are intuitive and self-evident (Hunt et al., 1995). Each premise offers a proposition that can and could be subjected to empirical testing for underprivileged consumers (Hunt et al., 1995) and could provide starting points designed to promote productive, well-versed, enlightening discussions to further advance blockchain technology, marketing, and other fields of study (Hunt, 2020).

Hunt's methodology has been utilized in the first and fourth most influential articles in the *Journal of Marketing* (Zeithaml, 2020). This framework could potentially provide the foundation for future research and practice for blockchain-based solutions for improving inequitable markets. The framework builds on the theoretical background that includes blockchain-related theories and social closure theory. Additionally, it provides researchers with a roadmap that could help provide solutions to some of society's greatest issues surrounding barriers to market entry and lack of prosperity.

The exploratory empirical analysis supplemented the foundational premises through textual analytics that identified marketplace perceptions (themes) of underprivileged consumers. Cognitive maps were developed to identify the themes and the strength of the association between the key themes.

The Non-Linear and Potentially Seminal Nature of this Research

This research, which is non-linear and potentially seminal in nature, is perhaps the first to focus specifically on blockchain or the use of blockchain in underprivileged markets in the field of marketing. As such, it could support future academic research and lead to greater knowledge of blockchain-centered processes to create equitable markets. Additionally, the blockchain initial theoretical framework could potentially be used to fill the gap, provide direction, and help managers identify blockchain-based solutions to create equitable markets for the world's poorest individuals that lead to BMBW. Key transformation outcomes include moving from an economy that shares information to a society that shares value, increasing trust by delivering value for all, improving transactional security and transparency, identifying risk patterns for businesses and consumers, increasing data privacy perceptions, and allowing consumers to control and monetize their personal information.

Conclusion

This dissertation is structured as follows. In Chapter 2, a critical literature review of blockchain, BMBW, and underprivileged markets as well as theoretical backgrounds related to these three key constructs are presented. Chapter 3 describes the theoretical and empirical methodology. In Chapter 4, foundational premises for the initial theoretical framework are developed. Chapter 5 summarizes the empirical results. Finally, Chapter 6 includes discussion of the findings and a summary of contributions, limitations, and directions for future research.

Chapter 2: Literature Review

The chapter includes a summary of the key literature related to the blockchain marketplace and the key literature related to inequity in marketplaces.

The Blockchain

The blockchain is defined as "… a secured record of assets (blocks) and transactions between parties, chronologically connected together (chained) with previous blocks and governed by a consensus mechanism to form an open, immutable, transparent and decentralized ledger of market activity" (Erevelles et al., 2022, p. 89). It is a dispersed transactional database that records digital transactions securely (Beck et al., 2017). Thus far, there have been at least three iterations of the blockchain (Zhao et al., 2016): Blockchain 1.0 comprises digital cryptocurrency applications; Blockchain 2.0 contains smart contracts plus applications outside of Blockchain 1.0; and Blockchain 3.0 aims focus on the versatility, feasibility, expenses, portability, and security related problems that were discovered in blockchain 1.0 and 2.0 (Erevelles et al., 2022) and the Internet of things (Casino et al., 2019).

Blockchain gained prominence as the technology underlying Bitcoin, Nakamoto (2008). Blockchain utilizes a dispersed peer-to-peer (P2P) network, allowing "non-trusting" participants to securely transact without intermediaries (Casino et al., 2019; Christidis & Devetsikiotis, 2016) using objective (mathematically based) trust (Erevelles et al., 2022). Blockchains are a set of interlinked systems whose attributes include trust, transparency, security (Greenspan, 2015; Christidis & Devetsikiotis, 2016), and privacy (Bonneau et al., 2015; Tsukerman, 2015;

Mukhopadhyay et al., 2016; Khalilov & Levi, 2018; Conti et al., 2018; Casino et al., 2019). Blockchain delivers objective trust, with no one person having absolute power over any transaction (Tasca & Ulieru, 2017). The "objective trust" attribute of blockchain is fundamental to it (Beck et al., 2017) and represents the foundation for creating equitable markets.

Blockchain gives consumers the ability to operate within a marketplace without a so-called "trusted agent" or intermediary (Casino et al., 2019). Various applications for the blockchain are currently being explored (e.g., IoT, logistics, healthcare, money transfer, and smart contracts). The blockchain also is a significant enabler of fairer economic and social operations (Lindman et al., 2017; Beck et al., 2017) because of its remarkable security attributes (Beck et al., 2017). However, little to no attention has been given to the use of blockchain to elevate underprivileged consumers (Casino et al., 2019; Tama et al., 2017; Brandão et al., 2018). The blockchain could potentially give everyone a chance to realize their full potential and help underprivileged consumers achieve prosperity (Pham, 2014). More importantly, if its potential is realized, the blockchain could foster a more sustainable, economically inclusive marketplace (Hoffmann, 2021) in the future.

Better Marketing for a Better World (BMBW)

Marketers have the potential power to make the "world better" (Chandy et al., 2021). Marketers have been challenged to help make the world a better place (Chandy et al., 2021) by developing partnerships to provide service to underprivileged consumers (Kohli, 2021). This initiative, known as "Better Marketing for a Better World (BMBW)" (Chandy et al., 2021), was

designed to help marketers refocus initiatives on underprivileged communities (Moorman et al., 2019).

Innovative technologies (such as blockchain) are linking ideas, resources, people, firms, societies, and markets in unprecedented ways (Chandy et al., 2021). Those who harness these changes will influence objectives, identities, and perceptions of right and wrong (Chandy et al., 2021). Rust (2018) suggests that BMBW should focus on three concepts: (1) how institutions decision-making affects consumer behavior, (2) how BMBW could affect or prevent negative occurrences (such as discrimination), and (3) how BMBW could help organizations create additional routes to improve services while maintaining profits (Price, 2018).

Chintagunta (2018) suggests three Cs to frame BMBW: (1) context, whereby marketers utilize current research trends, but see problems through a different lens; (2) counterfactuals, whereby existing marketing tools are applied "to an outcome pertaining to consumer or societal welfare"; and (3) corporate actions to develop outcomes for BMBW (e.g., CVS stopping the sale of tobacco products) (Chintagunta, 2018). It is intriguing to think what other societal impact these types of decisions could have on consumers and other businesses (Chintagunta, 2018). We do not know whether marketing practices add to the trials of underprivileged consumers (Chandy et al., 2021) or if marketing helps to fuel unfair institutional practices and procedures (norms). Marketers should focus on these considerations to develop BMBW (Morales, 2018).

If the field of marketing cannot convince future scholars that "better world" solutions are essential, then marketers will miss an opportunity to better humanity (Chandy et al., 2021) and improve the lives of the downtrodden. Marketers must begin the process of seeing marketing as an opportunity to "offer a higher quality of life" (Berger, 2018; Price, 2018; Chintagunta, 2018; Steenkamp, 2018; Berger, 2018) for all. To do this, they must disrupt the societal and institutional norms that currently plague economic equality (Price, 2018) and work together to build BMBW as the key to global success (Chandy et al., 2021). These actions could help individuals prosper in the long run (Lamberton, 2018) and allow the field of marketing to make significant contributions to "the well-being of the world's poor" (Steenkamp, 2018), thus demonstrating the power of BMBW to make the world a better place (Steenkamp, 2018).

Bottom of the Pyramid (BOP) Consumers

Prahalad (2012) defines the bottom of the pyramid as those with "income below $2 per day". There is an increasing public awareness that multigenerational income growth is decreasing in the United States (Chetty et al., 2014). Due to the consequence of the birth lottery (the family into which you are born) (Chetty et al., 2014), the market gap between the middle and upper classes and the BOP is widening. Prahalad (2012) notes that the over 4 billion underprivileged consumers at the BOP are a new foundation of essential origination for organizations to seize. The World Bank predicts the BOP population to increase to over six billion in the next 40 years (Kolk, 2014). He suggests four areas of origination for service to the BOP (the four A's): (1) awareness, (2) access, (3) affordability, and (4) availability. This would require new definitions of organizational success and new metrics. Making available and selling goods and services to

those at the BOP is not only great for business, but it also has the potential to create substantial profits for institutions and to alleviate poverty (Prahalad, 2012).

The BOP population represents an extraordinary leadership challenge for the world's richest companies. Marketing to and serving the underprivileged would require a paradigm shift from a "bigger is better" scale to more well-distributed moderate operations married to global capabilities (Prahalad, 2012). It is critical that organizations and institutions assist in bringing individuals at the BOP into prosperity and offering them a better quality of life (Prahalad, 2012). Rooted in the notion of inclusive capitalism, the BOP approach argues for the simultaneous pursuit of profit and social welfare by creating markets for the underprivileged (Ansari et al., 2012).

Unbanked Consumers

Since 2009, the FDIC and several government agencies have been conducting surveys to determine why people choose not to have a checking or savings account (the unbanked). While reasons are most often cost-related (e.g., high minimum balance requirements (Rhine et al., 2006), loan balances, account fees, and required documents (Beck et al., 2008)), most underprivileged consumers remain unbanked due to financial illiteracy; that is, unfamiliarity or uncomfortableness with certain financial products (Cole et al., 2011).

Other socioeconomic factors that contribute to underprivileged market households' likelihood of being unbanked (Hyashi & Minhas, 2018) include education, age, race, income level,

employment status, and technology (Rhine et al., 2006; Hogarth & O'Donnell, 2000; Kooce-Lewis, Swagler & Burton, 1996). Households with low levels of financial literacy tend not to plan for retirement, borrow at higher interest rates (Lusardi, 2008; Stango & Zinman, 2009), acquire fewer assets (Lusardi, 2008) and participate less in the formal financial system relative to their more financially literate counterparts (Hogarth & O'Donnell, 2000). Firms that find ways to cater to unbanked consumers could potentially find a unique new business opportunity.

Additionally, unbanked consumers, such as documented and undocumented immigrants, are faced with financial barriers when conducting transactions (Rhine et al., 2006), ranging from problems cashing payroll checks and paying living expenses to remitting income to family members residing in their home country (Rhine et al., 2006). Alternative banking solutions for this population include patronizing check-cashing businesses and/or paying cash for expenses (Caskey, 1994; Dunham, 2001; Rhine et al., 2006). Because these unbanked households forgo a relationship with financial institutions, they are subsequently unable to easily obtain basic banking services (Beck et al., 2008) and pay substantially higher prices for basic transactions.

Theoretical Background

The initial theoretical framework for this research uses a metatheoretical approach including blockchain-related theories, and social closure.

The Theoretical Foundations of Blockchain

In 1982, cryptography was first proposed as a blockchain-like protocol by cryptographer David Chaum, the founder of digital cash (Sherman et al., 2018; Narayanan et al., 2016). In the early 1990s, additional cryptographic (secure) blockchain research was conducted to implement a system whereby, with the inclusion of Merkle trees in the original cryptographic model, document timestamps could not be altered (Bashir, 2017). These features enhanced the efficiency of the blockchain by allowing one block to contain multiple document certificates (Narayanan et al., 2016). Nakamoto (2008) developed the first practical blockchain (Bitcoin). It represented a paradigm shift for data sharing, data storage, and data protection that would solve the double-spending problem. Finally, Erevelles et al. (2022) introduced a theory of blockchain marketplace, which examined the use of blockchain as a marketplace for the sharing of value.

The following key theoretical foundations of blockchain technology: (i) cryptographic underpinnings, (ii) the double-spending problem, and (iii) the theory of blockchain marketplace is next reviewed below.

1. **Cryptographic Underpinnings** (Haber & Stornetta, 1991): Cryptography, the critical science that increases the security of data (Tangade, 2020) and is the foundation for modern data security systems, it is especially important to protect personally identifiable information (PII), intellectual property, business plans, and other

confidential information (Koscielny et al., 2013). Without cryptography, consumers' most sensitive data could be exposed or misused (Tangade, 2020).

In 1991, Haber & Stornetta introduced a cryptographic protocol whereby documents could not be tampered with, thus maintaining the authenticity that is essential for resolving issues such as intellectual property rights (Oberhaus, 2018). Their Cryptographic process enabled data security by utilizing a chain of blocks. Time-stamping the chain makes it impossible to overwrite or manipulate records (blocks) (Whitaker, 2019). A "timeline of data" is generated after each block is completed (a time stamp).

Time-stamping a digital document would require solving two problems: first, the data itself (every part of the document) needed to be time stamped; second, the time stamp could not be changeable (Oberhaus, 2018). Additionally, the data (document) would run through a cryptographic hashing algorithm that produced a unique ID for the document (Whitaker, 2019). Even the slightest change in a document would constitute a run through the hashing algorithm again and the ID would be totally different (new hash number) (Whitaker, 2019). This idea would be coupled with the digital signature concept used to distinctively distinguish the signatory ("the paper of record") (Oberhaus, 2018), which would prevent the sender from denying the origin of the data and guaranteeing that the receiver could not deny having received the message.

2. **Double-Spending Problem** (Nakamoto, 2008): Double spending occurs when the same single digital token is spent repeatedly (Li & Wang, 2022; Chohan, 2021). Late in '2020 and inspired by Haber and Stornetta, Nakamoto described how an alternative electronic cash system could permit payments to be sent directly P2P, without involving a financial institution. This technology solved the double-spending problem by utilizing a P2P-distributed time stamp server that generated computational proof of the chronological order of transactions (Nakamoto, 2008). It created a digital signature that was combined with the next owner's public key into a transaction block, a trustless electronic cash system utilizing cryptographic proof (Nakamoto, 2008). Bitcoin was the first decentralized cryptocurrency developed from blockchain technology.

Bitcoin relies upon a tamper-proof public ledger (Zhang & Lee, 2019) that successfully addresses the double-spending problem with the adoption of Proof-of-Work (PoW). It allows nodes (miners) to compete for the ability to create a block that would be added to the main chain (Zhang & Lee, 2019), thus allowing only one double-spending transaction within a block to occur (Pérez-Solà et al., 2019). In other words, it utilizes computational proof of the chronological order of transactions to protect sellers from fraud (Nakamoto, 2008). Because Bitcoin allows P2P transactions, there is no need for a trusted authority or central server.

3. **Theory of the Blockchain Marketplace** (Erevelles et al., 2022): This theory seeks to measure objective trust and was formulated to assist individuals with overcoming income, education, and other resource barriers. It examines the potential of blockchain-

centric logic to share intellectual data and highlights the philosophical challenges and issues related to trust, security, transparency, privacy, and disintermediation within the digital network (Erevelles et al., 2022): trust through consensus and cryptographic proof (Casey & Vigna, 2018); security through a distributed and encrypted database (Orcutt, 2018); transparency using pseudonymous identities (Ghose, 2018); privacy using a system of public and private "keys" (Jung et al., 2013); and disintermediation (transactions P2P without intermediaries) (Tapscott & Tapscott, 2018).

Table 1: Blockchain Theoretical Background

Blockchain Theoretical Background		
Theoretical Foundations of Blockchain	**Authors**	**Brief Descriptions**
Cryptographic Foundations	Haber & Stornetta 1991	Data security utilizing cryptography within a chain of blocks, time-stamping the chain making it impossible to overwrite or manipulate records (blocks).
Double-Spending Problem	Nakamoto 2008	Solution to the double-spending problem utilizing a peer-to-peer (P2P) distributed timestamp server to generate computational proof of the chronological order of transactions.
Theory of Blockchain Marketplace	Erevelles et al., 2022	The sharing of intellectual value and customer co-creation - overcoming income, education, and other resource barriers

Social Closure Theory

In short, social closure refers to the processes of drawing boundaries, constructing identities, and building communities to monopolize scarce resources for one's own group, thereby excluding others from using them (Bteppen, 2018). Parkin (1979, p. 44) defines social closure as the process by which groups restrict access to resources and opportunities to those the group considers ineligible. According to Murphy (1988, p. 88), social closure is a process by which one

group maintains its advantages by closing off opportunities to a subordinate group defined as ineligible or inferior. Institutions and other social systems use formal and informal processes of cumulative (dis)advantage and social closure to hoard or share access to resources in the market, which support the perpetuating and ever-increasing gap between "us" and "them." If these processes were not in place, then more people would likely trust the government and banking systems and have access to more opportunities and resources. Max Weber hypothesized social closure to conceptualize how power is derived from processes of exclusion (Murphy, 1988, p. 101; Weber 1922, 1978, p. 638).

Social closure works in two ways: opportunity hoarding for actors' categorical in-group and exclusion of the out-group (Tomaskovic-Devey & Avent-Holt, 2019). '' Opportunity hoarding occurs when a dominant group identifies valuable resources and acts in ways that prevent them from being used by individuals outside of this group (Hanselman & Fiel, 2017). Tilly (1998) uses opportunity hoarding to refer to situations in which actors monopolize valuable positions or resources for people like themselves (Hanselman & Fiel, 2017). Social closure is an omnipresent, worldwide phenomenon that individuals experience from the day they are born.

A more formal mechanism for hoarding opportunities is to create a new categorical monopoly (a profession) "by enlisting state support for licensing, exclusion, and fee-setting in return for a measure of collective responsibility and self-policing" (Bteppen 2018, p.1). For example, to date, "fair" housing has not been achieved in the United States (Jargowsky et al., 2019). In the 1930s, the federal government used "red lining" in predominantly poor black communities to

label these neighborhoods as "hazardous," which excluded them from major support, banking, economic opportunities, and growth (Callison, 2017). Underprivileged consumers still suffer from the same effects of systematic racism, being priced out of their communities by middle-class and upper-class society (i.e regentrification) (Callison, 2017). Additionally, the average racial minority American has eight cents for every dollar of prosperity that White Americans possess (Shapiro & Osoro, 2013). The lack of generational wealth is the main contributor to this enormous wealth gap. (Shapiro & Osoro, 2013).

From Social Closure to the Matthew Effect

In the late 1960s, sociologist Robert K. Merton identified the Matthew effect phenomenon, basing it on the Bible's Gospel of Matthew: *"For whoever has will be given more, and they will have an abundance. Whoever does not have, even what they have will be taken from them"* (Matthew 25:29); that is, the rich get richer, and the poor get poorer. It is sometimes referred to as the "law of inequity" (Rigney, 2010). These laws of inequity that build off one another and are at the heart of perpetuating social challenges that continuously plague economic equality allow people or institutions with advantages in one area to continue to stack these advantages over time (Merton, 1988).

The Matthew effect provides insight into how social systems generate inequity. Its presence is established in all aspects of an individual's life and throughout society, affecting birth, education, finance, business, the economy, and so on (Mason, 2022). Individuals do not have control over their circumstances at birth; however, the "birth lottery," whereby income and

wealth, often by-products of birth, contribute to societal inequity (Martinez, 2016). What and who individuals become, the lives they lead, and the beliefs and values they learn, owe much to the birth lottery (Martinez, 2016; Bergstrom, 2014; Neil & Sampson, 2021). Those who are born into wealth have more money to make more money; they have more to invest, start a business, buy real estate, and so on (Rigney, 2010). Individuals who start reading later in life struggle to do so and cumulatively fall behind, while those who learn to read early in life prosper and cumulatively exceed those who did not at an enormous rate (Rigney, 2010).

Those who begin with advantage accumulate more advantage over time (rich get richer) and those who begin with disadvantage become more disadvantaged over time (poor get poorer) (Dannefer, 1987; O'Rand, 1996), known as cumulative advantage and cumulative disadvantage, respectively. The Matthew effect represents a phenomenon in which "inequalities persist and grow through time to the point that they become self-perpetuating and self-amplifying" (Bask & Bask, 2015, p.12). Individuals who start from a place of advantage (e.g., wealth, economic prosperity) will have the opportunity to perpetuate the ever-increasing economic gap between the advantaged and the disadvantaged. In fact, the Matthew principle explains how 80% of wealth is owned by 20% of the population. This distribution of wealth in a society illustrates the trend that a large portion of wealth is held by a small fraction of the population (Merritt, 1898; Pareto, 1964).

Chapter 3: Methodology

Theoretical Development

The goal of this research was to develop an initial theoretical framework based on blockchain solutions, conduct an empirical exploratory study utilizing textual analytics, and conclude with findings that will help make the world a better place for underprivileged consumers. Following Hunt's (2020) indigenous theory development model, foundational premises (statements that are accepted as true and used as underlying logic) were introduced to solidify the arguments proposed for blockchain solutions as the great equalizer for underprivileged consumers and to promote a more equitable society.

Hunt's (2020) philosophy of a science-based method for developing foundational premises (FPs) for marketing theory development consists of a seven-step process. These steps are based on (a) marketing's inductive realist model, (b) the "friends of discovery" writings (i.e., Nickles, 1980), (c) the timeless theory-in-use research as it relates to theory development (Zaltman, 1982; Zeithaml et al., 2020), and (d) an analysis of previous authors who have used FPs within their research (Hunt, 2020). The seven steps for developing FPs are:

1. Report the problems discovered.
2. Determine the attributes, strengths, and weaknesses of the existing theories, patterns, context, and research that address those issues now. (The weaknesses recognize the "gap" in the current writing.)

3. Determine the attributes, strong points, and weaknesses of the existing theories, patterns, context, and research that (a) address those issues now, but (b) might provide understanding that helps focus on the issue.
4. Artistically utilize cognitive information obtained from steps 1-3 to develop an initial set of FPs that (a) concisely help comprehension of the problem, (b) clarify characteristics of the issue, and (c) could possibly produce theory or theories which could enhance determining issues.
5. Assess the initial set of premises as they relate to supposed limitations and create a set of modified premises as necessary.
6. Recommend subsequent FPs that will explain how these premises (a) concisely simplify comprehending the issue, (b) explain characteristics of the issue, and (c) could possibly produce theory or theories which could enhance determining issues.
7. Modify FPs based on limitations discovered within the process and recommend edits as future areas of research.

Foundational premises are not the minimum set of truisms required for deriving propositions but rather are central for understanding theories (Arnould, 2007). They stand alone as valid statements that require no elaboration for understanding; inarguably, they are intuitive and self-evident (Hunt, et al. ,1995). Each premise is offered as a proposition that can and will be subjected to empirical testing (Hunt, et al., 1995) and will provide starting points designed to promote productive, well-versed, enlightening discussions that will advance blockchain technology, marketing, and other fields of study (Hunt, 2020). Following Zeithaml's (2020)

theories-in-use (TIU) approach, the most frequently cited papers in marketing theory development were used to describe and incorporate information that provided insight for predictions and future decisions leading to the overall greater good.

Empirical Analysis Development

Discussion of Empirical Research Dilemmas and Responsibilities

An empirical exploratory study of underprivileged consumers was conducted; specifically, immigrants from El Salvador (including undocumented immigrants) residing in the United States. I used a Pointwise Mutual Information (PMI) methodology to conduct an exploratory study on the experiences of undocumented and previously undocumented consumers from El Salvador living in the United States. I engaged local community leaders in Shelby, NC to assist me with organizing and recruiting participants throughout the study; together, we worked to recruit undocumented and previously undocumented participants and worked collaboratively for about six months. Making the decision to conduct a PMI exploratory study with and for undocumented and previously undocumented participants, I realized the urgency of deeply examining the risks and benefits related with the interviews, and to reflect on my moral and ethical duties and responsibilities as a qualitative scholar. Therefore, in this paper I included some of those personal experiences and discuss the moral and ethical challenges and procedural opportunities that PMI could be utilized for scholars seeking to glean knowledge about undocumented and previously undocumented individuals or other groups who may also be perceived as vulnerable or fall in the category of underprivileged.

I initially planned to conduct approximately 60-80 interviews. However, after my dissertation proposal with committee members, I was advised to use this research as an exploratory study. We decided to conduct between 20-30 interviews. After days, weeks and months of speaking with community leaders, I determined that recruiting undocumented individuals from El Salvador would be a difficult task albeit several undocumented individuals from El Salvador living in the area. I knew the first point of contention would be recruiting an interpreter/translator. They speak a different language (Spanish). Thus, a translator was recruited for the interviews and scheduling.

To find a professional recruiter, I asked local churches and schools for potential referrals. I interviewed three potential interpreters/translators and ended up choosing the one that was most flexible with this type of research: I need someone that could work after hours when potential participants were getting home from work, weekends, and someone who would be available in a moment's notice, etc. I hired my interpreters/translators before getting Institutional Review Board (IRB) approval for this research so that she could verify that the material that was written in Spanish correctly. I did not speak Spanish so I knew I would need an individual who spoke the language. She verified and approved all the recruiting material, instructions for the interview, verbal consent, and helped me schedule the interviews because I knew that most of the participants were not fluent or understand English.

IRB approval was not easy. I spoke with IRB agents at my institution a few times as I was designing the study because I needed them to become familiar with the nature of the research. Prior to submitting the IRB application, because of the potential risks related with obtaining signed consent forms from participants due to their immigration status, I decided to obtain verbal consent from each participant to protect their status, identity, etc. The IRB office at my institution replied positively to the research and directed me as I went through the application process. We went through at least twenty iterations regarding the correct language (undocumented immigrants), who would be doing what during the entirety of the research (e.g., will the interpreter/translator or community leaders schedule interviews, will the participants have to give additional personal information, etc.), permission and signatures from the community leaders to use their facilities, and so on. I had anticipated thirty days from start to finish with the IRB process, but it took approximately 60 days.

Prior to collecting data, I confirmed that my interpreter/translator was prepared to conduct each interview with the instructions being readily available and her calendar remained open for each day's interviews were scheduled with potential participants. I connected with my interpreter/translator often to check on her well-being over the phone, email, etc. to ensure she knew I truly cared about her. At the end of the research, I tipped her above her asking price due to her flexibility throughout the interviewing process to let her know my appreciation.

It was difficult to recruit undocumented immigrants as they are afraid and mistrustful of strangers because of the threat of deportation. We needed an intermediary trusted by them to

recruit them. The participants often did not keep scheduled appointments. Thus, many appointments had to be rescheduled. Several of the potential participants would initially agree to participate in the research but as the day approached, they would either reschedule their appointment or not show up. The interpreter/translator and I spent countless hours setting up each interview, reminding the potential participants of their scheduled times and then conducting the interviews. The interviews on average took about 23-35 minutes, albeit initially they took about 45 minutes - 1 hour (the first 2 or 3 interviews took longer as we worked out technical issues and the order of the process). This was the first time that myself and the interpreter/translator had worked together.

Additionally, it was not always easy to interpret the respondent's key issues and concerns. The interpreter/translator repeated the open-ended questions often as the questions contained questions within questions (e.g., what were your thoughts, feelings or emotions about banks, credit unions, financial institutions, etc.). Some respondents talked about how great their lives were now as compared to when they first arrived in the US. But then I would have to refocus the conversation to when they first arrived here in the US. Then I realized the raw emotions that surfaced as they started to reminisce about the time when they first arrived here in the US. The interviews were recorded and later transcribed before they could be analyzed in an exploratory textual analytics procedure. I wanted the participants to express their feelings openly as they engaged in the interview and reduce emotional harm.

The interviews process (as approved by IRB guidance) took place over the course of three weeks. Of the 20 participants, 14 were males and 6 were females. The average age was 48 years of age with ages ranging from 20 – 73 years of age.

Textual Analysis: Empirical Textual Analytics

Textual analysis is a methodology that helps translate qualitative information into data used to test a hypothesis. Textual analytics was utilized to analyze open-ended responses that participants provided about their relationship with technology and financial institutions in the United States.

Participants. Twenty undocumented and previously undocumented immigrants from El Salvador completed an open-ended, face-to-face, zoom interview regarding their experiences while living in the United States as an immigrant. They were given a $20 Walmart gift card upon completion of the interview.

Given the sensitive nature of the participant sample, community and church leaders were contacted to glean a better understanding of the norms and behaviors of potential participants to facilitate recruitment. An interpreter assisted with scheduling and interviewing the participants.

Design and Procedure. The participants responded to three open-ended questions asking them to describe their reactions when they first arrived in the United States:

1. What words, thoughts or emotions came to mind when thinking about banks or traditional financial institutions, credit agencies, credit card companies, the government, and so on?
2. What words, thoughts or emotions came to mind when thinking about sending and/or transferring money to friends and/or family members abroad?
3. What words, thoughts or emotions came to mind when thinking about smartphones, technology, the Internet, and so on?

Responses were translated from Spanish to English by the interpreter.

Manual Coding (Coding #1)

After completing the interviews, the responses were coded based on Pawlowski et al. (2007), with no pre-determined code. An open-coding methodology was used, whereby two coders generated topics and organized participant responses (Mason, 2022), a methodology that is suitable when performing exploratory research (Pawlowski et al., 2007). Topics were generated based on the responses to question 1; responses to questions 2 and 3 were then analyzed to see whether any additional topics emerged that were not generated from question 1. This process identified a total of 107 codes based on the responses from all three questions. For example, two codes, *didn't have any legal status* and *didn't have a social security number so he wasn't able to open a checking account,* were combined for the response of *Documents and documentation as a big issue*.

Then, similar topics were combined to formulate additional abstract themes; the 107 codes generated 11 themes. Using the previous example, whereas *"didn't have any legal status"* was categorized as "documentation," *"didn't have a social security number so he wasn't able to open a checking account"* was categorized as "documents."

Assessing Co-Occurrence (Coding #2)

To generate quantitative data from the qualitative responses, a second coding procedure was conducted utilizing the Pointwise Mutual Information (PMI) tool (Katharina et al., 2023) – no italics, which computes the relative frequency of two outcomes occurring simultaneously to the likelihood of any outcome occurring {independently (Kharrazi & Faith, 2016). The two coders independently assessed whether each of the 11 themes was represented in each of the three responses per participant. Cohen's Kappa of the two coder's agreement (0.57) indicated moderate agreement (Landis & Koch, 1977). The raters agreed upon 503 of the 594 codes, with disagreements resolved through discussion.

Resolving Inconsistencies Between Coding #1 and Coding #2 (Coding #3)

Consistent with Syed and Nelson (2015), the raters resolved all 93 inconsistencies via consensus; thus, the final codes analyzed were based on several researchers.

Quantitative Analysis: Cognitive Mapping

The frequency with which themes appear together in responses reveals how strongly related the themes are socially (Pawlowski et al., 2007). Building on this idea, a cognitive map was

created to show the strength of the associations by utilizing PMI, a semantic mapping technique that minimizes researchers' prejudices (Steiger & Steiger, 2008).

Coding Process and Reliability Analysis

Using the PMI metric, coding and reliability analysis processes were performed to compare and correlate the themes to derive a finalized cognitive map. The results of the textual analysis were used to determine if themes supported the initial theoretical framework.

Chapter 4: Initial Theoretical Framework

Foundational Premises (FPs)

An initial theoretical framework was developed for researchers and practitioners to build upon utilizing blockchain solutions for underprivileged consumers. The core value propositions of blockchain, including trust, security, privacy, transparency, and disintermediation, may provide the best opportunities, so far, to lift most people out of poverty (underprivileged consumers), who makes up most of the marketplace in the United States and globally. Thus, blockchain may be the answer to the persistent calls for better marketing for a better world (BMBW). The following foundational premises were created to be accepted as truths and used as the foundation of blockchain logic for underprivileged consumers.

FP1 – Markets are inherently inequitable.

"Capitalism does not permit an even flow of economic resources. With this system, a small privileged few are rich beyond conscience, and almost all others are doomed to be poor at some level" - MLK, Jr. 1967, p. 2

Markets are inherently inequitable. Specifically (a) they often replicate historical social norms and traditional business beliefs (Gray 2019), (b) they perpetuate systemic institutionalized culture and biases (Albiston, 2009; Berger & Luckmann, 1966) (c) they bolster unbalanced hierarchies innately built into institutional structures (Gray 2019), (d) they possess unequal distributions of wealth, resources and power (Bahar, 2020; Pinker, 2018), (e) they inherently promote a "winner-take-all" mentality (Pinker, 2018), (f) they favor unfair competition between

privileged incumbents and underprivileged newcomers (Wessel, 2018) and (g) they are built on inherited means or capital (Hodgson, 2016).

(a) Markets often replicate historical power structures, social norms and business beliefs, systemic, institutionalized culture, power hoarding, and paternalism (Gray, 2019). “The cultivation and rootedness of capitalism and white supremacy culture in the United States is sustained through its infection in every part of our society and individual selves” (Kistler-Ellis, 2020). They often include formal or informal processes of cumulative (dis)advantage and social closure to hoard or limit access to resources (Kumpel, 2020). Therefore, continuing to perpetuate the cumulative gap between rich and poor (Kumpel, 2020) and deeply intwined inequities within institutional systems (Madden, 2019).

(b) Markets perpetuate systemic institutionalized culture and biases (Albiston, 2009; Berger & Luckmann, 1966). They have perpetuated inequity for decades, even centuries, resulting in systemic and structural racism; racial biases; discrimination; racial, individual, and cultural prejudices; and grouping by social class (Albiston, 2009; Berger & Luckmann, 1966). Discrimination based on gender, race, ethnicity, religion, and sexual orientation continues to keep millions from achieving their hopes and dreams (Bertrand & Mullainathan, 2004; Crockett & Grier, 2021).

(c) Markets bolster unbalanced hierarchies innately built into institutional structures (Gray 2019). Big incumbents have dominated industries for decades and have built hierarchies that are innately inequitable. Structural and institutional hierarchies continue to reside with dominant agencies and fail to address historically imbalanced structures innately built into institutions (Ray, 2019). These patterns and practices in turn reinforce discriminatory beliefs, values, and distribution of resources.

(d) Markets possess unequal distributions of wealth, resources, and power (Bahar, 2020; Pinker ,2018). "Free-market capitalism is a cause of inequity within societies" (de Soya & Vadlamannati, 2021). They inherently have an uneven distribution of wealth and power. This is partially because resources in capitalist societies are rarely equitably distributed (Bahar, 2020). These markets are "the fruits of economic growth [that] are being hoarded" by unchallenged Big Data, Big Banks, and dominant market leaders (Foulis, 2018). They own market economies, and "therefore owns the barriers for entry into these markets" (Mueller, 1975). These market leaders hoard opportunities and perpetuate inequity within markets.

(e) Markets inherently promote a "winner-take-all" mentality (Pinker, 2018). Capitalism supports individualism and bolsters self-interests (Greene, 2008); it involves minimal mechanisms to ensure equity or balance of power and inherently promotes a "winner-take-all" (Pinker, 2018) mentality. Winners have substantial power to dictate outcomes within a capitalist society (Wessel, 2018). For example, organizations such as Google,

Amazon, Apple, Facebook, and Twitter, whose logos and brands are embedded in our minds, have the power to shape global decisions and influence the lives of ordinary consumers (Farnam Street, 2018).

(f) Markets favor unfair competition between privileged incumbents and underprivileged newcomers (Wessel, 2018). Google, for instance, has stifled any meaningful competition and has bolstered its profit margins (Barwise, 2018). It has left its nearest competitors (e.g., Yahoo, Bing, DuckDuckGo) struggling to have any substantial presence in the marketplace. Another example is DeBeers, which began dominating the diamond market as early as 1888. They have promoted diamonds as extremely rare with shrewd marketing that has appealed to an exclusive market, even though other gems have the same properties. This marketing strategy has afforded them the opportunity to cement their strong position in the diamond industry (Farnam Street, 2018).

(g) Markets are built on inherited means or capital (Hodgson, 2016) and are generally motivated by profit (Pinker, 2018). In contrast, socialist economies produce goods and services that are created precisely for a specific purpose and based on mutual, community, or public ownership of the means of production (Pinker, 2018). The inequity in capitalist societies is often driven by resource inequity and inequalities of inheritance leading to differences in education, economic capabilities, and opportunities (Wilkinson & Pickett, 2010). Additionally, inequity is driven by income and wealth gaps and

> Inequitable public policies (structural inequalities) created to benefit the affluent (Zambrana, 2017). The underprivileged do not have generational inherited power and capital to use as collateral to obtain money loans as does the capitalist class (Hodgson, 2016).

There is nothing opportune or fair about how the current system operates for underprivileged markets. The "American Dream", as it currently stands, was not meant for underprivileged markets. Even in wealthy nations such as the United States, large proportions of the population believe the world is getting worse and that the system is stacked against them (Rosling, Rosling, & Rönnlund, 2018).

Since 2021, there have been a persistent call for better marketing for a better world (BMBW) (Chandy et al., 2021). Underprivileged consumers do not have the ability to speak for themselves convincingly and profoundly and thereby this phenomenon could potentially challenge marketing professionals to make marketing contributions that challenge current value systems (Kotler & Levy, 1969). BMBW calls for marketers to focus on areas such as persistent poverty, inequity, analphabetism, and consumer protection could be the solution for inequitable markets (Chandy et al., 2021, etc.). Yet, the notion that markets are inherently inequitable has not been covered in the marketing literature. It has generally been assumed that free market systems are superior to other systems such as authoritarianism, socialism, or centrally planned markets. BMBW topics remain superficial to most scholars' work. It is rare that BMBW topics are presented as dissertation topics within doctoral programs or at large

meetings that highlight BMBW as a potential topic of discussion. In other words, marketing and marketplace are not peripheral to the global economic template; they are in essence the focus of it. In sum, there are numerous constraints to freedom in the free market system.

FP2 – Blockchain represents a seminal paradigm shift in the creation of equitable markets.

"There is no chance for a better society unless the good and achievable society is clearly defined." -- Galbraith 1997, p. 2

The theoretical foundations of "New Institutional Economics" (NIE) considers markets to be a type of institution or structure that enables trade, coordination, and distribution of resources, goods, and services between consumers, producers, intermediaries, and merchants (Stiglitz, 2017). Nobel Prize Winner Douglass North (1990, p. 3) states that "institutions are the rules of the game in a society, or, more formally, are the humanly devised constraints that shape human interaction." That "In order for a market economy to flourish, certain legal and social institutions must be in place" (Goldin, 2004). Thus, the way institutions are interconnected and impacted by the behavior and/or performance of institutions define the characteristics of markets (White, 1982): private ownership, freedom of choice, self-interest, competition, and limited government intervention. These characteristics are the defining foundation that determines whether markets are equitable for all people.

Although markets are generally assumed to be equitable and generates abundant economic prosperity (Smith, 2001), general well-being for all (Rank, 2004), economic freedom (Smith, 2001), and equity in opportunities (Chetty et al., 2014), these so-called “free market” economies are inequitable for the more than four billion individuals at the bottom of the pyramid (BOP) who represent around 56% of the global population (Prahalad, 2012). Current markets foster a permanent underclass and steadily increases generational poverty (Murray, 1984); they increase barriers to economic entry (Rhine et al., 2006; Beck, 2008) and increases health (Hayashi et al., 2018) and education inequities (Hayashi et al., 2018).

The blockchain paradigm may help mitigate some of these imbalances. The new paradigm (blockchain) will serve to move from an economy that shares information (World Wide Web and Big Data) to an economy that shares value (Erevelles et al 2022); and secondly, and most importantly, the new paradigm will move from an inequitable marketplace to a market that is more equitable.

Blockchain will empower customers to become more influential in the marketing process (Berman & McClellan, 2002). First, blockchain will engender greater trust in the marketplace (Twesige, 2015; Zamani & Giaglis, 2018) by giving underprivileged customers participatory control within the marketplace and minimizing bias or fraud from unethical intermediaries. Therefore, objective, mathematical trust replaces subjective trust in centralized institutions. Secondly, blockchain security strengthens transactions with a single source of truth and allows participants to maintain control of their personally identifiable information (PII) (Rejeb, et al.,

2020). Thus, distributed security replaces centralized security. Thirdly, blockchain privacy could potentially provide anonymity and immutable transactions for consumers to help build trust among consumers (Forbes, 2018). Therefore, self-sovereign identity (privacy) replaces institution-controlled identity. Fourthly, transparency enhances equity and opacity by influencing and encouraging cooperation, promoting efficiency, and increasing trust. Consequently, democratized transparency replaces institutional opacity. Fifthly, blockchain disintermediation will change the way information is valued and shift control to multiple individuals versus a select few (Pineda & Paraskevas, 2004). Hence, cryptographic disintermediation replaces institution-centric intermediation. Finally, blockchain tokenization could help reveal more opportunities for underprivileged consumers to drive equitable and interchangeable pricing on a global scale. Thus, monetary freedom (tokenization) replaces governmental control (fiat currencies).

With blockchain, current marketplaces are more equitable. When institutions are not honest with their consumers, it becomes transparent over time. For example, Wells Fargo had long-standing notoriety for good governance (Tayan, 2019). However, in 2016, Wells Fargo was neither transparent nor trustworthy when it cheated its consumers with its fake accounts scandal (Cavico & Mujtaba, 2017). Furthermore, banks and credit agencies stand in the way of underprivileged consumers' pursuit of capital and reinforce barriers to entry (Sapovadia, 2018); Weiser, 2007). In addition, Uber exploits the underprivileged (Peticca-Harris et al., 2020). They not only exploit their drivers with low wages, but they also exploit their consumers with "surge pricing" whereby they charge an inordinate fee because they know the consumer will accept

the option because their cell phone battery is running low (Chen & Sheldon, 2016). In addition, most people believe that Uber is part of the sharing economy, but they are not. Uber is an intermediary just like a bank and arguably exploits their underprivileged drivers (Dyal-Chan, 2015). While Uber drivers gross $21 per hour most of the gross is taken away by Uber with large uber fees: car payments, and car insurance, concluding with a net income of around $9-11 per hour (Hill, 2015). Blockchain will create a true peer-to-peer (P2P) marketplace where Uber drivers will get a larger share of the gross income (Wirtz et al., 2019).

The key attributes on the blockchain are precisely what is needed to reduce inequities in the marketplace (e.g., trust, security, transparency, disintermediation, privacy, and tokenization). Blockchain will lay the foundation that will provide viable opportunities that could potentially support and assist in lifting most people out of poverty (Sherman, 2013), increase trust (objective trust), remove economic barriers to market entry, remove intermediaries (disintermediation), provide faster and transparent payment opportunities (transparency) for the underprivileged (Ebong, 2021), increase privacy, improve price negotiating strategies (tokenization) and so on for underprivileged markets (Trucano, World Bank, 2012).

Thus, blockchain represents a seminal paradigm shift in the creation of equitable markets for greater upward mobility, greater economic freedom, greater equity in opportunities, reduced generational poverty, and so on. Blockchain could potentially allow anyone, anytime, anywhere globally the ability to share and create value and provide investment opportunities for all. Furthermore, blockchain is potentially a paradigm-shifting construct that could help institutions

move from a “bigger is better” scale to a more “highly distributed small-scale operations married to world-scale capabilities” like making the world more equitable (Prahalad, 2012). In other words, creating solutions to real-world problems (e.g., inequity) that will make this world a better place in addition to better marketing for a better world (BMBW). The new paradigm will encompass blockchain solutions intertwined with better marketing for a better world (BMBW) because with legacy systems, current social norms, and beliefs, “business as usual (BAU)” simply will not achieve the necessary market transformation required for economic stability and prosperity for all.

FP3 – Blockchain-based objective trust is a key foundation for equitable markets.

“Trust is the glue of life. It’s the most essential ingredient in effective communication. It’s the foundational principle that holds all relationships.” – Covey & Merrill, 2006, p. 2

Trust is defined by the Pew Research Center (2017) as a social, economic, and political binding agent. Trust is a precursor and by-product of transparency (Parris et al., 2016). In other words, it is confidence in an entity’s dependability and reliability (Ahearne et al., 2007; Eisingerich & Bell, 2008) and what mutual benefits, cooperation and collaboration, partnership, and the sharing of information and experiences are based upon (Huotari & Iivonen, 2004). Furthermore, it is the foundation of consumer interaction in the marketplace, a central construct in social exchange theory. More importantly, it is a complex, multifaceted construct that is very difficult to operationalize, measure, and interpret (Huotari & Iivonen, 2003).

There are two forms of trust: subjective trust – behavioral judgement based on past interactions, and objective trust - mathematical metric based on system-wide outcomes.

Subjective Trust

Subjective trust has often been violated by supposed trusted intermediaries: Wells Fargo creating fake bank accounts, Volkswagen for emissions tests fraud, University of Phoenix for financial aid fraud, Equifax for consumer data protection fraud, Uber for surge pricing, and so on. Subjective trust is particularly violated when institutions interact with inequitable consumers, minorities, and those at the bottom of the pyramid (BOP). This results in: systematic bias based on race, social class, etc., limited upward mobility, limited economic opportunity, greater intergenerational poverty and so on. Within this research, we define inequitable markets as the following:

I. they replicate historical social norms and traditional business beliefs (e.g., Gray, 2019) Markets perpetuate systemic institutionalized culture and biases (Albiston, 2009; Berger & Luckmann, 1966)
II. they bolster unbalanced hierarchies innately built into institutional structures (e.g., Gray, 2019)
III. they possess unequal distributions of wealth, resources, and power (e.g., Bahar, 2020; Pinker, 2018)
IV. they inherently promote a “winner-take-all” mantra (e.g., Pinker, 2018)

V. they favor unfair competition between privileged incumbents and underprivileged newcomers (e.g., Wessel, 2018)

VI. they are built on inherited means or capital (e.g., Hodgson, 2016)

A great example of inequitable markets is when a black family in Northern California felt slighted on their home appraisal, they sought a second opinion. They decided to have a white friend pretending to own their home. The new appraisal came in at more than $1.4 million - almost half a million dollars higher than the previous estimate (Johns et al., 2021).

Objective trust

Objective trust in the blockchain replaces subjective trust in central institutions and eliminates the need for "so-called" trusted intermediaries (De Filippi et al., 2020). In truth, blockchain technology was created as a response to the trust crisis that swept the world in the wake of the 2008 financial crisis (De Filippi et al., 2020). It continues to loom as a potential solution for conventional institutions and intermediaries when trust has eroded between company and consumer, citizen, and citizen (Casey & Vigna, 2018). Additionally, it is sometimes referred to as the "trust machine" because it converts subjective trust into "economically-valuable trust" – a mathematical resolution to subjective trust (Berg et al., 2017).

Objective (mathematical) trust makes markets more equitable (Merzoni & Trombetta, 2012)

$$T_R* = (w_0T_0 + w_1T_1 + \ldots w_{n-1}T_{n-1})/\Sigma w$$

where TR* represents different individual interactions and w is the weight associated with each interaction

$$T_R* = \sum_{i=0}^{N-1} \sum^{i=0} (w_i N(T_i)/\Sigma w_i),$$

N refers to the number of interactions and N(Ti) is the trust value for ith interaction. Unlike ratings with centralized intermediaries, such as eBay or Amazon, these cannot be forged or faked. In truth, there will be no need for centralized institutions, individuals will have the ability to manage their own trust scores. Thereby, controlling their own destiny.

In addition, with blockchain, there is no single user at the controls - objective trust - (Pew Research Center, 2017). Blockchain is a communal, trusted, public ledger whereby all participants can examine transactions excluding powerful intermediaries, such as banks, governments, and technology companies, but through mass collaboration and clever coding on the blockchain (Tapscott & Tapscott, 2016). Foulis (2018, p.1) states that blockchain "lets people who have no confidence in each other collaborate without having to go through a neutral central authority (objective trust)." Therefore, trust would be transferred to technological blockchain-based solutions that are immutable (unchangeable) and trustworthy (De Filippi et al., 2020), eliminating the need to trust (De Filippi et al., 2020) subjectively (trustless). Simply put, you do not need to place your sole trust in any one bank, person, or intermediary for a network or payment system to function (De Filipp et al., 2020). In short, a better distribution of trust and power is needed to create a more equitable marketplace. Section 6 Hence, blockchain-based objective trust is a key foundation for equitable markets.

Objective trust (blockchain) is the foundation for making markets more equitable, as it fosters positive participation within markets, promotes the sharing of information, reduces transaction costs, and prevents further erosion of trust. It has the potential to improve the lives of underprivileged consumers once systems are improved, and institutions adapt and embrace the new paradigm. Consumers from all social strata have a more level playing field. As consumers determine their own mathematical trust and destiny, there is no need for a central intermediary. Thus, bias is reduced, and markets are made more equitable. For example, consumers can trust someone in the slums of the Philippines just like other consumers trust patrons on Amazon. There are no barriers to entry for anyone. In addition, it could potentially increase adoption with better marketing for a better world (BMBW) and potentially begin the reconstruction process of gaining and building trust while engaging in online activities. In sum, there is no equity without trust as blockchain-based objective trust is a key foundation for equitable markets.

FP4 – Decentralized blockchain security enhances marketplace equity.

Data insecurity leads to economic injustice – and hits the pocketbooks of the poor most. – Gilman, 2019, p. 1

Data security is more elusive today than ever before (Auxier et al., 2019). Consumers have felt insecure and less safe due to multiple data breaches in the past decade (Olmstead & Smith, 2017). Current online markets on the World Wide Web (WWW) and Big Data are dependent on

a technological foundation referred to as Centralized Cloud Computing (Wang & Wang 2016). Unfortunately, Centralized Cloud Computing has a fatal flaw. It is centralized whereby all consumer data is stored in a single location (Stergiou et al., 2020). When breached, a single weak point on the cloud can compromise billions of consumer records (Erevelles et al., 2022). For example, in 2018, there were around 5 billion consumer record breaches (Trabelsi, 2019); in 2019, there were around 7.1 billion consumer record breaches (Lail, et al., 2021); and in 2020, that number rose to around 37 billion consumer record breaches (Whitney, 2021). This is relative to a world population of 7.8 billion in 2020 (Gu, et al., 2021). It seems to be relatively obvious that cybersecurity on the cloud has failed to achieve its purpose.

Marketplace equity is predicated on security. Security is a prerequisite for the enjoyment of other needs such as prosperity or freedom (Baldwin, 1997). Consumer Data security is also related to other forms of security. Financial security, for example, is predicated on data security - identity of possessions (Ferdousi, 2020). Furthermore, financial security does not exist without personal security (Munyon et al., 2020). Social safety and security are crucial for consumer basic needs and peace of mind (Hopper, 2020). In addition, Maslow's hierarchy suggests that security is almost as important as physiological needs - such as breathing and eating - (Hopper, 2020). These needs relate to an individual's natural desire for a predictable, orderly world that is somewhat within their control (Maslow, 1958). As an example, this need is expressed when a person's default reaction to security is to purchase insurance or open a savings account (Hopper, 2020).

In essence, security should be designed to enable individuals and families to satisfy their basic needs and to enjoy fundamental rights (Brodiez-Dolino, 2020; Wresinski, 1994). Conversely, the lives of over 4 billion consumers at the bottom of the pyramid are perilously insecure. Part of this is because of existing power structures or intermediaries that determine who enjoys the entitlement to security and who does not (Newman, 2010). Unfortunately, there is no agreement on the basic level of security (Stokes, 2007) needed for the average consumer to be equitably treated in a capitalist marketplace. But consumers should be provided with a basic level of security that affords them the opportunity to thrive and experience success in the marketplace (Zheng et al., 2016). For example, consumers living on less than $2 a day (BOP) need the same protection as the affluent population who can afford to secure their own data. Furthermore, data and information must be secure to obtain equitable treatment in the marketplace.

Blockchain substantially enhances consumer data security through a combination of decentralized cryptography and distributed data storage. Decentralized security is the cornerstone of blockchain security (Wang et al., 2019). Decentralized blockchain is designed to offer previously unobtainable security for consumer data (Ahmed & Pathan, 2020) whereby consumer data is distributed among thousands, even millions of computers (Bulsara & Vaghela, 2020; Pandey, 2018). Even if one point in the blockchain network is compromised, loss of consumer data, such as identifying information (e.g., SSN), is partial and minimal. Additionally, and more importantly, with decentralized security, there is no single point of failure.

Traditional cloud networks can be hacked into, and all the data in a repository can be removed or corrupted (Bhadauria et al., 2011). This is difficult to do on a blockchain network. The data on the blockchain are encrypted, decentralized, and verified through consensus by all relevant marketplace participants (Hoffman et al., 2020; Beck et al., 2017). Blockchain employs a tamper-resistant (Beck et al., 2017) cryptographic process that makes it almost impossible for malevolent parties to steal or tamper with consumer information (Erevelles et al., 2022; Hoffman et al., 2020). Although blockchain is not immune to hacking, its decentralized attribute gives it a better line of defense (Cheng et al., 2020) than current cloud security. To use an analogy to explain the distinction between cloud security and blockchain security, think of how you store jewelry. If jewelry is in one location (like the centralized cloud), a thief could steal your entire jewelry collection if they find a weak spot to enter the location. This is because all the jewelry is in one location. On the other hand, if you store the jewelry in several locations (like decentralized blockchain) then the thief would have to breach every location where your jewelry is located to steal your entire collection and will only have a small return for each location that they breach. The blockchain thus serves as a solution to the security problems surrounding the cloud. Simply stated, security is vital to survival and marketplace equity (Conger & Landry, 2009) and is a key prerequisite for marketplace equity. Until a person's basic needs of security are met, it is impossible for equity to be realized (Mejtoft et al., 2019).

Consumer data security is linked to other forms of security such as financial security, personal security, and social safety security (Munyon et al., 2020), as well as a fundamental rights (Broadiez-Dolino, 2020) and survival (Conger & Landry, 2009). Blockchain fills this vital security

gap. Blockchain has the architecture to potentially be the equalizer that provides equal protection to the underprivileged and maximizes the value of services provided on the Internet for everyone (Mejtoft et al., 2019). In this sense, blockchain represents an essential element of the interconnected world of information (AlSulaimi, 2018) and is essential for equitable dynamics in the marketplace. With blockchain-based marketplaces, consumers can detect when malicious actors may be trying to compromise their data or transactions, and through the consensus and validation process block these attacks (Jung, 2019). Additionally, blockchain technology allows consumers to immediately detect any changes in transactions that deviate from previously accepted terms, and thus enable consumers to feel secure as they can track transactions whenever they want (Bulsara & Vaghela, 2020). In sum, blockchain security, which has the dual advantage of decentralized cryptography and distributed data storage, is a vital cornerstone of marketplace equity.

FP5 – Blockchain-based self-sovereign privacy control enhances marketplace equity.

The truth is that datafication, with all its privacy implications, does not affect everyone equally.

– Erik Sherman, Forbes, 2019, p. 1

"Freedom is predicated on privacy" (Cavoukian, 2012). Hitler identified Jews by forcing them to wear a yellow 6-pointed star always sewn to their clothing (Thomas & Szabo, 2012). Authoritarian governments use facial recognition technology to track people and consolidate their authority (Qiang, 2019). With the recognition of the shortcomings of Big Data, public

concern about privacy has grown in recent years (Hui & Png, 2005). It has become very difficult to connect on the web devoid of leaving a fingerprint of information or exposing deeply personal information for third-party vendors to harvest data or unauthorized users of that information (Lyon, 2018). This centralization of online data has important privacy implications (De Filippi, 2016) and often results in an imbalance of power detrimental to disadvantaged marketplace participants (Allmer, 2012; Fuchs, 2012). Currently, powerful technical specialists could stream information and monitor many activities performed by online marketplace participants (Lyon, 2001). Even visual data, such as photographs and videos captured on surveillance cameras, can be linked, and consolidated with other online consumer data to further erode consumer privacy (Solove, 2015; Lomell, 2004).

Online Big Data includes detailed records of the items we buy at the supermarket, the products we buy online, our web-surfing (e.g., newspapers, email) activity, our financial transactions, the movies we watch, the videos we rent, the photos we share, and much more (Solove, 2015). This "great privacy give-away" (Allen, 2013, p. 847) or "media exhibitionism" (Nissenbaum, 2010, p. 106; Mai, 2016) involves a systematic and thorough system of data collection whereby even the tiniest choices consumers make, such as the locations they visit during the day and how they respond or react to marketing stimuli, are collected, and analyzed continuously (Sherman, 2019). It is nearly impractical to execute routine tasks devoid of exposing deeply personal information to data brokers and Big Data organizations (Mai, 2016).

Because the use of many sites is not permitted unless access to personal information is granted, consumers are often faced with the choice between providing such information or forgoing access to that site (Woo, 2006). The information age bestows a devil's bargain: as compensation for essentially unrestricted access to their personal information, companies such as Amazon, Google, and Facebook provide consumers unmatched connectedness, accessibility, and customizable (Hoffman, 2022). The evidence for loss of privacy enhancing inequity is extensive: erosion of personal freedom (Tveten, 2016), digital discrimination (Tveten, 2016), unfair market dominance (Tveten, 2016), enhancement of existing digital inequities (Tveten, 2016), predatory targeting of disadvantaged consumers (Angwin & Parris 2016), taking advantage of lower-educated or unsophisticated consumers (Mai 2016), surveillance by predatory third-parties (DeFilippi, 2016), loss of personal liberties and freedom of expression for vulnerable populations (Ziccardi, 2012) - LQBTQ+ populations face persecution (Robinson 2017), undocumented immigrants face deportation - power asymmetries favoring dominant institutions (Themelis, 2013), misuse by state actors (Kinefelter, 2011), and so on. In essence, if a consumer is not paying for the product, they are the product (Papadopoulous et al., 2017; Schlesinger & Day, 2016).

Each time a consumer downloads a new app or opens a new online account, they probably "click" to agree with the company's privacy policy (Gindin, 2009) irresponsibly or incomprehensibly agreeing (Mai, 2016). Privacy agreements most often require consumers to relinquish access to their photos, their location, their music choice files, and so on. These policies and agreements are not designed for the average, let alone a vulnerable or

uneducated, consumer to understand and are difficult to decipher; they are written by lawyers for lawyers whose job is to protect the company (Schlesinger & Day, 2016).

There is increasing curiosity in decentralized designs (e.g., blockchain) to safeguard consumer privacy from surveillance by predatory or unauthorized third parties (De Filippi, 2016). Such architectures are recognized as providing support for privacy and personal liberties (e.g., freedom of expression) (Ziccardi, 2012) and are more open than their centralized counterparts (De Filippi, 2016). Generally, the amalgamation of decentralization and transparency secures a better level of sovereignty, diversification, and interactivity (De Filippi, 2016).

Blockchain-based self-sovereign consumer identities will replace institutionally controlled identities. Consumers self-govern their personal identities: they own, manage, and control their digital identities (Erevelles et al., 2022). Consumers can choose between three: pseudonymous identification, anonymous identification, and full identification (De Filippi, 2016). Anonymity implies the impossibility of linking transactions to anyone specifically (Samarati, 2001), making it impossible for users to trace multiple transactions to a single source or destination (Samarati, 2001). In contrast, pseudonymity suggests the use of an identifier to disguise a person's real identity, the uniqueness or identifiable idiosyncrasies of that person cannot be easily determined but can be traced for legal or other purposes (De Filippi, 2016).

With blockchain, peer-to-peer (P2P) transactions can be processed with near-total anonymity if needed, as opposed to going through the Know Your Customer (KYC) process with centralized

entities (Matherson, 2021). Transactions involving virtually any person for any reason can be carried out, allowing users to regulate how their personal data is handled (Robinson, 2017). Namely, anonymous transactions in a country that is not LGBTQ+ friendly would be oblivious to a person donating to an LGBTQ+ rights organization devoid of facing the risk of persecution. Similarly, individuals can operate within a blockchain-based ecosystem pseudonymously to protect their identity and personal privacy (De Filippi, 2016), while at the same time being held accountable for their actions if needed.

Putting consumers in control of their own identity safeguards their privacy by reducing vulnerability to Big Data consolidators and purveyors. Decentralized blockchain technology (distributed ledger technology) essentially eliminates centralized external misuse (Dunpjy & Petitcolas, 2018) by allowing individuals to own, control, and manage their identity (Ishmaev, 2021). This could help reduce power asymmetries in marketplaces whereby the advantage is always deferred to dominant institutions (Themelis, 2013) and established incumbents allowing consumers the ability to share preferences as they wish at any time (Yin et al., 2018). Users will have the ability to segment information into small portions on a decentralized network where malevolent actors cannot easily decipher or misuse the information (Bashir, 2017). Thus, decentralized blockchain technology makes self-sovereign identity possible (Tobin & Reed, 2016) and enhances marketplace equity.

Blockchain solutions could provide a more equitable distribution of power among online owners and users (Karafiloski & Mishev, 2017). The user is their own identity supplier and

manager independent of barriers to entry or misuse from biased external parties (Ferdous et al., 2019). With blockchain, the person's digital footprint is autonomous of any one corporation. No one can get hold of another user's independent identity (Tobin & Reed, 2016) or sell their personal information to a third-party supplier. Allowing consumers to control their identity and privacy leads to more equitable markets.

It should be clarified that neither data anonymization nor pseudonymization are fail-safe options for consumers (Finck, 2018). No doubt, better policies and regulatory changes are needed (Pew Research Center, 2017). However, it would be fair to conclude that the self-sovereign privacy of blockchain marketplaces substantially enhances marketplace equity, potentially leading to greater prosperity among relatively disadvantaged consumers. Thus, it unequivocally can be argued that blockchain-based self-sovereign privacy enhances marketplace equity.

FP6 – Blockchain-enhanced transparency enhances marketplace equity.

A lack of transparency results in distrust and a deep sense of insecurity. --the Dalai Lama (Weller, 2017, p. 13)

Transparency, generally epitomized by open communication and decision-making processes, is considered a foundation of well-operating organizations (Fischer, 1999; Nier & Baumann, 2006) and, by extension, markets (Schulte et al., 2005). Following Zhu (2004, p. 670), transparency is

defined here as the degree of visibility and accessibility of information to relevant stakeholders. Transparency between consumers and corporations enhances trust (Parris et al., 2016; Hossenini et al., 2018), encourages better accountability (Khan et al., 2019), and reduces inefficiencies and corruption (de Fine Licht, 2011) within institutions (Horvath & Katuscakova, 2016). Transparency facilitates teamwork; influences cooperation, efficiency, and organizational outcomes (Schwarcz, 2013); and helps build social capital over time.

Lack of transparency is a major problem in most organizations and institutions today (Bulsara & Vaghela, 2020). As it is almost considered to be a duty that organizations owe their customers, the pressure for maximizing transparency has increased (Fernandez-Feijoo et al., 2014; Kang & Hustvedt, 2014). However, when business profitability outweighs the interests of consumers (owner-content bias), misalignment (Burguet et al., 2015) could decrease equitability in organizations and markets. For example, institutional structures with vertically integrated intermediaries generally do not have stakeholders' best interests in mind (De Corniere & Taylor, 2019). These intermediaries have an inducement to bias their recommendations in favor of their own goods rather than stakeholders' products (own-content bias) (Wright, 2011). For example, unbeknownst to the customer, iPhone uses Safari as its default browser, and Google uses Chrome as its default search engine (De Corniere & Taylor, 2019; Rieder & Sire, 2014).

When Google has an economic stake in a product, it is likely to divert users to its own or linked sites utilizing its own search engine, a program that links consumers and sellers (Burguet et al., 2015). Therefore, a sponsored advertisement engine such as this might encourage consumers

to frequent the sellers who are more likely to compensate them for sponsored ads, whilst not the best choice for consumers, resulting in excessive product search distortion (Burguet et al., 2015). With Google's position as the overwhelming search engine leader, it is questionable whether consumers and society can trust sellers who fund their own search engine (Burguet et al., 2015; Ratliff & Rubinfield, 2014). Amazon is not only a seller and producer, but it also facilitates the selling of other retailers amassing consumers' deeply personal information; this gives Amazon an enormous competitive advantage over its competitors and is a cause of concern for financial inequity (Faherty et al., 2017). Similarly, Apple also manages to have some of the same practices as Amazon whereby favoring profits over perfect competition is the norm (Budzinski & Kohler, 2015), known as the "scale effect" of a skewed intermediary (De Cornière & Taylor, 2019; Krämer & Zierke, 2017).

Furthermore, the opaqueness of "black-box algorithms" – algorithms that derive conclusions/decisions devoid of transparent justifications – increase doubts about the equality of black-box proposed logic used within markets (Dash et al., 2021). For example, only Google knows how web positioning (e.g., ranking of a web page) is determined for each producer or supplier (Diakopoulous, 2014). Numerous criticisms surrounding markets that utilize black box logic have been accused of championing their own "private label" goods or preferred incumbents over the competition (Dash et al., 2021). Left ungoverned, these types of biases could have potentially damaging market consequences (De Corniere & Taylor, 2019). Google, for example, was found guilty and fined €2.4bn in 2017 by the European Commission for favoring its own comparison-shopping site (De Corniere & Taylor, 2019). Additionally, private-

label sellers, like Amazon, have been investigated by the European Commission to find out if it utilized its leading position within e-commerce to bias the products it sold to consumers (Toplensky & Bond, 2018). Italy, in 2021, penalized Amazon €1.1bn for exploitation of its leading position (Takigawa, 2022).

Table 2 Definitions of Transparency (c.f., Schnackenberg and Tomlinson 2016, pg. 1791)

Definitions of Transparency

Study	Study Domain	Definition of Transparency
Akkermans, Bogerd, & van Doremalen (2004)	Strategic alliances	Sharing data regarding current order and production statuses as well as plans and forecasts with various supply chain partners
Bloomfield & O'Hara (1999)	Financial markets	The real-time, public dissemination of trade and quote information
Bushman, Piotroski, & Smith (2004)	Organizational governance	The availability of firm-specific information to those outside publicly traded firms
Eijffinger & Geraats (2006)	Monetary policy	The extent to which central banks disclose information that is related to the policy-making process
Flood, Huisman, Koedijk, & Mahieu (1999)	Financial markets	The ability of market participants to clearly see outstanding price quotes
Granados, Gupta, & Kauffman (2010)	Electronic markets	The availability and accessibility of market information to interested parties
Jordan, Peek, & Rosengren (2000)	Financial markets	The disclosure of timely and accurate information
Kaptein (2008)	Organizational culture	Ensuring visibility within the organization to allow employees to properly modify or correct behaviors
Larsson, Bengtsson, Henriksson, & Sparks (1998)	Strategic alliances	Openness toward partners
Madhavan, Porter, & Weaver (2005)	Financial markets	The ability of market participants to observe information about the trading process
McGaughey (2002)	Strategic management	The extent to which members of a population (a) have identified or are aware of an intellectual asset's existence and (b) understand the intellectual asset's underlying principles
Nicolaou & McKnight (2006)	Organizational governance	The availability of adequate information to verify or assess the data exchange taking place
Pagano & Roell (1996)	Financial markets	The degree to which the size and direction of the current order flow are visible to the competing market makers involved in setting prices
Potosky (2008)	Organizational governance	The extent to which a communication medium facilitates a clear or unobstructed communication exchange
Prat (2005)	Organizational governance	The ability of the principal to observe how the agent behaves and the consequences of the agent's behavior
Vorauer & Claude (1998)	Negotiations	The degree to which an individual's objectives are readily apparent to others
Walumbwa, Luthans, Avey, & Oke (2011)	Leadership	Leader behaviors that are aimed at promoting trust through disclosures that include openly sharing information and expressions of the leader's true thoughts and feelings
Zhu (2004)	Electronic markets	The degree of visibility and accessibility of information

"Marketplaces die when the creator becomes the competitor" (Ward, 2021, p. 3). It is essential that participants can openly and overtly share information, acquiesce on shared objectives, and expand the transactions of others (Erevelles et al., 2022). Blockchain could be the empowering connection that transforms marketplace relationships by enhancing information transparency (Leng, 2020). As an integrative technology and thoughts of futility abound, blockchain

transparency creates the formation of teamwork and mutually shared goals and opportunities (Swan, 2015). The transparency native to these blockchain networks allows historical data stored on the network the ability to be retrieved by anyone on that network and could rely on Big Data logic to redeem possibly deeply personal information (De Filippi, 2016). Blockchain technology could provide high levels of transparency in e-commerce transactions (Bulsara & Vaghela, 2020) and open access in a way that could set a new standard for market transparency (Wirth & Kolain, 2018).

With blockchain, every stakeholder will retain control over their digital identity and personal data, with anonymity as the default option (Casey & Vigna, 2018), without sacrificing transparency. Individuals cannot be tracked, have their data used against them, be censored, or become entirely locked out of online services (Peck, 2017). In essence, blockchain is a perfect platform for transparency with no single point of control (i.e., decentralized) (Centobeli et al., 2022). Blockchain could potentially weaken Google's current leadership position, as "Google's business is all about eyeballs, attention, and supposed transparency" (Ward, 2022, p. 2), which tends to create opacity. Over time, blockchain could potentially weaken Amazon's producer control, as Amazon "wants to replace all third-party sellers/ products with Amazon Basics version" (Ward, 2018, p. 2).

The opacity of institutional algorithms makes it difficult for users to understand how their actions and transactions are affected (van Drunen et al., 2019). Moreover, centralized institutions safeguard the ability to independently change their algorithms at will, without

users' approval (Vergne, 2020). To the extent that institutions control the technology, institutions preserve the ability to regulate online activities, both by contract and implicit technical methods (De Filippi, 2016). With blockchain, technical rules cannot be enforced without obtaining the consensus of the network (Maroufi et al., 2019), as transparency is an essential requirement for implementing a marketplace structure that relinquishes principal control or third-party vendors (De Filippi, 2016). Transparency on the blockchain eliminates intermediary bias that is often caused by self-serving or implicitly biased institutional practices (Xu et al., 2016) and can potentially alert consumers to the presence of bias (Chen & Bellavitis, 2020). Consequently, with blockchain, users' actions are structured primarily through transparent code on the network (Zachariadis et al., 2019), whereby every participant node can observe the entire course of operations transpiring on the network (De Filippi, 2016).

In this era of unparalleled technology dominance by companies such as Google, Amazon, Facebook, and Apple (as intermediaries) who control more and more of consumers' everyday lives (Moore & Tambini, 2018) by owning their data and everything around it, blockchain could potentially reduce the biases associated with intermediaries, thus leveling the playing field for competitors and underprivileged consumers. By providing transparency, blockchain supplies consumers with thorough data trajectory information and exhaustive data security and safekeeping records (Barzilay, 2017; Shabalala et al., 2014). In sum, blockchain technology offers a decentralized computer-based network that connects users and facilitates peer-to-peer communication and transactions transparently (Wang et al., 2020), thus offering the potential

to substantially change the current power dynamics between marketplaces and their users (Andoni et al., 2019).

However, with the increase in inequitable power on the web, the utilization of opaque algorithms utilized by large technology corporations (Pasquale, 2015) is on the rise. When marketplaces are lopsided and there is a lack of transparency, uncertainty increases with interactions and enables certain actors to expose consumer and competitor information that increases their own bottom-line (Notheisen & Weinhardt, 2019). With blockchain transparency, no single stakeholder has inequitable power (Chen & Bellavitis, 2020), as more equality is bestowed upon its users and whereby intermediation is no longer required (De Filippi, 2016). Thus, blockchain applications facilitate coding algorithms for value exchange and mutual record-keeping for those on the blockchain who are accessing the same data (Lacity & Hoek, 2021).

Blockchain's distributed ledger characteristic disseminates data equivalently to everyone on the network, thus establishing transparency (Gans, 2016). In markets with symmetric information, increased transparency helps to enhance financial well-being (Malinova & Park, 2017). With frequent exchanges, blockchain-based transparency facilitates the stability of transactions and historical records of past behavior between consumer and producer (Gans, 2016). Blockchain technology, from a policy view, likewise improves proprietorship transparency and therefore reduces unscrupulous shareholder behavior (Yermack, 2017). These adjustments alter

marketplace symmetries, market participant profitability and utilization, and overall network well-being (Bloomfield & O'Hara, 1999).

Blockchain-based solutions could provide customers with appropriate value in exchange for data; that is, to educate customers about how data is collected and how they can maintain control over it (Morey et al., 2015). This transparent process enables the consumer to (1) understand their data trajectory, (2) understand data possession and reasoning records, (3) recognize the transparency handling boundaries, (4) understand objection handling limits and (5) give informed consent to sharing personal information (Shabalala et al., 2014). Within blockchain-based solutions, users have sovereignty over the sharing of information with the addition of monetization of sharing data (Barzilay, 2017). When turned into valuable information, data has the potential to transform economies, help make markets more equitable, and improve the lives of underprivileged consumers. Therefore, equivalent blockchain transparency for all participants on the network (De Filippi, 2016) enhances equity by influencing and encouraging cooperation, promoting efficiency, and increasing trust (Morey et al., 2015).

FP7 – Blockchain-based disintermediation enhances marketplace equity.

"The notion of 'barriers to entry' plays an important role in both economic theory and in the practical economics of antitrust litigation." –Harold Demsetz (1982), Barriers to Entry, p. 47

Intermediaries insert themselves into the marketplace, thereby enhancing barriers to entry and innovation, imposing transaction costs through fees, creating greater lock-in of marketplace participants and the likelihood of single points of failure, reducing privacy, and so on. This undue existential power, including the potential to be biased against disadvantaged marketplace participants, often leads to entrenched market dominance, resulting in patent protections, strong brand identity, and copyright safeguards (Kotsios, 2010), intimidation practices (Funk & Jaag, 2018), and lockout of disadvantaged competitors (Armentano, 2017). In other words, disadvantaged or new participants entering the marketplace are likely to experience numerous obstacles, ranging from higher setup expenses to a greater probability of being denied marketplace opportunities (Porter, 2015).

The value added by intermediaries has been questionable. Since 1995, academics have predicted a decline in intermediary roles and possibly their entire removal from the marketplace (Pham, 2021; Sarkar et al., 1995). The term disintermediation has begun to denote the lack of an intermediary and the creation of an enhanced transactional system in which consumers exchange directly with manufacturers or with one another (Jallat & Capek, 2001; Gellman, 1996). On the blockchain, disintermediation, the removal of trusted third parties, are key features (Adam et al., 2017); the third-party intermediary is replaced with a shared consensual ledger. This concept fundamentally challenges conventional wisdom and current organizational thinking, whereby established organizations believe that traditional third-party intermediaries are essential to conducting business (Seidel & Greve, 2017). Blockchain

technologies empower trusted market exchanges without a central authority, challenging the fundamental structural norms of capital marketplaces (Al-Saqaf & Edwardsson, 2020). Thus, as a principal benefit, blockchain can reduce or eliminate intermediaries which impede productivity, restrict capacity, and increase costs (Morkunas et al., 2019; Rejeb et al., 2020).

In addition, blockchain's layers of redundancy, as a trusted and auditable account of ownership and transactions, could upend current systems and become an essential element of separation and balance of power (Adam et al., 2017) within the value chain. Blockchain's functionality could potentially replace numerous corporations that are currently profiting through centralized agencies. Within digital platforms, customers and brands could interact directly with each other through various data infrastructures via the internet (Tapscott & Tapscott, 2016). Disintermediation could also have an enormous impact on the composition of small organizations looking to utilize blockchain as a competitive advantage (Gupta, 2017) and to communicate with their customers directly without additional transactional expenses and trust concerns. Blockchain transfers the equilibrium from centralized government and societal barriers to entry to the partners on the network. In essence, blockchain could facilitate exchange by lowering asymmetries of information.

Furthermore, when users connect and exchange data on the blockchain utilizing peer-to-peer networks, value co-creation ensues, thus enhancing transparency and significantly increasing contract effectiveness (Hawlitschek et al., 2018; Boukis, 2019). Blockchain-based

disintermediation promotes the idea of “prosumer” (Lee & Pilkington, 2017, p. 22), which results in better customer-focused economic cycles and earnings (Pham 2021).

Within the current construct of business-to-consumer relations, disintermediation replaces intermediaries who struggle with extreme data vulnerabilities (Tapscott & Tapscott, 2017; Zamani & Giaglis, 2018; Puthal et al., 2018; Pham, 2021). By bypassing conventional and superfluous intermediaries, blockchain disintermediation (Sarkar et al., 1995) could ultimately replace existing conventional systems with unconventional systems of reintermediation (Jallat & Capek, 2001). Blockchain disintermediation has the potential to reduce barriers to market entry by allowing open-source projects and start-ups to directly compete for market share (reducing the cost of networking) (Andoni et al., 2019) and allowing equity in the system to be defined on a much narrower scale by reducing the cost of verification (Catalini & Gans, 2020). In addition, blockchain disintermediation can shape innovation (Mattila, 2016), allow producers and consumers to compete in digital platforms, and create opportunities for new approaches to data ownership and monetization of digital content (Manski, 2017; Catalini & Gans, 2020). With blockchain, transactional costs are significantly less, and disintermediation reduces the centralized power of money (Chen & Bellavitis, 2020; Pereira et al., 2019). Furthermore, blockchain disintermediation could reduce the risk of uncertainty with each transaction by lowering information asymmetry and diminishing delays (Brookbanks & Parry, 2022). More importantly, blockchain disintermediation could potentially reduce barriers to market entry for individuals that do not live within countries with reliable institutions (Kshetri, 2017).

In addition, blockchain-enhanced disintermediation could reduce insecurity linked to third-party intermediates' control at the same time reallocating control, increasing trust, and enhancing business-to-consumer relations (Pham, 2021). Blockchain disintermediation represents a major shift in how products and services are marketed, exchanged, and manufactured (Rejeb et al., 2020). No central trusted authority or middleman will be needed to validate a relationship between two transacting parties (Weber et al., 2016). Consumers and producers could have complete control over their transactions whereby they are able to profit from owning their data (Pham, 2021).

Many underprivileged consumers are not able to participate in markets (Killick, 2001) due to intermediary barriers to entry. With blockchain disintermediation, there is no third-party intermediary (Niranjanamurthy et al., 2019) obstruction; consumers and entrepreneurs will control their future and their own destiny (Larios-Hernandez, 2017). In addition, buyers /sellers and consumers would negotiate prices and contract terms (Morkunas et al., 2019) that are more conducive to the well-being of their families. Consequently, with blockchain disintermediation, consumers and buyers /sellers will have more control over products sold (Martins et al., 2022), and more access to improved value propositions, better contract requirements, and better prices for their services and/or goods (Chen & Bellavitis, 2020).

Consumers and entrepreneurs could potentially have full control of their personal information whereby they are able to monetize their data (Pham, 2021) and not have to maintain traditional forms of employment. Blockchain-based disintermediation streamlines the

intermediary process and presents corporations and consumers the opportunity to have preside over invaluable data resources (Epstein, 2017; Boukis, 2019; Mitselmakher, 2019; Rejeb et al., 2020). In addition, consumers and [buyers /sellers could participate in blockchain-based solutions that will allow them access to and the ability to interact internationally without intermediaries (Suliman et al., 2019, Kshetri ,2017).

Most importantly, and consequently, blockchain disintermediation could potentially reduce biases within the marketplace and make doing business more equitable by eradicating racial and gender inequities (Kaal, 2020). Within the current financial industry construct, underprivileged consumers are frequently subjected to bias and, therefore, are powerless to obtain collateral that would allow them to secure a loan (Johnson & Rogaly, 1997). A smart contract would mask data (e.g., race, ethnicity, gender) that could potentially create bias within the transaction (Badruddoja et al., 2022; Spyridon, 2019). In the case of an illegal search, that blockchain transaction is accessible and immutable; it could be discovered simply because of blockchain disintermediation functionality (Bonyuet, 2020; Coyne & McMickle, 2017).

As an alternative to utilizing intermediaries to secure financing, entrepreneurs could offer tokens directly to potential buyers and sellers (Bogusz et al., 2020; Arnold et al., 2019), thus enabling entrepreneurs and consumers to keep the money initially meant for the intermediary (Cohen, 1982). In addition to this change in the market negotiation process, blockchain intermediation allows consumers and buyers /sellers the opportunity to build stronger

specialized, one-on-one relationships with each other in alignment with their own mission statements (Bai et al., 2020; Ha & Park, 2001).

FP8 – Blockchain tokenization reduces exchange barriers and enhances marketplace equity.

Everything will be tokenized and connected to blockchain one day. –Madaan et al., 2020, p. 5)

There are numerous barriers to freely participating in the marketplace, as some developed countries and affluent incumbents exercise overwhelming control over markets, both domestic and global. For example, the U.S. dollar exchange rate overwhelmingly influences global trade prices, trade volumes, and business cycles, resulting in the dominant currency paradigm (Gopinath et al., 2020). The power of the U.S. dollar is also a predictor of consumer/producer price inflation (Boz et al., 2017). Inflation has been a recurring phenomenon in much of the developing world since paper money was invented, becoming even more pronounced after the abolition of asset-backing when former U.S. President Richard Nixon terminated “the gold standard” in 1971 (Schularick & Taylor, 2012).

Second and third-world countries harbor visions of busy shipping ports and railways, crowded superhighways, and unlimited broadband internet access. However, barriers to marketplace entry and across national boundaries, unfavorable currency exchange rates, difficulty obtaining credit, and high or unchecked interest rates keep much of the global population from prosperity and in search of viable solutions. There is no single meaning of economic

globalization for the global workforce and considerable asymmetry in the role of fiat currencies in trade. Fiat currencies and related capital spending patterns have a powerful influence on service relationships and work agreements globally. Fair trade is equally (if not more) important for the almost one billion poor people who struggle to link themselves to trade opportunities (Arnold & Valentin, 2013). This profile of the poor (those living on less than $1.25 per day) is habitually associated with women-owned businesses, often run by a single employee within an informal economy devoid of a social safety net when financial catastrophes occur. In numerous countries, a substantial amount of trade involves people crossing borders daily to sell goods and services. The challenges the poor face wherein they do not benefit from trade opportunities are magnified in places with poor infrastructure (e.g., roads), where poorer populations are disconnected from market opportunities, and where civil conflict slows commerce. Transformational changes in trade can most benefit the world's poorest and most vulnerable people.

Transformational changes with blockchain technology, such as tokenization, could help create more equitable trade opportunities, facilitate fair payment flow experiences, and create more satisfied customers in the poorest and most vulnerable populations. Table 3 provides a summary of blockchain tokenization attributes and strengths.

Table 3. Blockchain Tokenization Attributes

Tokenization Atrribute	Brief Summary	Reference
1. Monetary discipline	Monetary discipline imposes restrictions on the creation of the money supply size	Claeys et al., 2018
2. Reliable Value Storage	Reliable value storage ensures that the money is supported by valuable assets or anything that has tangible value takes effort and resources to produce like gold	Grinberg 2011
3. Superiority in Designing Financial Instruments	Superiority in Designing Financial Instruments ensures digital tokens are established that serve as either a representation of the asset or the asset itself (e.g. mortgages, interest rates, credit card bills, and so on.	Schär 2021
4. No Choke Point	No choke points prevents government agencies from targeting disfavored lawful businesses (e.g. crypto companies) of needed banking/financial services.	Hughes & Middlebrook 2014
5. Increased Transparency	Increased transparency allows users to complete more visible/transparent transactions on the blockchain.	Frisby 2014 Foley et al., 2019
6. Self-Sovereign Networks	Cryptocurrency networks are attributes that exclusively thereby void of external influences or govern their evolution.	Jameel et al., 2020 Aste et al., 2017
7. Community Effects	Community effects are an attribute that creates their own ecosystem (e.g. gaming, healthcare)	Suri 2021

1. Monetary Discipline imposes restrictions on the creation of the money supply size (Claeys et al., 2018), thus limiting the money supply of an economy. Cryptocurrencies have inherently disciplined designs that generally prevent them from losing value (Hayes, 2017; Guadamuz & Marsden, 2015). For example, Bitcoin (tokenization) has a permanently fixed number of units (21 million), making it scarcer than gold (Gurcan, 2018). In the long term, Bitcoin goes up, but the U.S. dollar generally loses value over time (Dwyer, 2015). Institutions are not always economically disciplined and frequently result in extreme debt (Grilli, 1991). The value proposition for monetary discipline is moving the market from a high-inflation model to a more stabilized model that economies can rely on (Grant, 1982).

2. Reliable Value Storage ensures that the money is supported by valuable assets or anything that has tangible value (Blundell-Wignall, 2014; Sharf, 2013); it takes away the ability of governments and legislators to create money and control the money supply (Grinberg, 2011). Reliable value storage could potentially refute flaws in the fiat currency structure, promote disciplined economic procedures and monetary resources, and enhance the currency storage valuation, thus preventing the relapsing limitations of a commodity-based exchange (Cermak, 2017).

3. Superiority in Designing Financial Instruments ensures that programmable digital tokens are established that serve as either a representation of the asset or the asset itself (e.g., mortgages, interest rates, credit card bills) (Schär, 2021). Cryptographic key custodians would confer proprietorship much the same as physical stock certificate custodians (Paech, 2016).

4. No Choke Points prevent government agencies and banks from interfering with monetary or fiscal policy for their own purposes (Hughes & Middlebrook, 2014) by denying services to legitimate corporations or organizations in specific industries within their jurisdiction (e.g., China, India, Bangladesh, Iran, Thailand, Lithuania, Lesotho, China, and Colombia). However, cryptocurrencies prevent such control of access and allow crypto projects or companies outside their jurisdiction to prosper (Tsukeman, 2015).

5. Increased Transparency allows users to complete more visible/transparent transactions on the blockchain (Foley et al., 2019). Although they prefer to keep their funds untraceable,

criminal enterprises are beginning to take risks into cryptocurrency online transactions that will allow payment methods to become more transparent (Kethineni & Cao, 2020).

6. Self-Sovereign Networks, work exclusively thereby void of external influences or govern their evolution (Jameel et al., 2020; Zhang, 2019; Aste et al., 2017), could establish a system of cryptographic protocols to manage transactions without governmental control (Stokkink et al., 2021).

7. Community Effects allow communities to create their own ecosystem (e.g., gaming, healthcare) (Suri, 2021) of companies that trade among themselves, with the ability to create their own protocols and distribute their own community tokens (Davidson et al., 2016). For example, the gaming industry incentivizes players by offering dividends and granting them a vote in development processes (Kim & Chung, 2018).

The tokenization of assets has the potential to change an archaic global trade landscape (Ertemel, 2018) by transforming traditional marketplace transactions whereby tokens could be exchanged in areas such as real estate (Wang, 2021); consumer products (e.g., automobiles); traditional financial assets such as bonds, funds, or corporate stocks (Hines, 2020); illiquid assets (Zheng & Sandner, 2022); and so on. Tokenization allows digital resources to be purchased, traded, and exchanged on blockchain (Heines et al., 2021; Sazandrishvili, 2020), thus generating equitable opportunities for the underserved population by fostering financial inclusion and utilizing crypto as a currency (Mukkamala et al., 2018). Additionally, blockchain

tokenization has the potential to remove exchange barriers associated with geography (Gupta et al., 2020) – by allowing person-to-person payments, cross-border user interfaces, simplified know-your-customer (KYC) and electronic know-your-customer (e-KYC) processes (Tian et al., 2020), offline payments, and so on. Thus, blockchain tokenization can reduce exchange barriers, unlock opportunities, increase liquidity for all participants, establish fairer pricing, lower management costs, shorten lock-up periods, provide more secure identity, and so on (Tian et al., 2020). Furthermore, tokenization has the potential to enhance credentialism for the disadvantaged who currently do not possess official identification or for international migrants, among others (Ware, 2015).

The advent of tokenization would spark new industries and modernize existing ecosystems (Morabito, 2017). Access to this larger group of buyers and sellers would increase financial resources, permitting additional autonomy for investors (Fuller & Markelevich, 2020). Like the internet and smartphones, tokenization would create new market opportunities for both new and existing players and establish markets with each unit of the tokenized asset having the same market value and validity (Swan, 2015). Tokenization allows for both fractional ownership and proof of ownership as it pertains to private securities or illiquid assets, such as fine art, allowing them to be traded on the secondary market (Baum, 2021). Illiquid assets often have an unestablished market price (Sazandrishvili, 2020); asset owners characteristically offer buyers incentives (discounts) that reduce asset price. Because tokenization of assets facilitates fractional ownership, illiquidity discounts would be eliminated (Sazandrishvili, 2020).

Currently, when assets are transferred, intermediaries (e.g., lawyers) act as the trustor between buyer and seller, adding additional time and cost (Loebbecke et al., 2018). By automating most of the elements involved in this process, tokenization can save time and money and shorten the lock-up period for investments, which are usually restricted from being sold, as shareholders can trade tokens simply in a liquid market (Tian et al., 2020). Investors would no longer need to wait for years to realize earnings or deficits. Additionally, ownership and decentralized identity (DID) on the blockchain give buyers the ability to secure authentication and validation to meet Know-Your-Customer/Anti-Money Laundering (KYC/AML) verification (Baars, 2016). Tokenization has the potential to empower everyone by playing a role within the future's financial economy and signifying virtual markets in the system (Ward, 2018).

Tokenization future-proofs the dollar and can drive social and financial advantages for the global population (White, 2020). Tokenization removes barriers for disadvantaged consumers and businesses, allowing people to freely buy and sell on different exchanges (Dwivedi et al., 2022). Tokenizing enables faster trading opportunities, giving access to many more potential buyers and sellers who would otherwise be precluded from participation and translating into more financial resources (Abou Jaoude & Saade, 2019). Lower entry cost and access, irrespective of physical location, ensure that disadvantaged individuals can improve their economic state, which is typically only possible by large corporations or the wealthy (Tripoli & Schmidhuber, 2018). A digital tokenized currency has the power to revolutionize the financial landscape (Peres et al., 2022) and fundamentally change how assets are controlled, utilized, and monetized. The process of tokenization enables the formation of a variety of new financial

products, permitting every individual and corporation to vary their portfolio of assets globally; otherwise, for most, obtaining traditional capital requirements would be nearly impossible (Tian et al., 2020).

Tokenization could enhance access to payment services for those currently excluded from or underserved by the existing financial system by transforming ownership such that traditionally indivisible assets can be fractionalized into token forms (Popescu, 2021). With tokenization, fractionalization - the division of an asset class into portions that are smaller than the whole - opens the door of opportunity (Baum, 2021). The dawn of distributed ledger technology (DLT) has transformed the way we trade and tokenize digital assets, creating an entirely new sphere of possibilities for exchanges and groundbreaking marketplaces (Hamilton, 2020). Furthermore, personal data can be tokenized; users can agree to provide their personal data anonymously via DLT, where firms can buy tokens without the need of intermediaries and centralized manipulations (Pereira et al., 2019). Moreover, through better targeting along with tokenization of personal data, consumers can be compensated with tokens for watching advertisements; they can track conversion rates and validate transactions after the campaign, thereby measuring performance (Ghose, 2018; Antoniadis et al., 2019).

The value proposition for a token economy is that tokens could drive more equitable pricing and make global transactions interchangeable by democratizing access to markets while ensuring fairness and security (Dylag & Smith, 2023). Tokenization opens the floodgates to alternate methods of investing. In addition, it fosters the democratization of assets in

traditionally illiquid resources and creates more equitable markets that are tokenizable on the blockchain (e.g., artwork, digital media, land and property, corporate stocks, collectables) (Lee, 2018). Additionally, tokenization on the blockchain reduces exchange barriers, enhances marketplace equity, and presents a unique and novel approach – to enhancing financial inclusion in a cross-border context (Patel et al., 2022). Furthermore, tokenization increases purchasing power for underprivileged sectors and makes markets more equitable by creating more efficient clearing and settlement (Cingano, 2014), improving liquidity in asset classes (Sazandrishvili, 2020), and ensuring market integrity, price discovery, and capital formation. Therefore, tokenization can enhance marketplace equity.

Table 4: Foundational Premises

Foundational Premise	Key Market Challenges	Transformational Potential of Blockchain
1. Markets are inherently inequitable	Capitalist societies are rarely equitably distributed	Disrupts current market power
2. Blockchain represents a seminal paradigm shift in the creation of equitable markets	Economic immobility Current markets foster a permanent underclass society	Economy that shares value Markets more equitable
3. Blockchain-based objective trust is a key foundation for equitable markets	Lack of trust in the U.S. government and other agencies Failure of trusted institutions	Engine of economic and social system Fosters positive participation
4. Decentralized blockchain security enhances marketplace equity	Centralized security (the cloud) is woefully inadequate	Decentralized security across multiple, thousands and even millions of computers
5. Blockchain-based self-sovereign privacy enhances marketplace equity	Online operators control the flow of information, monitors user activities	Allows people to transact with one another anonymously
6. Blockchain-enhanced transparency enhances marketplace equity	Consumers unaware of important developments	Increases trust
7. Blockchain-based disintermediation enhances marketplace equity	Middleman	Reduces barriers to entry and so on
8. Blockchain tokenization reduces exchange barriers and enhances marketplace equity	Currency is devalued in several parts of the globe	Ensure market integrity, price discovery, and capital formation

Theoretical Discussion

The initial theoretical framework for blockchain represents a seminal paradigm shift that could monumentally change the economic trajectory of underprivileged consumers. Little research exists within the study of blockchain as it is utilized in marketing and for underprivileged

consumers. Using this framework, this research seeks to leverage blockchain and promote BMBW to reduce global poverty and mark the beginning of a world that is more equitable, more environmentally sound, and a better world overall.

The proposed framework will expand on established theories of blockchain, structural poverty, and political poverty as the primary foundation of the model with social closure theory utilized as the backdrop to explain a process that helps create these conditions. Secondly, the theories of social justice, equity, and social capital along with this framework will help future researchers and practitioners find innovative blockchain solutions to some of the major issues that currently exist for underprivileged consumers:

1. prevent a permanent underclass society/generational poverty,
2. reduce the barriers to economic entry,
3. reduce health inequities, and
4. reduce education imbalances.

Chapter 5: Results

As there are over six billion individuals classified as underprivileged consumers, valuable contributions could be made in researching the role that blockchain could play in making these consumers' lives better and more equitable. The empirical part of this research examined how immigrants from El Salvador residing in the United States felt and thought about financial institutions when they first arrived in this country and how the resulting themes can be interpreted to test the blockchain-based FPs developed for this study.

The empirical analysis yielded 11 themes. Table 5 lists the identified themes and the most common words/phrases associated with those themes. Table 6 lists the themes, a brief description, an illustrative example, and co-occurrence results.

Table 5. List of Major Keywords Used in Coding #2

Theme#	Themes	Examples of major key words
1	Sending money home	Send money back home, money to family,
2	Tech as aspirational	Tech as aspirational, tech for wealthy
3	Tech as overwhelming	Overwhelmed, Difficult, tech intimidating, requiring others to help
4	Documentation needed for financial services	Documents, documentation,
5	Risk of deportation	Fear of deportation,
6	Feeling excluded/isolated from financial services	Felt isolated, feeling of estrangement, feeling of loneliness
7	Community as the teachers of tech/finance	Requiring others to help with tech, using family for technology access (laptop),
8	Community as a buffer for fear	Community/Family support needed, family ties made it easier to cope, culture barrier is gone,
9	Phone as cornerstone of technology	Phone, need to talk to family, cell phone helped to communicate
10	Credit as necessary but unfamiliar	Unable to get credit, credit card, learning that credit is "as valuable as money"
11	Higher trust for Mexican/Latino stores	Hispanic/Latino check cashing utilized, Trust the Mexican and Latino owned businesses

Table 6 Themes Explained

Theme #	Theme	Description	Illustrative Response	Co-ocurrence Results
1	Sending money home	Sending money abroad to family members	He would go to cashiers to cash their checks and then they would send it to El Salvador.	**Theme 1** Sending money home **had high co-occurrences for all themes except theme 9 (Phone as a cornerstone)**
2	Tech as aspirational	Interest in increasing their capacity around using technology	Using technology was aspirational. He wanted to use technology. There was a desire to learn technology.	**Theme 2** Technology as aspirational **had high co-occurrences for two (2) themes: 3 (Tech as overwhelming) & 9 (Phone as a cornerstone) but 4 themes with negative co-occurrences**
3	Tech as overwhelming	Technology is overwhelming, difficult or not interested	When you 1st arrived here was it difficult for you to learn technology and get on you know	**Theme 3** Technology as overwhelming and strange **had all negative co-occurrences**
4	Documentation needed for financial services	Lack of legal papers, documents, documentation and so on for financial services	He said that One of the biggest obstacles was the documents and then the second was the language.	**Theme 4** Documentation needed for financial services **had high co-occurrences for all themes except theme 9 (Phone as a cornerstone)**
5	Risk of deportation	Fear of deportation	He's saying that he was scared because of his status that if he used a bank or if he used a credit card or credit card account that he would be deported. And so that fear stopped him from doing a lot in the sense of you know of finances in general.	**Theme 5** Risk of deportation **had negative co-occurrences for three (3) themes: 7 (Community as the teachers of tech/finance), 10 (Credit as necessary but unfamiliar) & 11** (Higher trust for Mexican/Latino stores)
6	Feeling excluded/isolated from financial services	Feeling of isolation/exclusion	He felt like he was just isolated but then once he obtained legal status doors opened for him he felt like he was free.	**Theme 6** Feeling excluded/isolated from financial services **had one high co-occurrence and two (2) negative co-occurrences: 9 (Phone as a cornerstone) & 11** (Higher trust for Mexican/Latino stores)
7	Community as the teachers of tech/finance	The community teaches/assists the community members about technology/finances	When I get here I get first on LA. and mostly people over there, and like a business. There is Spanish people so we can communicate Betty. and then, when moved from LA to New Jersey. is an oil big Spanish community. Even the people who work in the bank is Spanish people, so I had no problem.	**Theme 7** Community as the teachers of tech/finance **had high co-occurrences three (3) themes: 8 (Community as a buffer for fear), 10 (Credit as necessary but unfamiliar) & 11** (Higher trust for Mexican/Latino stores)and one (1) negative co-occurrence theme: 9 (Phone as a cornerstone)
8	Community as a buffer for fear	The community is there safe zone and shields them from the rest of the world	So he does it with his legal name at a Mexican convenience store he built like he's among Latinos, so he doesn't feel like he should be fearful because you are my native.	**Theme 8** Community as a buffer for fear **had one (1) negative co-occurrence theme:** 9 (Phone as a cornerstone)
9	Phone as cornerstone of technology	Phones areconsidered the most important technology	If it wasn't through the post office they would have to use the telephone, which costs $1.50 per minute with phone cards. A lot of money got used solely on communication.	**Theme 9** Phone as cornerstone of technology **had one (1) negative co-occurrence theme:** 11 (Trust and security higher for other immigrant/expatriate populations and stores (e.g., Mexican stores for western union))
10	Credit as necessary but unfamiliar	There's an unfamiliarity with credit, but it is the "currency" of the US	Credit was very difficult. It was totally impossible to get credit. At that time, if you were not a US citizen, it was very difficult to get credit. It was more restricted. So she's saying that she realized that credit was very important in this country, because credit is more valuable than money.	**Theme 10** Credit as necessary but unfamiliar**had one (1) negative co-occurrence theme:** 11 (Trust and security higher for other immigrant/expatriate populations and stores (e.g., Mexican stores for western union))
11	Higher trust for Mexican/Latino stores	Trust Mexican/Latino stores ahead of all other stores owned by US citizens	You're trust the Mexican and Hispanic or Latino owned businesses. people, too. So you sense to begin with You've you know they have to use fresh in your Western Union places like that or Hispanic stores, whether you'd pay, you know, a fee.	**Theme 11** Higher trust for Mexican/Latino stores **had high co-occurrences four (4) themes: 1 (Sending money home), 4 (Documentation needed for financial services), 7 (Community as the teachers of tech/finance), 8 (Community as a buffer for fear),** and five (5) negative co-occurrence theme: 3 (Tech as overwhelming), 5 (Risk of deportation), 6 (Feeling excluded/isolated from financial services), 9 (Phone as a cornerstone), 10 (Credit as necessary but unfamiliar)

Two coders analyzed the bigram association of the 11 themes by calculating their PMI to determine the associative relationships. The formula used to derive the associative values is:

$$\operatorname{pmi}(x;y) \equiv \log_2 \frac{p(x,y)}{p(x)p(y)} = \log_2 \frac{p(x|y)}{p(x)} = \log_2 \frac{p(y|x)}{p(y)}$$

where PMI(x,y) = 0 means that the values of x and y are statistically independent: positive PMI means they co-occur more frequently than would be expected under an independence assumption; and negative PMI means they co-occur less frequently than would be expected.

Table 7 provides the PMI numerical values that, depicted graphically by the weight of each theme's associative relationship (positive or negative association).

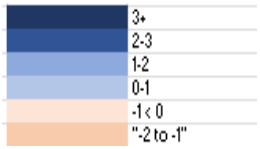


Table 7 Pointwise Mutual Information (PM) Overall Numerical Results by Theme

Theme	1. Sending money home as the "goal" or "purpose" of immigration	2. Technology as aspirational and freeing (e.g., the "gospel" of tech)	3. Technology as overwhelming and strange	4. Documentation as necessary for membership in financial institutions	5. Risk of deportation and general security from using financial services (trust generally)	6. Feeling of isolation resulting from exclusion from financial services	7. Community and family as the "teachers" of technology and financial services	8. Community as a buffer for fear	9. Phone as a cornerstone piece of technology	10. Credit as necessary in the US but an unfamiliar concept	11. Trust and security higher for other immigrant/expatriate populations and stores (e.g., Mexican stores for western union)
1. Sending money home as the "goal" or "purpose" of immigration											
2. Technology as aspirational and freeing (e.g., the "gospel" of tech)	n/a										
3. Technology as overwhelming and strange	3.72	1.85									
4. Documentation as necessary for membership in financial institutions	2.69	-0.92	-1.77								
5. Risk of deportation and general security from using financial services (trust generally)	2.87	n/a	n/a	1.47							
6. Feeling of isolation resulting from exclusion from financial services	2.72	-0.15	-1.00	2.00	0.58						
7. Community and family as the "teachers" of technology and financial services	2.87	0.00	-0.85	1.32	-0.26	0.74					
8. Community as a buffer for fear	2.55	0.26	-0.58	1.42	0.74	1.22	1.42				
9. Phone as a cornerstone piece of technology	0.37	2.08	-1.77	-0.77	n/a	-0.77	-0.18	-0.77			
10. Credit as necessary in the US but an unfamiliar concept	2.46	-0.42	n/a	1.74	-0.26	0.74	1.32	0.32	0.32		
11. Trust and security higher for other immigrant/expatriate populations and stores (e.g., Mexican stores for western union)	3.96	n/a	-1.77	0.82	-1.77	-0.18	1.04	0.82	-0.18	-1.77	

Highlights from the PMI values and table show that nine out of ten themes yielded positive co-occurrences for Sending money home as the goal or purpose of immigration; six out of seven themes yielded positive co-occurrences for Community as a buffer for fear; five out of six themes yielded positive co-occurrences for Documentation as necessary for membership in financial institutions; six out of nine themes yielded positive co-occurrences for Credit as necessary in the US but an unfamiliar concept. Conversely, six out of eight themes yielded negative co-occurrences and two themes yielded the value of N/A representing no co-occurrence for Technology as overwhelming and strange.

The main patterns that emerged from the PMI values and tables were that Sending money home and Phone as the cornerstone of technology were anchors or the respondents as indicated by the high positive co-occurrences and negative co-occurrences, respectively. Sending money home appears to be the anchor of all the themes with positive co-occurrences and Phone as cornerstone of technology an anchor for the negative co-occurrences. Phone as a cornerstone of technology consistently co-occurred with some themes and very rarely co-occurred with others. Other themes had more moderate (i.e., close to zero) values indicating rates of co-occurrence as expected by chance. For co-occurrences visualization, cognitive maps were created to depict both positive and negative relationships.

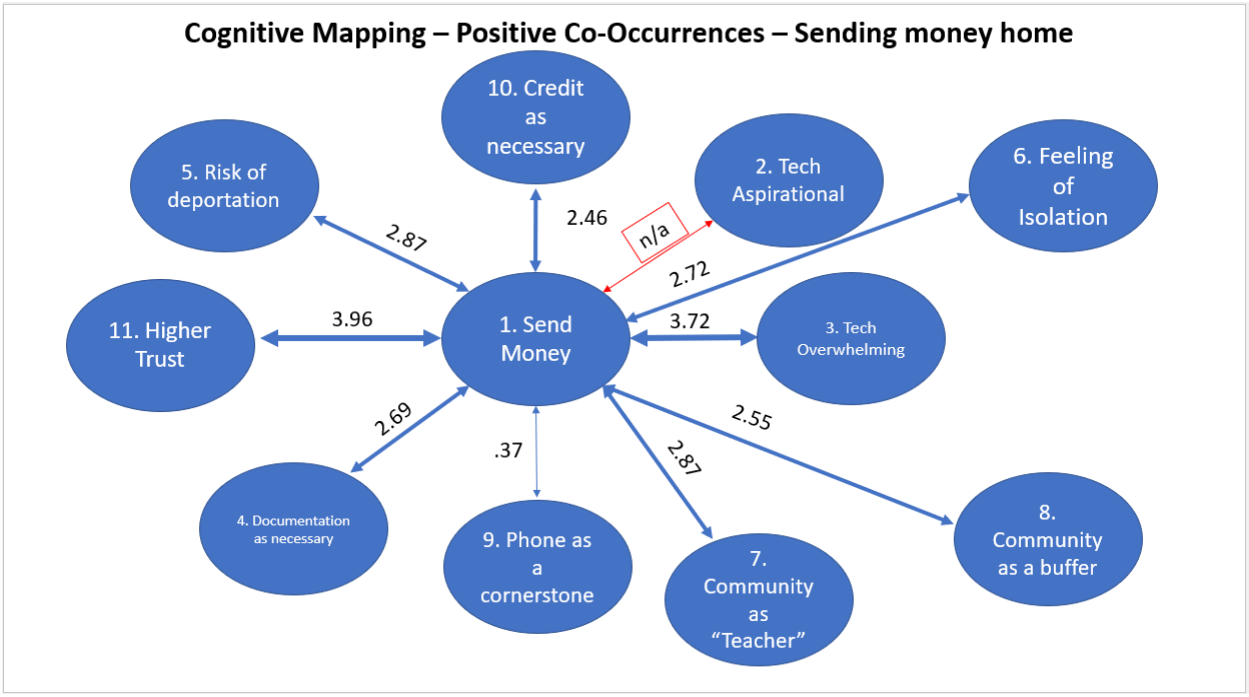
Sending money home. The highest PMI value was between Sending money home and Trusting other immigrant /expatriate retail stores or Western Union (3.96). This was a consistent theme

across the set of participants. Regardless of age, these immigrants sought out these locations and trusted them with this financial task. As more immigrants achieve their goal of being able to send money home, this increases future immigration trends of others who also seek to achieve that goal (Connor, 2013), which generates demand for trusted retailers to fulfill these transactions. The high PMI between these two themes aligns with this interpretation. According to two respondents:

> *Things kind of got harder when trying to send money because the technology did not allow for easy transfer of money. Sending money cost a lot back then. So that was a big thing having to use people and Western Union.*

> *I actually do it every now and then I send money to someone that takes care of our home in El Salvador, and I used to do it through one of the local Mexican stores.*

Figure 1: Cognitive Mapping – Positive Co-Occurrences – Sending Money Home



The second highest PMI value was between Sending money home and Technology as overwhelming and strange (3.72), a not surprising finding as El Salvador is not technically advanced. Regardless of age, these immigrants continue to feel overwhelmed and technologically challenged compared to U. S. citizens. As one respondent said,

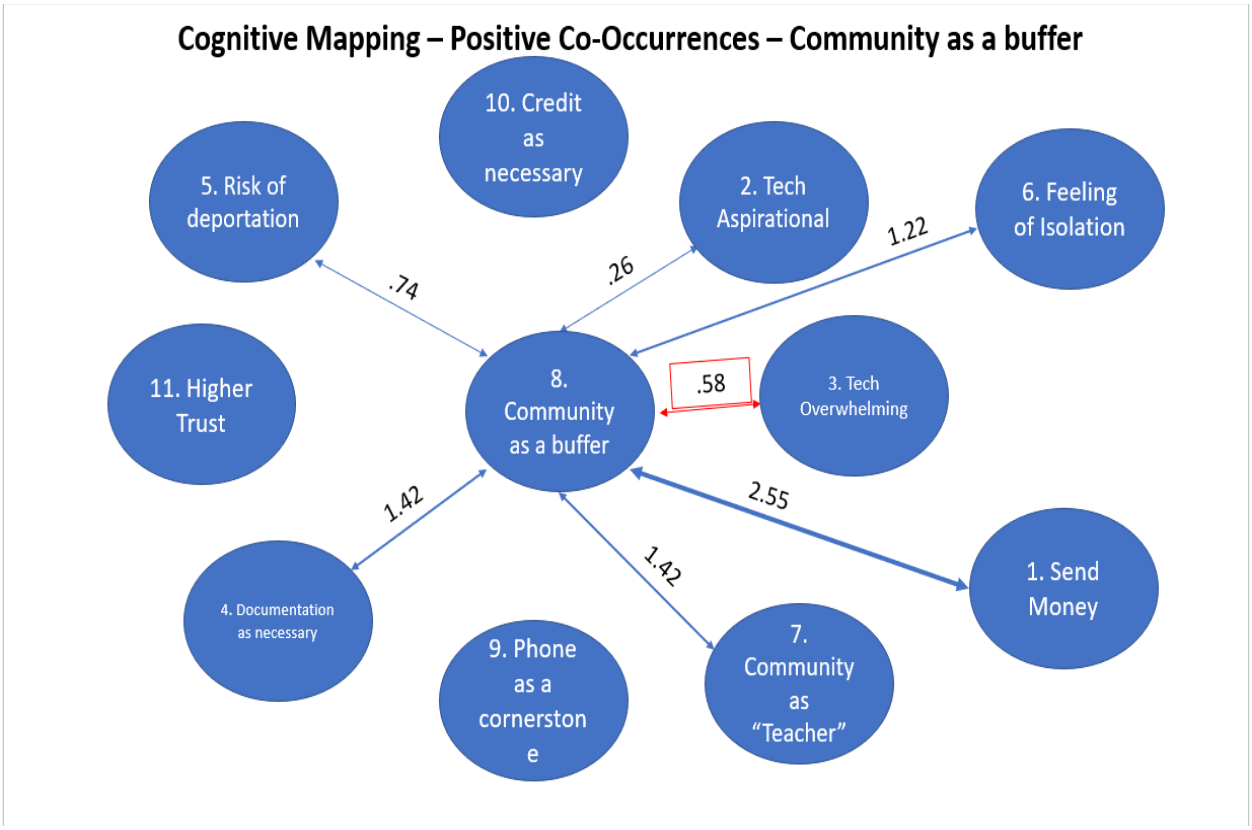
> *Because a lot of Hispanics can be intimidated by technology. And how are they gonna accomplish or educate them or reach them? You know, to use that technology? With blockchain, I guess they have something to start with. Yeah. Well, and I guess they'll be doing something to work with people so they can trust this type of system.*

Community as a buffer for fear. Another high PMI value was between Community as a buffer for fear and Sending money home (2.55). Community as a buffer for fear overlapped with many other themes. This could likely reflect that these themes (dealing with new technology, navigating unfamiliar financial institutions and concepts such as credit, and lacking proper documentation) were stressors that participants could offset through connections with family and other community members. According to one respondent,

> *Yes, I had friends that you lived with, and they kind of helped me along the way. They taught me the papers I needed to open an account. That's why it was possible for me. Unfortunately, I have friends who do not open accounts because they do not trust banks. They only deal in cash.*

> *Her emotions were fear because she didn't know what documents she needed to open up a bank account because she had just arrived in the country. So just fear lack of knowledge and documentation. (interpreter's words)*

Figure 2: Cognitive Mapping – Positive Co-Occurrences – Community as a buffer



The second highest PMI value for Community as a buffer for fear revealed symmetric co-occurrences: Documentation as necessary for membership in financial institutions (1.42) and Community and family as the "teachers" of technical and financial services (1.42). This could likely reflect the buffer needed to offset the fears associated with financial transactions in the United States and foreign technological challenges when relocating to a new country. As one respondent said,

> *I wasn't afraid because I had friends already here in the US that gave me advice about how to open an account. They had more experience than me. Yes, I had friends that you lived with and they kind of help you along the way. They taught me the papers I needed*

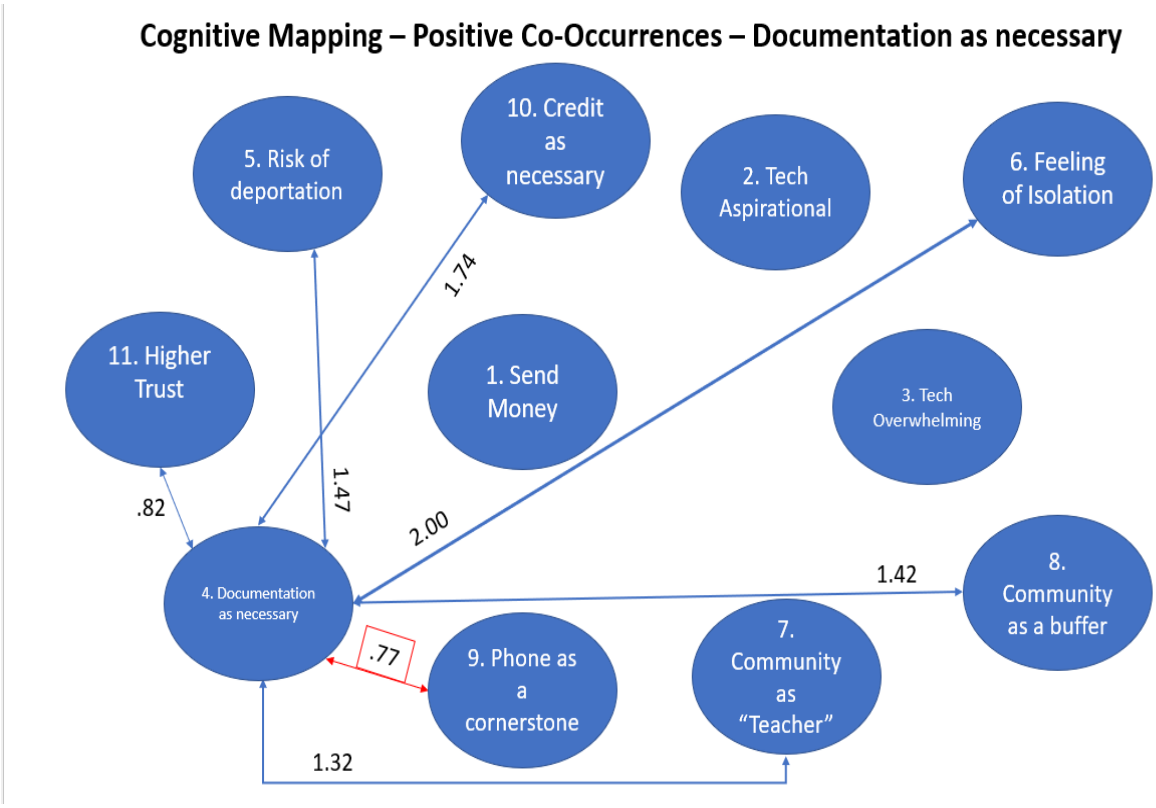
to open an account. That's why it was possible for me. Unfortunately, I have friends who do not open accounts because they do not trust banks. They only deal in cash.

Documentation as necessary for membership in financial institutions. Most respondents indicated that because they lacked legal papers, documents, and so on, they were not able to obtain financial services in the United States.

He said prior to him being having legal status before he got married, he didn't have a social security number, so he wasn't able to you know get a driver's license have a job or get a credit card or have a bank account or any kind of a relationship with a banking institution prior to them. (interpreter's words)

He found that opening an account in the US was easier than opening an account in El Salvador because they asked him for a lot of papers to open an account. Here is easier. (interpreter's words)

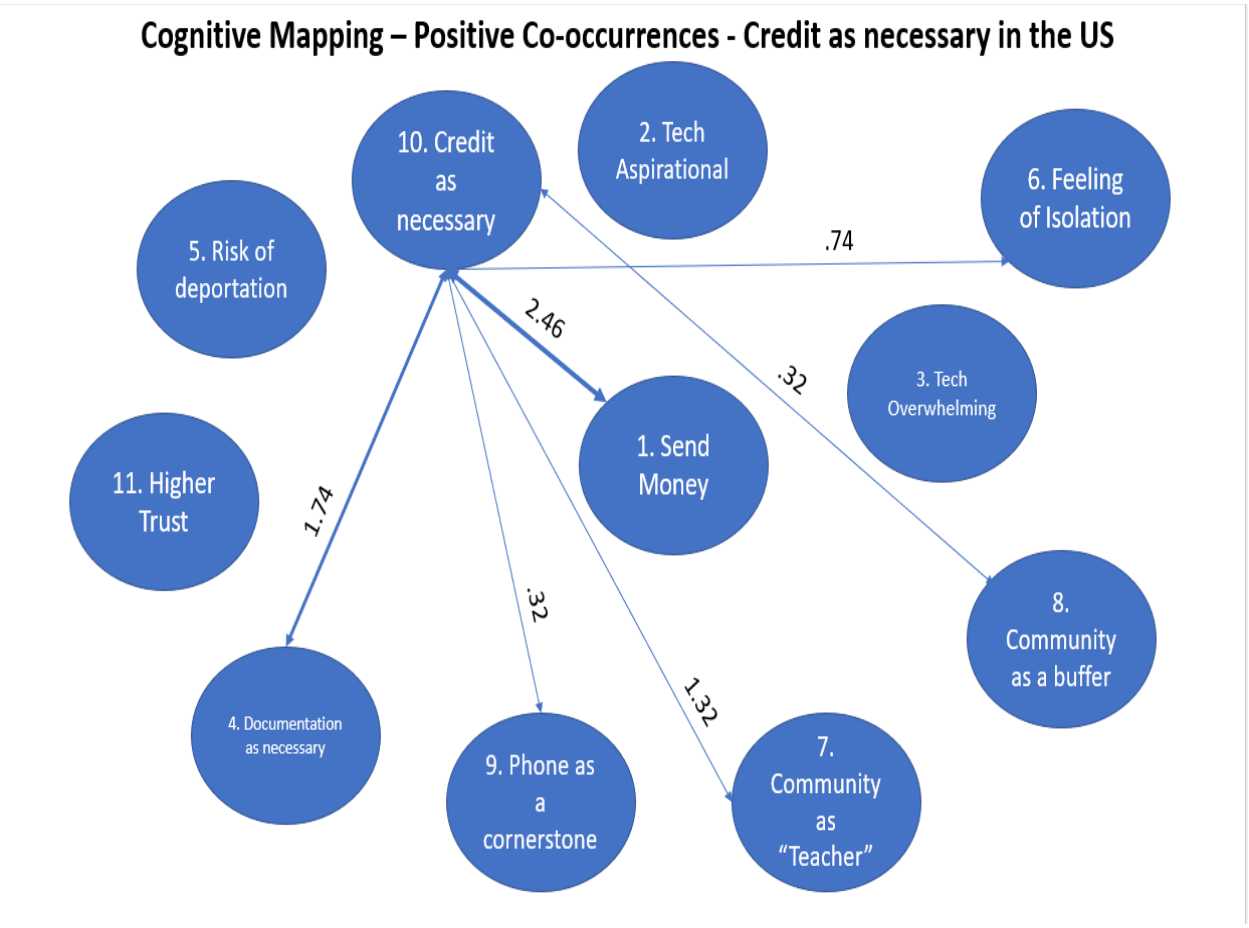
Figure 3: Cognitive Mapping – Positive Co-Occurrences – Documentation as necessary



Credit as necessary in the US but an unfamiliar concept. Without the proper documentation, most respondents reported that they were not able to obtain credit in the United States.

> *She realized that credit was very important in this country because credit is more valuable than money. (interpreter's words)*

Figure 4: Cognitive Mapping – Positive Co-Occurrences – Credit as necessary in the US



Negative PMI values and no co-occurrences. The low/negative PMI values suggest that Technology as overwhelming and strange was relatively more of a discrete feeling that emerged mostly on its own without much direct connection with other themes. This theme yielded six out of eight negative co-occurrences; two themes yielded the value of N/A representing no co-occurrence. Phone as cornerstone of technology emerged naturally and spontaneously during the interview process.

In the beginning it was kind of difficult because there was no line of credit that she had so basically in her home country you could do prepaid phone cards and your phone did not have to have service but that wasn't the case here so after a while here she was able to get her own phone because she had a job and a passport. So, she was able to obtain it that way. (interpreter's words)

When he first arrived here it was difficult for him to learn technology. You know. It was very difficult for him. He felt isolated from technology. He felt estranged to technology. (interpreter's words)

As depicted in Table 7, some themes had values of N/A (no instance of co-occurrence), indicating no relationship or association with any of the other themes.

Community as a buffer, community ties of trust and security (Higher Trust), and Phone as cornerstone of technology emerged as themes when participants reflected on their experiences in the United States with financial institutions. As predicted by the World Bank, sending money globally from third-party administrators such as Western Union and MoneyGram cost predominantly underserved communities over $702 billion in 2020 and is expected to cost approximately another $200 billion by 2026. Currently, there are no better options for underserved communities (Beck, 2008). Blockchain-based solutions could potentially enable digital P2P global transfers, provide digital identity to resolve documentation issues, lower transactional costs to send money, remove the intermediary (objective trust on the blockchain),

and so on. Most importantly, blockchain-based solutions could potentially be more inclusive (reduce feelings of isolation).

> *So first she consulted with her aunts and then once she learned [how to transfer money via Western Union] she was able to do it herself. It was not difficult. She did use her real name. (interpreter's words)*

> *And there's some that they're like, scared or like. Yeah, you never know, like they're like you never know. Yeah, people track you from social media and all that. WhatsApp or yeah, they do. I think all Latinos use WhatsApp. So yeah, we use WhatsApp. And I think, messenger. (interpreter's words)*

Community as a buffer for fear yielded numerous positive co-occurrences that are indicative of respondents' dependence on Latino marketplaces to understand their broader concerns and fears regarding their legal status, financial services (sending money), credit, and so on. Additionally, there were some themes with pervasively negative PMI values, some co-occurrences with symmetry values, and some with no co-occurrences.

General Insights

1. Safely transferring money to your home country is a primary concern for this consumer. Consumers currently are dependent on a financial intermediary to make this happen.
    - Blockchain potential:

        - Connects to FP3: Blockchain-based objective trust is a key foundation for equitable markets.
        - Connects to FP5: Blockchain-based self-sovereign privacy enhances marketplace equity.
        - Connects to FP7: Blockchain-based disintermediation enhances marketplace equity.

2. Lack of documentation restricts consumer choice of financial intermediaries. Consumers are confined to Latino stores for financial transactions due to lack of documentation.
    - Blockchain potential:
        - Connects to FP5: Blockchain-based self-sovereign privacy enhances marketplace equity.
        - Connects to FP6: Blockchain-enhanced transparency enhances marketplace equity.
        - Connects to FP8: Blockchain tokenization reduces exchange barriers and enhances marketplace equity.
3. Credit is almost as valuable as money. Credit necessary for apartment rentals, car loans, some utilities. Without documentation, credit in the US can't be established.
    - Blockchain potential:
        - Connects to FP6: Blockchain-enhanced transparency enhances marketplace equity.
        - Connects to FP8: Blockchain tokenization reduces exchange barriers and enhances marketplace equity.

4. Community as a buffer for fear. Community as a buffer for fear of deportation was expressed by several respondents.
    - Blockchain potential:
        - Connects to FP6: Blockchain-enhanced transparency enhances marketplace equity.
        - Connects to FP8: Blockchain tokenization reduces exchange barriers and enhances marketplace equity.

Chapter 6: Discussion

The fundamental objective of this research was to present a blockchain-centered initial theoretical framework for blockchain in equitable markets. Additionally, this research's objective was designed to provide practitioners with recommendations for the utilization of blockchain for equitable markets. The biggest agenda of this research is to provide groundwork for future scholarly research. Utilizing Hunt's two-step methodology inductive realist approaches of theorizing, an introduction of an initial theoretical framework along with related managerial recommendations. The initial theoretical framework may support our larger agenda by serving as foundational support for future academic research. This could possibly lead to greater knowledge of blockchain-centered cogent for equitable markets.

To derive these objectives, blockchain-centered foundational premises were developed to formulate an initial theoretical framework. Traditional innovation platforms were developed to help demonstrate practical significance of how blockchain could transform inequitable markets. Table 4 summarizes the highlights of the initial theoretical framework and Table 12 summarizes how blockchain could practically transform markets from the point of view of both corporations and consumers.

While markets are known to be inherently inequitable, there is no cohesive solution to making them more equitable. Trust perceptions, barriers to entry and intermediary biases are major reasons the underprivileged lack prosperity. These practices shut them out of opulence. A better distribution of trust and power is needed to create a more equitable marketplace.

Blockchain may be a potential solution for equitable marketplaces with enhanced trust with institutions and customers. The core value proposition of blockchain including trust, security, privacy, and disintermediation, may provide the best opportunities so far for underprivileged consumers that make up most of the global marketplace. Thus, blockchain may answer the increasingly loud calls for BMBW (better marketing for a better world).

Theoretical Limitations

Hunt's (2020) FP approach has some limitations that can impact the conclusions researchers can draw:

i. An initial theoretical framework may give reason to accept a theory but not conclusive proof for the acceptance of a theory (Hunt 2011). Multiple future iterations will fine tune the theoretical framework as more evidence becomes available. Vargo's (2004) seminal paper has had at least five future iterations (Hunt, 2020).
ii. Realists maintain that there is an immutable scientific truth out there which scientists can study. However, objective truth is not always out there for scientists to study (Zinkhan and Hirscheim 1992).
iii. An initial theoretical framework contains a certain degree of representational inaccuracy (Morrison 2007). We are limited by our own biases.
iv. The methodology is not an algorithmic procedure for theory development; however, it does provide a valuable conceptual framework for furthering the development of indigenous marketing theory (Hunt, 2020).

v. Vargo and Lusch (2004) acknowledged that the original FPs needed to be supplemented. Taken as a whole, they were not sufficient; some could be derived from others and are not independent (Hunt, 2020).

vi. The authors of the commentaries within the VandL article either found no context-free deficiencies or the deficiencies were so minor that they chose not to mention them (Hunt, 2020).

vii. The FPs steps are nonlinear and have numerous feedback loops (Hunt, 2020).

viii. The model is silent on the question of where theory proposals in marketing come from (e.g., theory generation) (Hunt, 2013).

ix. Hans Reichenbach's Experience and Prediction Model(Reichenbach 1938) states that the context of justification is the only part of scientific practice that is epistemologically relevant and amenable to philosophical analysis, referring to the distinction between the contexts of discovery and justification (Hunt, 2013).

x. How scholars perceive or define what a problem is and what problem their research should address is constrained by their background knowledge, including current knowledge of their discipline (Hunt, 2013).

xi. The constraints are idiosyncratic to disciplines and their domain, as scientific discoveries are highly constrained processes (Hunt, 2013).

xii. Hunt's model was strongly influenced by Frankena's (1963) advocacy of a "mixed" system, which has been criticized because of its concept of morality and interpretation of Christian morality (Hunt, 2013).

Blockchain Limitations

As with all technology, blockchain technology has some limitations that can impact the conclusions researchers could derive and those that have impeded its execution for equitable marketplace usage. Although blockchain has the potential to disrupt society on a global scale, it is imperative that we understand its limitations. Several studies have underscored blockchain limitations including blockchain adoption (Beck et al., 2016; Gomber et al., 2018), governance and control (Guo & Liang, 2016), costly resources (Holub & Johnson, 2018), risk concerns (Mendling et al., 2018), lack of privacy, security model limitations, lack of flexibility and latency for larger blockchains (Axios, 2018; Böhme et al., 2015; Coyne & McMickle, 2017), immutability (Hawlitschek et al., 2018), and so on.

Although there are some theoretical and blockchain limitations, there are numerous advantages to utilizing blockchain technology to transform inequitable markets as evident throughout this paper for underprivileged consumers and society.

Theoretical and Managerial Contributions

This research offers monumental insights for managers to provide equitable markets to the world's poorest individuals with blockchain solutions.

Table 8: Theoretical and Managerial Contributions

Foundational Premise	Key Transformational Outcomes for Businesses	Key Transformational Outcomes for Customers
1. Markets are inherently inequitable	i. Trust fragility removed.	i. A more equitable society
2. Blockchain represents a seminal paradigm shift in the creation of equitable markets	i. Move from an economy that shares information to a society that shares value.	i. Prosperity for underprivileged consumers
3. Blockchain-based objective trust is a key foundation for equitable markets	i. Improves trust relationship with customers.	i. Increased engagement
4. Decentralized blockchain security enhances marketplace equity	i. Better management systems	i. Protection from illicit activity and fraud
5. Blockchain-based self-sovereign privacy enhances marketplace equity	i. Helps to curb fraud and identity theft	i. Ability to access and share personal information anywhere, anytime
6. Blockchain-enhanced transparency enhances marketplace equity	i. Build customer loyalty and trust.	i. Greater perceived fairness, motivation
7. Blockchain-based disintermediation enhances marketplace equity	i. Negotiate their own prices and contract terms.	i. Full control of their personal information
8. Tokenization on the blockchain reduces exchange barriers and enhances marketplace equity	i. Future-proofs the dollar	i. Lower entry cost

Future Research Opportunities. This research serves as the starting point for developing blockchain-based solutions for underprivileged markets.

i. Blockchain adoption is known to be a limitation among underprivileged consumers. Several studies have underscored blockchain limitations including blockchain adoption (Beck et al., 2016; Gomber et al., 2018). Research on how to ensure underprivileged consumers are included with the planning and implementation of blockchain-centric solutions is essential resulting in overall equity for all.
ii. Effective governance and control (Guo and Liang 2016) are needed for blockchain-centric solutions in equitable markets to succeed. Existing financial regulations are weak and ineffective to ensure equity in the marketplace (innately inequitable).
iii. Universal standards for blockchain needed to allow continuous sharing of data. Current standards are fragmented and require rules for interoperability among institutions.
iv. Blockchain awareness and education initiatives in underserved communities are lacking. Lack of access to educational and financial initiatives puts the underserved communities at extreme risk of being left (e.g., existing educational and financial systems decreased presence in underserved communities).
v. Development of digital applications free from govern dominant incumbents' control and user-friendly applications is vital for financial inclusion of blockchain-centric solutions (e.g., Decentralized applications (dApps) are blockchain-centric applications with no one single authority in control).

Conclusion

This research is important because it presents an initial theoretical framework to facilitate a better theoretical understanding of how blockchain, one of the most important technologies

today, can better be harnessed for the transformation of inequitable markets, one of the most pressing calls in better marketing for a better world (BMBW). This research also has strong practical implications in that it illustrates how blockchain-centric logic can transform inequitable markets. No doubt, considerable future research is needed to better comprehend the important constructs involved. It would be reasonable to conclude, however, that this research provides a critical step forward for the theoretical and practical development of a radical new technology (blockchain) that could potentially transform inequitable markets.

Appendix A: Blockchain and the Transformation of Underprivileged consumers Questionnaire -m

Approved by IRB - IRB-23-043

Empirical Analysis Objective: To explore participant reactions to open-ended questions related to their thoughts and/or emotions about banks or traditional financial institutions, credit agencies, credit card companies, and so on; about experiences sending money to friends and/or family members abroad; and finally, about experiences with smartphones, technology, the Internet, and so on.

- When you first arrived in the US, what words, thoughts or emotions came to mind when thinking about banks or traditional financial institutions, credit agencies, credit card companies, the government, and so on?
    - Cuando llegó por primera vez a los Estados Unidos, ¿qué palabras, pensamientos o emociones vienen a la mente al pensar en bancos o instituciones financieras tradicionales, agencias de crédito, compañías de tarjetas de crédito, el gobierno, etc.?

- When you first arrived in the US, what words, thoughts or emotions came to mind when thinking about sending and/or transferring money to friends and/or family members abroad?
    - Cuando llegó por primera vez a los Estados Unidos, ¿qué palabras, pensamientos o emociones le vinieron a la mente al pensar en enviar y/o transferir dinero a amigos y/o familiares en el extranjero?

- When you first arrived in the US, what words, thoughts or emotions came to mind when thinking about smartphones, technology, the Internet, and so on?
    - Cuando llegó por primera vez a los Estados Unidos, ¿qué palabras, pensamientos o emociones te vinieron a la mente al pensar en teléfonos inteligentes, tecnología, Internet, etc.?

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