Investigating the role of data-driven innovation and information quality on the adoption of blockchain technology on crowdfunding platforms

Abhishek Behl

Management Development Institute, Gurgaon, India

abhishekbehl27@gmail.com

Brinda Sampat

NMIMS Global Access School for Continuing Education, NMIMS University, Mumbai, India

brinda.Sampat@nmims.edu

Vijay Pereira

NEOMA Business School, France

vijay.pereira@port.ac.uk

Nirma Sadamali Jayawardena

O P Jindal Global University, India

nirmas.jayawardena@jgu.edu.in

Benjamin Laker

Henley Business School, University of Reading

benjamin.laker@henley.ac.uk

Conflict of Interest: The authors did not receive support from any organization for the submitted work. There is no conflict of interest.

Investigating the role of data-driven innovation and information quality on the adoption of blockchain technology on crowdfunding platforms

Abstract

The purpose of this study is to investigate the role of data-driven innovation and information quality on the adoption of blockchain technology on crowdfunding platforms through adopting a mono method quantitativae approach. Micro-level theoretical perspectives have been less explored in studies of successful crowdfunding innovation than macro-level theoretical perspectives. Furthermore, crowdfunding platforms' performance varies because of issues like trust, information asymmetry, and transparency of funds flow, among others. There is a solution to these issues in the form of Blockchain Technology (BCT). While BCT has been adopted and used by other businesses, its adoption and usefulness for crowdfunding platforms have not been studied. We investigate crowdfunding platform success using the "task-technology fit theory" and "resource-based view theory". Authors collected primary level data from task owners of crowdfunding platforms to test the hypotheses. The proposed theoretical model is tested with a sample size of 314 business units, and the proposed hypotheses are tested using Warp PLS 7.0. We also control for the type of crowdfunding activities for our study. The study will help in understanding and improving the success of crowdfunding tasks on crowdfunding platforms. Additionally, it will contribute to TTF and RBV theory as well.

Keywords: data driven innovation; blockchain technology; trust; operational performance; task technology fit theory; resource bases view theory

Conflict of Interest: The authors did not receive support from any organization for the submitted work. There is no conflict of interest.

1 Introduction

Crowdfunding platforms have gained importance in recent times (Forbes, 2021). Studies classify crowdfunding platforms into debt-based, lending based, equity-based and donation-based (Behl and Dutta, 2021; Mollick, 2014). The transition from a contemporary form of fundraising to a systematic and target-based fundraising technique marks the success of the crowdfunding platform. *Crowdfunding* is most commonly defined as "the efforts by entrepreneurial individuals and groups—cultural, social, and for-profit—to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries" (Mollick 2014, pg. 2). Recent studies have claimed that crowdfunding platforms have transformed the fintech sector by offering a strategic medium to bridge the gap between an investor and an entrepreneurial firm. Out of the four crowdfunding platforms, debt-based and lending-based platforms remain the most celebrated and prized forms of fintech solutions (Behl et al., 2021; Behl and Dutta, 2019). However, using the lens of innovation, a reward-based crowdfunding platform emerges as an undisputed winner.

In comparison, donation-based crowdfunding owns the most negligible percentage of stake in the crowdfunding literature. Studies have also bifurcated crowdfunding literature into pre-funding and post-funding phases (e.g., see Jovanovic 2018; Hörisch 2019). The success of any crowdfunding platform thus pivots on four key factors: the project creator; a campaign to be funded; supporters (also called backers); and the platform on which the project is hosted (Mollick, 2014). The critical success factors are also studied from the pre- and post-funding phases. These factors can be further categorized based on individual-level characteristics, firm-level characteristics, technology level characteristics, and design-related characteristics. Interestingly, a significant chunk of the analysis of these factors is in the pre-funding phase. While the pre-funding stage is crucial that decides the financial health and backup of any project, the post-funding step resonates with building relationships with the supporters.

One of the prominent factors for the success of crowdfunding platforms is trust. Similar to the success of any firm, a crowdfunding platform also strives hard to improve trust and transparency in its business operations. They usually feed consistent and quality data on the platform. Studies have explained how various forms of trust like interpersonal trust, intermediary trust, institutional trust and dispositional trust help crowdfunding platforms to improve their business performance. The traditional exercise to improve trust exists in most of these platforms; however, blockchain-based solutions improve upon the degree of trust and help understand the flow of funds from the pre-funding to the post-funding phase. Blockchain works as an open distributed database using advanced cryptography. It uses the decentralization of user data and achieves consensus through a public network of participants, thus ensuring the accuracy of information (Akter et al., 2020). Blockchain technology derives its name from the way it is designed. The different user data records are listed, arranged in blocks, and chained together using cryptography. The information contained in the block cannot be altered without impacting changes in the subsequent blocks in the chain. Various protocols involving different protection mechanisms are used in a blockchain (Reijers & Coeckelbergh, 2018).

Blockchain technology can replace traditional intermediaries with a peer-to-peer network. They can circumvent the conventional trade-off between organizations and markets inherent in transaction cost economics (Kumar et al., 2021). One of the popular applications of blockchain technology is bitcoin. It has been used to raise financing through a new form of crowdfunding using initial coin offerings (ICOs) (Fisch, 2019). There are several advantages of blockchain technology that make it suitable to be used for crowdfunding platforms, such as reliability (Chang et al., 2020; Yen & Cheng, 2021), transparency (Daim et al., 2020; Garg et al., 2021) and trustworthiness (Ahluwalia et al., 2020; Nguyen et al., 2021). The data about any funding campaign on the crowdfunding are recorded and made available for access to all the users who can access information (Mukkamala et al., 2018). The transactions on the blockchain platform cannot be altered; thus, blockchain offers a secure method of transacting on the crowdfunding platform. Before proceeding with any transactions on the crowdfunding platforms, all the parties involved must arrive at a consensus ensuring the transactions are error-free, immutable, traceable, authenticated and verified, thereby providing better control over the crowdfunding platform (Cai, 2018). Crowdfunding platforms can have several fraudulent projects, which blockchain technology can prevent. For example, TallyCoin, a crowdfunding platform built on the bitcoin blockchain, allows users to receive donations directly into their private nodes. Similarly, Tecra Space, a decentralized crowdfunding platform, enables the exchange of digital patents, assets, and intellectual property rights (IPR) (Kodzilla, 2022).

Blockchain Technology is a disruptive technology that helps processes to be transparent by generating data points at every transaction. In the case of crowdfunding platforms, the form and nature of such data points in the context of innovation can be understood from the lens of the data-driven innovation (DDI). DDI has its roots in any project that is high on innovation. The project could be a system or process that is already developed or developed to help society solve real-life issues. It is also reported that DDI is often confused in the context of data and platforms. However, this confusion is resolved mainly by fixing the boundaries and nature of the business that DDI is being studied, and crowdfunding platforms are one example. The nature of the business of crowdfunding (except donation-based to some extent) can be considered a good example that uses the fundamentals of DDI.

Most of the earlier studies have explained the adoption and use of blockchain technology from either the technology adoption phenomenon or treating it as a resource to improve business efficiency. The choice of theories from the bucket of technology adoption or resource-based views paints a partial picture of showing either blockchain technology as a dependent variable or an independent variable (Behl et al., 2021). Thus, the overall phenomenon that uses antecedents of blockchain technologies adoption and blockchain adoption as an antecedent to firm performance in a unified model is rare. In doing so, this study seeks answers to the following research questions:

RQ 1: How can functional benefits and symbolic benefits help in explaining the adoption of blockchain technology in a crowdfunding platform?

While adopting blockchain technology on crowdfunding platforms, managers must focus on the benefits and return on investment obtained (Cho et al., 2021). The expected benefits of blockchain technology on crowdfunding platforms can be functional (e.g., improved efficiency, cost reduction) or symbolic (e.g., enhanced reputation, self-worth and image) (Grover et al., 2018). The benefits accrued from using blockchain technology are different based on organization types (Roth et al., 2022). Thus, contextualizing the relevant factors in blockchain adoption on crowdfunding platforms is necessary.

RQ 2: How can the adoption of blockchain technology and trust individually and collectively explain the operational performance of crowdfunding platforms?

Blockchain technology demonstrates specific characteristics such as immutability, trust, versatility, redundancy, and automation (Roth et al., 2022). Trust-free systems based on blockchain technology plan to transform peer-to-peer interactions on the crowdfunding platform, improving performance (Hawlitschek et al., 2018). Several studies have pointed out blockchain adoption leads to improved operational performance (e.g., automotive industry (Upadhyay et al., 2021), oil industry (Aslam et al., 2021) and supply chain (Centobelli et al., 2021; Wamba et al., 2020)).

RQ 3: How can data-driven innovation and information quality moderate the adoption of blockchain technology and improve crowdfunding platforms' trust and operational performance?

Data-driven innovations (DDI) have led to new digital business model adoption (Saura et al., 2021). DDI can alter the crowdsourcing platform's performance by providing several data monetizing opportunities, improved decision-making abilities, business processes, products and services (Akter et al., 2021; Dubey et al., 2019), leading to better growth and productivity. Adopting blockchain technology on crowdfunding platforms ensures trust and secure digital transactions, which are prerequisites in financial transactions, leading to improved operational performance (Liang et al., 2021).

The rest of the paper is organized as follows. Section 2 details the theoretical underpinning and discusses the scope and relevance of TTF and RBV theory in the study context. Section 3 proposes a theoretical framework and builds a debate to explain each of the study's hypotheses. Section 4 discusses research design, while section 5 illustrates the study results and presents the results of hypotheses testing. Section 6 discusses the results and offers a critical debate on how the study contributes to theory and practice. Lastly, section 7 presents the conclusion, limitations and future scope of the study.

2 Theoretical Background

2.1 Task-technology fit

Goodhue & Thompson (1995) developed the Task-Technology Fit (TTF) approach, which describes how technology can contribute to the individual's activities in performing the task. TTF focuses on individuals to assess and explain the successful use of information systems that impact individual performance (Sinha et al., 2019). Identifying the technology to use for a task depends on how well the characteristics or functionality of the technology address the task at hand (Seebacher et al., 2021). The functionality of technology suggests the functional capability aided by the technology chosen for the task (Warrier et al., 2021). It presents the technology required for accomplishing the tasks must create performance impact by carrying out tasks efficiently (Liang et al., 2021). A set of tasks completed by an individual refer to performance impact. TTF indicates that technology is used as long as it boosts the efficiency of the individual performing the task or increases productivity (Goodhue, 1995). The degree of alignment between the task and technology is vital in determining how the technology will affect system performance. The higher the performance, the higher is the efficiency, impact and effectiveness. The fit focuses on the linkage between task requirements and functions of technology. TTF argues that blockchain technology on a crowdfunding platform is used as long as its application is beneficial in terms of productivity, efficiency and aligns with the task requirements.

2.1.1 Different characteristics of technology and task

The application of the TTF theory in various contexts such as education, information systems, e-learning and e-commerce will directly infleuce the various task characteristics (Grover et al., 2019). For example, the term "task" refers to the totality of physical actions and social cognitive processes that individuals perform in a given context (Grover et al., 2019; Grant, 1991). Depending on the complexity of the tasks, task characteristics are broken down to different levels of detail, depending on the technology supporting the tasks (Goodhue & Thompson, 1995). The literature suggests that task characteristics are identified by analyzing the tasks performed in a specific environment and identifying related groups and subgroups (Roth et al., 2022; Suvajdzic et al., 2022). Researches will define different characteristics of different technologies based on the environments in which they will be used and the tasks they will support, just as they will define different characteristics of tasks. Hence, the theoretical lens in TTF explains that technology supports the people to perform their tasks and affects the task and the functionalities of the technology (Suvajdzic et al., 2022) . Thus, the different dimensions that can be considered, as defined by Goodhue and Thompsonin in 1995, is the quality of data or datasets, the locatability of data, authorizations to access towards the data with due compatibility, the ease of use and training timeliness within the system. This is aso affected by the relationship between the user and the system.

2.2 Resource-Based view

The 'Resource-Based View' (RBV), also called the 'Resource Advantage Theory' (Priem & Butler, 2001), enables one to understand the interplay between an organization's use of resources (tangible and intangible) and the competitive advantage gained by using existing resources or acquiring unique resources and capabilities and how they can be sustained over time (Dubey et al., 2021). Tangible resources (information technology infrastructure-hardware and software, IT/IS employees' skills) and intangible resources (information, corporate, employee experience, corporate culture) help produce and deliver goods and services (Nandi et al., 2020a). These unique resources are rare, inimitable, and not easily substituted among firms within an industry. Thus, firms must use their excellent heterogeneous resources when competing with their rivals in the market to gain a competitive advantage. In the context of crowdfunding platforms, RBV best describes the relationship between an organization and its ability to create and sustain a competitive advantage using resources that cannot be imitated by other media (Shibin et al., 2020). It explains why specific organizations perform better than others by understanding the intra-organizational relationships between the resources and capabilities. Capabilities refer to organizations' actions by utilizing infrastructure, human resources, skills, managerial abilities, and skills (Aydiner et al., 2019).

The heterogeneously distributed resources are sources of performance difference among the competing organizations (Barney, 2001). Drawing on the RBV, resources in this study refer to the use of blockchain technology in crowdfunding platforms. Blockchain technology exists in copies of itself across computers and thus can be classified as intangible resources, considered more strategic than tangible (Bjørnstad et al., 2017). Organizations with better customer value than their competitors have a higher competitive advantage (Nandi et al., 2020b). According to RBV, the environment plays a vital role in deciding organizational performance. The inter-organization environment focusing on strengths and weaknesses is easy to control, reducing uncertainty against external threats (Grant, 1991). RBV is thus an appropriate technology in explaining how a crowdfunding platform can achieve a competitive advantage by using its unique resources into reconfiguring, building and integrating resources into routines (Fawcett et al., 2011). This study aims to understand the blockchain adoption on crowdfunding platforms and the operational performance of crowdfunding platforms by using this technology. To understand this multi-faceted phenomenon, integrating the TTF and RBV to interpret the results s deemed appropriate.

2.3 Integrating Task-technology fit and Resource-based view

Several scholars have studied blockchain adoption using the different frameworks; namely, a) diffusion of innovation (DOI) (Lu et al., 2021; Toufaily et al., 2021), which emphasizes the various aspects of innovation such as relative advantage, complexity, compatibility and the speed of innovation; b) technology-organization-environment (TOE) (Reddick et al., 2019; Toufaily et al., 2021) which focuses on the inter-relation between technology, organization and environment; and c) task-technology fit (TTF) (Liang et al., 2021) which suggests that the technology's impact on task performance is suggested by how well the technology is aligned with the task to be carried out, enhances the performance of the target task. TTF ascertains whether the technology used in crowdfunding platforms is cost-effective and adequate to enhance their operational performance (Liang et al., 2021). TTF involves the technology features (fitness) and operational readiness (viability) to improve the performance of crowdfunding platforms. The resource-based view (RBV) suggests the firms' capabilities are vital to derive desired outcomes based on the available resources. We build on the SCM literature that uses RBV in the context of blockchain adoption on crowdfunding platforms. According to RBV, a firm adopts different means, namely, blockchain, to gain a competitive advantage, as it is immutable, secure, transparent, decentralized and operational-efficient (Nandi et al., 2020). Using an integrated model with TTF and RBV, we can concentrate on whether the adoption of blockchain technology is cost-beneficial and assesses if the crowdfunding platforms have adequate resources for its successful implementation. This research draws together the recent literature on TTF and RBV frameworks to address the research questions posed in the study and empirically test the conceptualization of the relationships between the fit and viability of blockchain adoption and the operational performance of crowdfunding platforms.

3 Hypothesis Development

In this section we present the variables which we used from the given two theories of TTF and RBV as follows;

3.1 Task-technology fit characteristics on functional benefits

Blockchain technology has the ability to revolutionise digital transaction security and trust. Its acceptance has been dragged down by worries about its technical complexity and deployment advantages (Liang e tal., 2021). When a company examines a new technology, it must determine whether it will meet the task requirements (Cakmak & Basoglu, 2012). IT resources and organisational resources work together to provide it a competitive edge. Task-technology fit (TTF) in this study is the degree to which blockchain technology is appropriate for the crowdfunding task and satisfies its requirements (Liang et al., 2021). Speed, efficiency, and affordability are crucial functional benefit characteristics (Candi & Kahn, 2016). Technology may be used by individuals to assist them in performing their tasks. An individual's characteristics such as the ability of training, computer experience and personal motivation may affect how effectively he or she will utilize the technology (Battah et al.,2020). In the BC the identification tokens are becoming immensely popular as these identification tokens been given to each applicant. The applicant can requests a BC token which wilbe obtained after the successful authentication to the blockchain and reuqests the authorization to access a web resource (Suvajdzic et al., 2022; Davis, 1989; Goodhue & Thompson, 1995).Through the third-party web application, the blockchain issues the token and authorizes the user to access it. Simiarly, tokens (ICOs), Issuer (Legal structure) and Sales terms (Smart contract) plays a vital tole in digital blockchain access using the digital currency in which investors might neeed to know nature of the currency, whether it will be viable, and whether they will be legally protected (Cong, & He, 2019). It has been possible for users to access resources found on technologies such as digital currencies or cryptocurrencies and digital transactions by using blockchain authentication, which increases their security and verifies their identities. Hence, in the extent literature, the authorizations to access depends on several critical factors within the network such as the password fatigue, higher dependence for a single entity within the network and lack of service availability when considering the different regions. Furthermore. attacks that cause denial of service cause delays in response times and severe interruptions to centralized systems as a result of denial of service attacks which needs to be highlighted when considering the role of data-driven innovation and information quality on the adoption of blockchain technology on crowdfunding platforms (Cong, & He, 2019).

Adopting IT can help a business get functional benefits that will boost performance including effectiveness, competence, and productivity (Barney, 2001). Functional benefits are achieved when participants share information, thereby providing better empowerment, trust, and ownership. Incomplete or missing information regarding services can be frustrating (Rejeb & Karim, 2019). The core benefits of blockchain include speed and scalability (Zheng et al., 2019). The technology fit and functional use of a task help understand if the technology is suitable within the characteristics of business operations, cost and task performance. Based on this discussion, we postulate,

H1: Task-technology fit is positively related to functional benefits

3.2 Functional benefits are positively related to Blockchain adoption

An organization derives value by using information communication technologies (ICT) and organizational resources, giving it a competitive edge over its competitors (Chau et al., 2007). These values generated through ICT usage are categorised into functional and symbolic benefits. In marketing parlance, functional benefits, also known as experiential benefits, define utility that can be derived from the physical product (Tan & Ming, 2003). Functional benefits refer to the product-related attributes that satisfy intrinsic needs without an emotional or social bond (T.-P. Liang et al., 2021). Functional benefits can be attributed to financial performance and market share, focusing on aligning technology and organizational tasks (V. Grover et al., 2018). These can further be classified into system/process-related and economical. The process-related functional benefits of blockchain technology include secure transactions and automation in back-office operations (Syed, 2018), and economic benefits include cost reduction, cost savings, easy, efficient processes, and transaction speed (Fleischmann & Ivens, 2019). Additionally, the functional benefits of blockchain technology on crowdfunding platforms encompass conserving users' resources in terms of time, effort and money. It helps meet technology-related benefits such as transparency, anonymity, traceability, security, efficiency and speed. Crowdfunding platforms can experience the functional benefits (e.g. anonymity, automation, encrypted information, global reach, immutability and traceability) while using blockchain technology, which is imperative in monetary transactions (Fleischmann & Ivens, 2019). As firms realize the advantages of these technologies, they are keen to adopt them. Thus, we hypothesize,

H2: Functional benefits are positively related to Blockchain adoption

3.3 Task-technology fit characteristics on social value creation belief

A number of recent technological advances have opened up new possibilities for contact, teamwork, and labor organization in smart cities (Scekic et al., 2018). While research on how trust contributes to the adoption of a new technology, and the factors that influence whether people adopt and use it, is still in its infancy, there is an increasing amount of interest in blockchain technology and applications (Schlecht et al., 2021). In this study, we analyze the role of social trust beliefs from the user/consumer perspective, and we conduct acceptance research which goes beyond conventional acceptance theories (Scekic et al., 2018; Schlecht et al., 2021). This study refers to Task-technology fit (TTF) as the intensity with which the blockchain technology suits the crowdfunding task and meets its requirements (Liang et al., 2021). The critical attributes of social value benefits which are parameters of quality within the dataset are speed, efficiency and cost (Candi & Kahn, 2016). An organization can achieve functional benefits to improve quality of the datasets through efficiency, proficiency and productivity through IT adoption (Barney, 2001). Rather than evaluating general online consumer purchase intentions, most studies have only used the TTF model to analyze IT usage among particular users or workers. By applying the TTF in this study, we are able to gain a deeper understanding of the human-technology interaction towards the social value creation throughout the BC adoption (Wu et al., 2017; Pinno et al., 2017; Grover et al., 2019). Therefore, this assumption leads to the formation of the third hypothesis of;

H3: Task-technology fit is positively related to social value creation beliefs

3.4 Resource based view on Social value creation beliefs towards Blockchain adoption

Both academia and business are paying close attention to the value generating potential of blockchain technology (Abdollahi et al., 2022). Social influence comes in many different forms, including family influence (Rana et al., 2017). There are several contacts between the worker, his or her internal coworkers, and (external) supply chain participants as a result of the SCM context. The way a person interacts with the SCM could affect how they view the technical setup of the company. Furthermore, the performance expectations for blockchain in SCM will be directly impacted by societal influence. According to blockchain literature, blockchain will increase process efficiency and worker productivity (Kshetri, 2018). Social influence through social value creation comes in many different forms, including family influence (Rana et al., 2017). There are several contacts between the worker, his or her internal coworkers, and (external) supply chain participants as a result of the SCM (supply chain management) context within the BC adoption. The way a person interacts with the SCM could affect how they view the technical setup of the company. Furthermore, the performance expectations for blockchain in SCM will be directly impacted by societal influence. According to blockchain literature, blockchain will increase process efficiency and worker productivity (Kshetri, 2018). Therefore, this assumption leads to the formation of the third hypothesis of;

H4: Social value creation beliefs are positively related to Blockchain adoption

3.5 Resource based view on Knowledge based trust towards blockchain adoption

An organization derives value by using information communication technologies (ICT) and organizational resources, giving it a competitive edge over its competitors through locability of data (Chau et al., 2007). These values generated through ICT usage are categorised into knowledge level trust and social trust which is based on the relationships (Wu et al., 2017; Pinno et al., 2017; Grover et al., 2019). Researchers have suggested numerous conceptualizations of trust in diverse situations and acknowledged trust as a factor in the diffusion, adoption, and acceptance of technology. In this study, we claim that practically every aspect of confidence in a technology described by information systems scholars is manifested in Bitcoin's blockchain technology (Abdollah et al., 2021). Moreover, few studies have examined the relationship between trust and user acceptance for BC adoption using technology acceptance models (Liu & Ye, 2021; Kowalski et al., 2021). The role of trust in crowdfunding platforms has promoted fundraising performance as it helps to reduce uncertainties and complexities caused by economic transactions (Moysidou & Hausberg, 2020). As against traditional crowdfunding platforms that collect and distribute the funds to campaign runners, blockchain-enabled crowdfunding platforms are decentralized platforms that manage the money from the donors by giving the money to fundraisers or returning the contribution to donors (Baber, 2020). Knowledge based trust towards the BA can be oftenly seen by enabling direct transactions between users, as decentralization eliminates central power and addresses information inequality (Duan et al., 2020; Kowalski et al., 2021) . Therefore, this assumption leads to the formation of the fifth hypothesis of;

H5:Blockchain adoption on a crowdfunding platform is positively related to knowledge based trust

3.6 Resource based view on Blockchain adoption and operational performance

Financial intermediaries, bank charges, and transaction costs impede traditional crowdfunding platform operations (Nguyen et al., 2021). Special features offered by blockchain technology, such as real-time information sharing, transparency, cyber-security, traceability, reliability, and visibility, all boost an organization's performance (Aslam et al., 2021). Technology usage and trust are interrelated, and they play an essential role in affecting an organization's operational performance (Salam, 2017). Blockchain data helps to analyse faults in the system, forecast failures and predict bottlenecks in the system to fine-tune the performance of the blockchain system (Zheng et al., 2019). Two significant challenges facing crowdfunding platforms are non-regulation and fraud in campaigns that can be avoided using smart contracts in blockchain, ensuring fraud prevention and timely delivery of projects (Saadat et al., 2019). Blockchain technology helps to enhance data security, efficiency and affordability in crowdfunding platforms (Muneeza et al., 2018).

A company's operating expenses are the costs associated with running its daily operations. Therefore, they do not apply to production costs. For the industry in which the company operates, these expenses must be ordinary and customary. By offering a distributed ledger, smart contracts, and consensus mechanisms, blockchain technology ensures trusted transactions (Secinaro et al., 2021). By using code hosting services and crypto exchanges, blockchain technology allows issuers and buyers to transact directly in token sales, enhancing trust in the crowdfunding platform (Nagel & Kranz, 2020). With cross-blockchain compatibility, different blockchains can communicate without intermediaries. This means that blockchains sharing similar networks will be able to transfer value between them by enabling interoperability among different blockchains to maintain the ease in communication over another network (Wu, & Tran, 2018; Wu et al., 2017; Pinno et al., 2017). As a result, the blockchain sector is fragmented, and clients have a variety of incompatible technology options. However, because present protocols and standards do not foresee interoperability between several blockchains, functionality such as sending tokens from one participant to another and carrying out smart contracts can only be carried out within a single blockchain (Wu et al., 2017; Pinno et al., 2017). There are numerous security concerns associated with such integrated systems that prevent individuals, governments, and companies from widely adopting them within the blockchain process. Control over the devices and the data they handle is one of the main issues as more than 150,000 internet of things devices were recently penetrated, and according to investigations, access control was mostly to blame (Pinno et al., 2017). As a result, adopting access control solutions could seriously affect people's privacy and their ability to conduct business

Value transfer networks use blockchain technology to ensure trust-creating transactions in untrusted environments (Ma et al., 2020). Blockchain will enable fundraisers to raise their currency and notify everyone on the network. Fundraisers, donors, crowdfunding platforms, and banks are all involved in crowdfunding activities (Mollick, 2014). The role of the bank can be replaced by blockchain-enabled tokens. By forming digital currencies and giving cryptographic shares to early contributors, these platforms can help collect funds. Platforms may offer dividends, non-financial rewards, or interest rates. With its different features, blockchain technology provides a low-cost alternative to crowdfunding platforms for recording business activities (Schatsky & Muraskin, 2015). Blockchain-enabled crowdfunding platforms monitor fundraisers' activities to ensure trust and security (Zhao & Coffie, 2018). The crowdfunding platform's two-way communication and trust capabilities contribute to quality management, resulting in better operational performance (Behl et al., 2020). Blockchain-enabled crowdfunding platforms have transparent and trustworthy business processes, offering a competitive advantage and improved opex(Behl, Gunasekaran, et al., 2021).

There are not many research on factors that influence adoption, including simplicity of use, despite the fact that blockchain has received a lot of interest from academics and industry. The main reason to build our study based on this construct is that, according to academics, blockchain technology will lead to changes that will be driven by information and communication technology for the next generation (Kogure et al. 2017). Hence, executives in the industry, such as CEO of IBM, believe that blockchain is likely to transform trust in transactions in the same way that the Internet revolutionized communications (Grover et al., 2019). Hence the ease of use within the blockchain adoption can be explained based on the evolution of distant future distributed computing platforms such as telecommunication networks, real-time processing networks and parallel computation (Suvajdzic et al., 2022). By combining a set of private distributed ledgers with a public blockchain ledger, a validated, real-time shipment tracking system can be built which will immensely help in the logistics and distribution systems to tranfer data flow among different phases within the supply chain (Wu et al. 2017). Furthermore, ease of use within the system will focuses on the effcieint work flow, quality level of the service or the digital product, and the usefulness of BC with comparison to current technologies thereby significantly linked to usage (Davis 1989).

Based on the above discussion, we hypothesize,

H6:Blockchain adoption on a crowdfunding platform is positively related to the improved operational performance of the platform

3.7 Resource based view on Knowledge based Trust and operational performance

As a decentralized, distributed ledger, smart contracts, and consensus mechanisms, blockchain technology ensures trust in transactions (Secinaro et al., 2021). In contrast to traditional crowdfunding platforms, issuers and buyers transact directly in token sales using blockchain technology which further enhances trust in the crowdfunding platform by using code hosting services and crypto exchanges (Nagel & Kranz, 2020). Blockchain technology eliminates the need for third parties to intervene in transactions, thereby creating trust in untrusted environments (Ma et al., 2020). The crowdfunding platform should be able to create a positive relationship between partners when they see each other as credible and compassionate (Doney & Cannon, 1997). Validating transactions and information stored within the block serve as the trust element when using blockchain technology. Thus, blockchain is a centralized agent, which financial intermediaries usually provide. It can prove to be a transformative technology in financial services, eliminating the need for intermediaries (Cai, 2018). A vital attribute of blockchain technology is immutability which increases trust by using advanced algorithms (Clohessy et al., 2020). Trust is a crucial driver for adopting blockchain technology and applications (Fleischmann & Ivens, 2019). Blockchain technology is characterized by trust (highly trusted distributed network), privacy (homo-morphic encryption, zero-knowledge proof), security (multi-stage encryption), anti-tampering and anti-forging features, distributed fault tolerance and reliability (Zhu & Zhou, 2016). This technology thus proves to have great potential for crowdfunding platforms. Blockchain technology enables direct, point-to-point money transfer between users eliminating security, compliance and fund management issues.

Blockchain is extensively discussed in the literature in terms of its key characteristics with many future developments as a distributed computing platforms (McConaghy et al. 2017). One such example is the real-time shipment tracking processes which can be developed by integrating several private distributed ledgers (McConaghy et al. 2017). Hence the training timeline plays a major role with the task-technoligy fitness as the less time or lesser waiting times decides the entire efficienty within the process. During the learning process of cars which will create a blockchain network that will connect every car within the company. As a result, the cars will stay connected to each other, while also exchanging data in a dynamic environment. Since the data transfer and weights updates require high security, organisations will use Blockchain for the training. The information provided to each other car in this network will, for example, be transmitted if any of the cars in this network are involved in an accident, or if a vehicle is involved in a possible fatal breakdown, or if there are any changes in the route or signals ensuring the proper training timeline within the BC (Akash, 2022; Agrawal et al., 2022).

Technology may be used by individuals to assist them in performing their tasks. An individual's characteristics such as the ability of training, computer experience and personal motivation may affect how effectively he or she will utilize the technology (Battah et al.,2020). In the BC the identification tokens are becoming immensely popular as these identification tokens been given to each applicant. The applicant can requests a BC token which wilbe obtained after the successful authentication to the blockchain and reuqests the authorization to access a web resource (Suvajdzic et al., 2022; Davis, 1989; Goodhue & Thompson, 1995).Through the third-party web application, the blockchain issues the token and authorizes the user to access it. Simiarly, tokens (ICOs), Issuer (Legal structure) and Sales terms (Smart contract) plays a vital tole in digital blockchain access using the digital currency in which investors might neeed to know nature of the currency, whether it will be viable, and whether they will be legally protected (Cong, & He, 2019). It has been possible for users to access resources found on technologies such as digital currencies or cryptocurrencies and digital transactions by using blockchain authentication, which increases their security and verifies their identities. Hence, in the extent literature, the authorizations to access depends on several critical factors within the network such as the password fatigue, higher dependence for a single entity within the network and lack of service availability when considering the different regions. Furthermore. attacks that cause denial of service cause delays in response times and severe interruptions to centralized systems as a result of denial of service attacks which needs to be highlighted when considering the role of data-driven innovation and information quality on the adoption of blockchain technology on crowdfunding platforms (Cong, & He, 2019).

Financial intermediaries, bank charges, and transaction costs impede traditional crowdfunding platform operations (Nguyen et al., 2021). Special features offered by blockchain technology, such as real-time information sharing, transparency, cyber-security, traceability, reliability, and visibility, all boost an organization's performance (Aslam et al., 2021). Technology usage and trust are interrelated, and they play an essential role in affecting an organization’s operational performance (Salam, 2017). Blockchain data helps to analyse faults in the system, forecast failures and predict bottlenecks in the system to fine-tune the performance of the blockchain system (Zheng et al., 2019). Two significant challenges facing crowdfunding platforms are non-regulation and fraud in campaigns that can be avoided using smart contracts in blockchain, ensuring fraud prevention and timely delivery of projects (Saadat et al., 2019). Blockchain technology helps to enhance data security, efficiency and affordability in crowdfunding platforms (Muneeza et al., 2018). Due to the trust benefits obtained by using blockchain technology on crowdfunding platforms we propose,

H7:Knowledge based Trust in the blockchain-enabled crowdfunding platform is positively related to the operational performance

3.8 Moderators: Data-Driven Innovation

Several studies have used the (TTF) model as a theoretical framework to study the relationship between TTF, utilization, and perceived benefits with less focus on dataset quality within the process of blockchain implementation (Suvajdzic et al., 2022; Davis, 1989; McConaghy et al.,2017). In addition, the authors indicate that TTF is a valid tool for assessing the quality of the dataset within the blockchain, thus weighing the characteristics of each individual user more heavily (Suvajdzic et al., 2022; Davis, 1989; McConaghy et al.,2017). The adoption of blockchain technology requires alignment between what users perceive as a good fit and the functionality developers incorporate into their products in the context of a rapidly evolving technology. The exponential growth of data has given rise to the Data-Driven Innovation (DDI) approach, leading to the application of Artificial Intelligence (AI) on different tech platforms (Behl et al., 2021). Big Data Analytics (BDA) is an application of AI, which is frequently used to deal with the two characteristics of data generated, namely, variety and velocity (P. Grover et al., 2020), especially on crowdfunding platforms. BDA helps organizations gain a cutting edge over competitors and impact tech organizations' performance (Behl et al., 2019). Through AI techniques, fundraisers can attract more donors and meet their financial targets (Korzynski et al., 2021). AI-enabled tools on crowding platforms include chatbots, recommender systems, video analytics and personalized rewards (Hua & Zheng, 2019). Adopting AI tools for debt-based, reward-based, and equity-based crowdfunding platforms helps organizations keep donors engaged and obtain continuous contributions (Behl, 2020). Adopting AI technology on crowdfunding platforms can help raise funds faster and smoother (Cohen et al., 2016). Other technologies, such as blockchain, can help process multiple contracts in one instance by linking all the parties together, thereby verifying timely information by all the parties simultaneously (Zhao & Coffie, 2018). Blockchain-enabled platforms enable collaboration between partners (Dubey et al., 2020). Additionally, it also helps to match the suitable donors with the potential fundraisers, thereby boosting operational performance leading organizations to adopt Blockchain technology. With the help of a data-driven approach, organizations plan to integrate AI and blockchain technology into their daily processes to drive donors to contribute to the platforms as these technologies help reach the funding goal faster (Behl et al., 2021). The application of AI and Blockchain has helped crowdfunding platforms cut down on frauds, validate user information, and exercise control over the flow of irregular and anonymous funds (Chmait et al., 2017).

Financial intermediaries, bank charges, and transaction costs impede traditional crowdfunding platform operations (Nguyen et al., 2021). Special features offered by blockchain technology, such as real-time information sharing, transparency, cyber-security, traceability, reliability, and visibility, all boost an organization's performance (Aslam et al., 2021). Technology usage and trust are interrelated, and they play an essential role in affecting an organization's operational performance (Salam, 2017). Blockchain data helps to analyse faults in the system, forecast failures and predict bottlenecks in the system to fine-tune the performance of the blockchain system (Zheng et al., 2019). Two significant challenges facing crowdfunding platforms are non-regulation and fraud in campaigns that can be avoided using smart contracts in blockchain, ensuring fraud prevention and timely delivery of projects (Saadat et al., 2019). Blockchain technology helps to enhance data security, efficiency and affordability in crowdfunding platforms (Muneeza et al., 2018).

Based on the above discussion, we propose the following,

H8: Data-driven innovation positively moderates the relationship between (a) Functional benefits and Blockchain adoption (b) Social Value Creation Beliefs and Blockchain adoption

3.9 Moderators: Information Quality

Several concerns related to attracting funding on crowdfunding platforms include transparency, reliability and trust (Nguyen et al., 2021). Blockchain technology can help resolve this. It eliminates the dependence on traditional peer groups' beliefs while transacting on crowdfunding platforms (Muneeza et al., 2018). Smart contracts allow trusted transactions to be carried out without human intervention, thereby reducing operational costs, increasing trust and transparency, addressing the community to allocate funds to crowdfunding projects (Ma et al., 2020). Blockchain-enabled crowdfunding platforms use a distributed ledger that provides transparency, supports decentralization, security, integrity, offers a low-cost alternative for recording business activities, and supports anti-forgery features. Such crowdfunding platforms earn the donors' trust by delivering point-to-point, direct money transfers between users in their contributions. Due to the inherent characteristics of blockchain-enabled crowdfunding platforms, they can prove to be a good tool for detecting anti-money laundering (Zhu & Zhou, 2016). Third-party connections and dependencies on giant financial institutions increase the complexities involved in crowdfunding platforms, reducing operational efficiency, which blockchain adoption can avert (Nguyen et al., 2021). Quality of information exchanges in the form of communication between the participants on the platform explains the operational performance of the platform (Behl et al., 2020). Previous studies suggest that information quality plays a vital role in the success of crowdfunding platforms (Behl et al., 2020; Behl & Dutta, 2019).

Information quality (IQ) refers to the extent to which the project is readable (Zhou et al., 2018), updated frequently, provides opinions and comments on the questions about the project and supports the two-way dialogue between the participants on the platform (Liang et al., 2020). The information description on crowdfunding platforms includes text, images, and videos to describe crowdfunding platforms' projects (Xu, 2018). Like an e-commerce website that provides accurate information about the products, a crowdfunding platform must provide accurate, useful, reliable, complete, precise, secure and comprehensive information for users to make informed decisions and trust the platform (Zhang et al., 2020; Kim et al., 2008). The higher the information quality on the crowdfunding platform, the higher is the trust in the platform (Moysidou & Hausberg, 2020).

H9: Information quality positively moderates the relationship between (a) Blockchain adoption and Knowledge based Trust (b) blockchain adoption and operational performance

The operational definitions of the constructs used in the study are provided in the Appendix. Figure 1 depicts the proposed conceptual model used in the study, presenting the abovementioned relations.

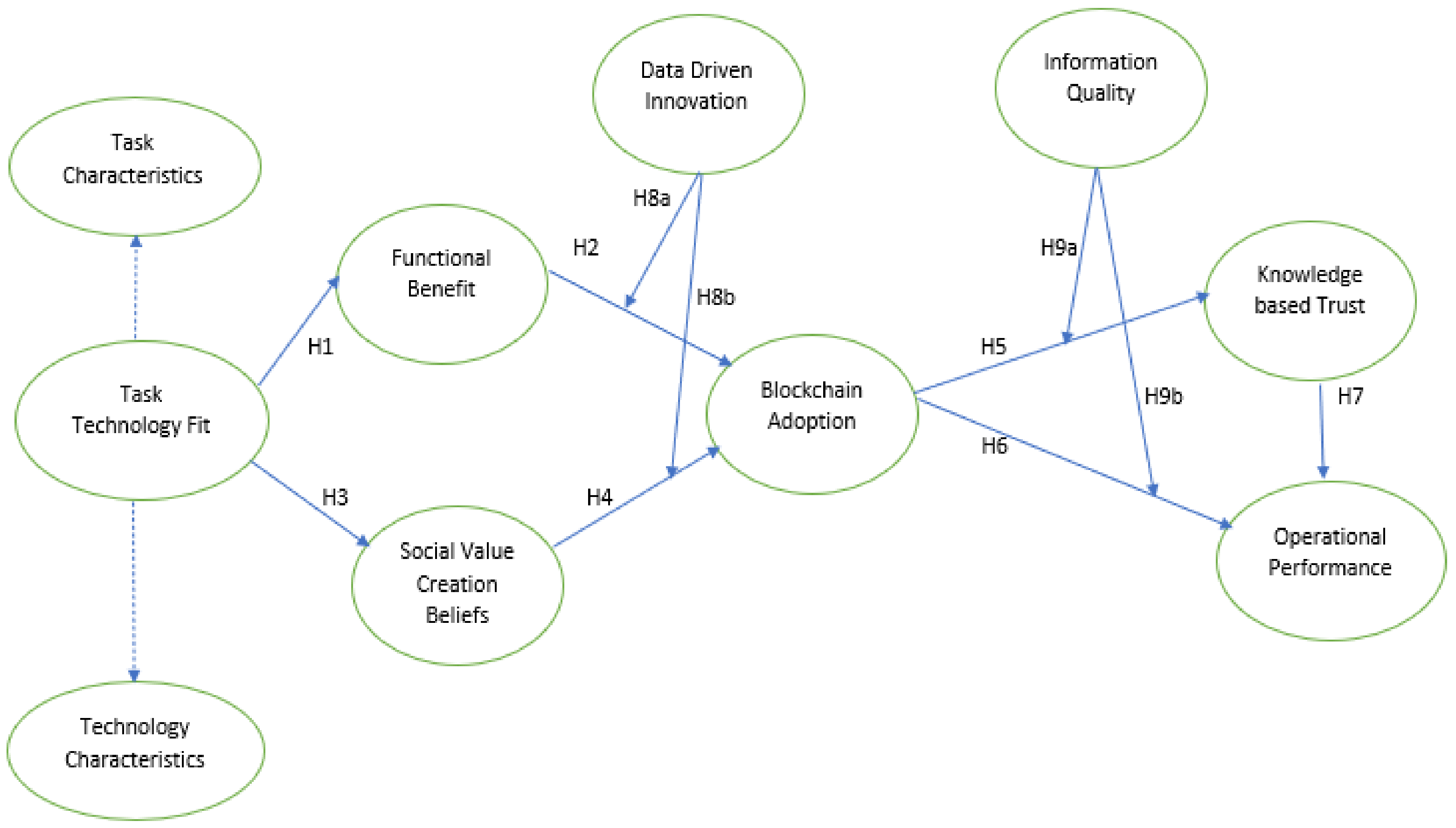

Figure 1: A proposed conceptual framework

4 Research Design

The proposed hypotheses are tested using primary data collected from the task owners of crowdfunding platforms. Due to the high net worth of the flow of the funds, we restricted the data collection only to lending based and debt-based crowdfunding platforms. In a debt-based crowdfunding platform, the funds are raised instead of the interest. Lending-based crowdfunding allows entrepreneurs to raise loans that they will pay back to lenders over a predetermined set interest rate. In both cases, the interest of an investor or project backer is driven by monetary rewards that they receive. The financial trail of the money thus becomes one of the key motivators to make the process more transparent, which would significantly contribute to improving the operational efficiency of the crowdfunding platform. We first created a list of lending based and debt-based crowdfunding platforms and collected historical data of all the completed projects. We further enquired from the platform about an overview of all the technologies that they currently use that drive their success. We also inquired about the understanding and application of blockchain technologies in crowdfunding platforms. We also followed a series of similar evidence-based inquiries from the owners of these projects. This inquiry helped us gauge the understanding and application of blockchain in fintech platforms, especially on peer-to-peer and crowd-based fundraising platforms. Our study collected data on constructs used in the model – "task technology fit", "social value creation beliefs", "functional benefits", "symbolic benefits", "blockchain adoption", "knowledge based trust", "operational performance", "information quality" and "data-driven innovation". We followed the guidelines of Ketokivi and Schoder's (2004) to collect empirical data from multiple sources of the same crowdfunding project and report their average as one data entry.

The target respondents are key stakeholders that are involved in seeking financial support from the crowdfunding platform. We used a web crawler to extract the successful crowdfunding projects in the past two years (July 2019 to June 2021). We looked at two parameters to capture the success of the crowdfunding projects: a) time taken to raise the funding as a function of total time pledged; b) extra money raised in the pledged time as a function of total money pledged. We ran this query of the 12 most prominent crowdfunding platforms that reported high success rates and are inclined towards lending and equity-based crowdfunding projects. We then contacted the key point contact of the project using an email and shared the brief outline of the study (June 2021- July 2021, a total of 4 weeks). We used a constant follow-up mechanism to reach out to as many respondents as possible. We also asked a series of questions before the actual data collection to ensure that the required respondents were genuine and were related to the projects, they sought financial support from the crowdfunding platform.

4.1 Survey Instrument – Design and usage

The survey design approach used a two-stage process starting from the operational definition of the constructs as the first step and then exploring the essential measurement items to measure the scope of the same (Dubey et al., 2020; Eckstein, 2015). We explored all the dimensions of each of the constructs by performing a systematic review of the literature and studying previous literature in crowdfunding, fintech and operations management that have used similar constructs. We developed a working definition of the constructs, then validated by experts using a Delphi approach. Delphi techniques helped us further validate our theoretical understanding of the constructs through a practical viewpoint. In translating the working definition to operational definition, we also ensured that the contextual understanding and applicability was not compromised (Dubey et al., 2019; Behl et al., 2021). We reached out to 42 experts to perform our Delphi study. The experts were selected based on one of the two criteria. First, they would have spent at least 5 years consistently raising funds through any crowdfunding platform or have been associated as a promoter to crowdfunding campaigns consistently for a minimum of 5 years. Second, we also reached out to researchers who have contributed to academia by being principal investigators of funded projects in supporting ideas through crowdfunding platforms or have been consistently publishing research papers or articles in top tier journals in the area of crowdfunding in the past 5 years.

Based on the consent received from them, 19 experts were used for our study with a mix of 7 experts from industry and 12 from academia**.** The responses to items are collected on a five-point Likert scale with responses ranging from 5 (strongly agree) to 1 (strongly disagree). Most empirical cross-sectional studies have used similar scales that ensure variability amongst responses (Salem et al., 2019; Srinivasan and Swink; 2018).

The scale is pre-tested with experts and then pilot-tested using 45 samples collected from three crowdfunding platforms based on their popularity and success rate. This was done to understand if the respondents faced any difficulty understanding and responding to the survey questions. For pre-testing, we borrowed experts from the Delphi study to share their opinion on the final questionnaire regarding its content, flow and wording. This helped ensure that the survey instrument was free from ambiguity and offered a clear and comprehensive overview of items (DeVellis, 1991). We further validated the instrument in the context of the study using

Dillman's (2011) approach. Using the opinion of the experts, we deleted some items that were either unnecessary or out of context for the study. As the last step to validate the survey instrument, we shared the final survey with 13 senior researchers who have done research in crowdfunding and allied areas to validate the overall questionnaire. This helped us in finalizing our survey instrument for the study.

4.2 Data Collection

Data collection is done using an online Google form. Responses were received between 22nd November 2022 to 25th December 2022. The respondents were contacted over an email using stratified random sampling and wherever required within the same firm using snowball sampling. A total of 1815 potential respondents were contacted over email, of which we received a total of 394 responses using multiple follow-ups and reminders. Each applicable and valid respondent was also rewarded with an Amazon voucher of INR 150 (approximately $2). To maintain anonymity, we used a disclaimer clearly stating that the data will be collected and used for academic purposes. We further validated the data by cross verifying the same from the archival data drawn from the crowdfunding platforms. A careful examination is conducted to scan the data points based on the requirements for the study. The final tally of data used for the analysis is 354, corresponding to an acceptable participation rate. If there are multiple data points from the same organization (i.e., more than one), we averaged the data and reported it as one data unit. The nature of the data is cross-sectional and may have some errors in the process of collecting data. Thus, it is critical to assess if there is a difference between the responses received by respondents and those who do not participate in the survey. The difference is checked using Armstrong and Overton's(1977) guidelines for non-response bias. We performed an Analysis of Variance (ANOVA) to test the difference between the response received from phases 1 and 2. The test results confirm that ($p = 0.304$) there is no difference between the two groups, and there is a minimal scope of non-response bias.

5 Data Analysis and Results

We use partial least square structured equation modelling (PLS-SEM) to test the hypotheses. The traditional approach of using PLS-SEM in most of the software use a factor-based method. However, its effectiveness and efficiency are often challenged. We use Warp PLS 7.0 to address the criticisms in the literature regarding the choice of the modelling approach, and we followed the guidelines of Kock (2019) that establish the rationale for using a composite based method PLS-SEM. The recent literature initiates a debate between factor-based SEM v/s composite-based SEM and their applications in management (Kock, 2019). The existing school of thought relies on the traditional SEM approach, wherein latent variables are estimated as a weighted average of indicators. This approach also excludes the measurement error while performing calculations (Kock, 2019; Henseler et al., 2014). The exclusion of measurement error in PLS-SEM modelling often leads to limited or non-capturing of certain forms of biases, which further dampens the effect reported in path coefficients in the structural model. Thus, to overcome these issues, we used the guidelines of Kock (2019) and performed hypotheses testing using Warp PLS 7.0 in the study.

5.1 Measurement Model – Checks for Reliability and Validity

We followed a two-stage approach for testing the reliability and validity of the data. The reliability is tested by checking if Cronbach's alpha value is more than 0.7 (Hair et al., 2017). We also calculated the composite value of Cronbach's alpha for the instrument and individually for each construct. We found that the range of alpha values was from 0.79-0.87, which confirmed reliability. We also performed a split-half method using a random data distribution into two buckets as confirmatory analysis. The results further validated the reliability of the instrument. Next, to test the model's validity, we also used a two-step approach suggested in the literature (Salem et l., 2019; Dubey et al., 2020; Peng and Lai, 2012). First, we used reflective constructs to examine the validity by performing the confirmatory factor analysis (CFA) (Fornell and Larcker, 1981). Table 1 reports scale composite reliability (SCR) and average variance extracted (AVE) of the data. Results assets that factor loadings are greater than 0.5, with the value of SCR more than 0.7 and the value of AVE more significant than 0.5. Thus, concerning Fornell and Larcker (1981) guidelines, we confirm that convergent validity is established at construct and indicator levels.

Table 1: Factor loadings, SCR and AVE

Constructs with Reliability Scores	Items	Factor Loading	Variance	Error	SCR	AVE
Task Technology Fit (Cronbach Alpha= 0.83)	TTF 1	0.75	0.5625	0.4375	0.85	0.59
	TTF 2	0.77	0.5929	0.4071		
	TTF 3	0.73	0.5329	0.4671		
	TTF 4	0.83	0.6889	0.3111		
Functional Benefits (Cronbach Alpha =0.73)	FB 1	0.84	0.7056	0.2944	0.84	0.58
	FB 2	0.73	0.5329	0.4671		
	FB 3	0.75	0.5625	0.4375		
	FB 4	0.71	0.5041	0.4959		
Social Value Creation Beliefs (Cronbach's Alpha = 0.79)	ETF 1	0.79	0.6241	0.3759	0.86	0.61
	ETF 2	0.82	0.6724	0.3276		
	ETF 3	0.78	0.6084	0.3916		
	ETF 4	0.72	0.5184	0.4816		
Blockchain Adoption (Cronbach's Alpha = 0.83)	BA 1	0.81	0.6561	0.3439	0.83	0.79
	BA 2	0.72	0.5184	0.4816		
	BA 3	0.84	0.7056	0.2944		
Data Driven Innovation. (Cronbach's Alpha = 0.79)	DDI 1	0.83	0.6889	0.3111	0.88	0.62
	DDI 2	0.8	0.64	0.36		
	DDI 3	0.79	0.6241	0.3759		
	DDI 4	0.73	0.5329	0.4671		
Knowledge Based Trust (Cronbach's Alpha = 0.82)	TR 1	0.78	0.6084	0.3916	0.80	0.76
	TR 2	0.76	0.5776	0.4224		
	TR 3	0.73	0.5329	0.4671		
Operational Performance (Cronbach's Alpha = 0.75)	OP 1	0.73	0.5329	0.4671	0.87	0.63
	OP 2	0.79	0.6241	0.3759		
	OP 3	0.88	0.7744	0.2256		
	OP 4	0.76	0.5776	0.4224		

Information Quality. (Cronbach's Alpha = 0.77)	IQ 1	0.73	0.5329	0.4671	0.88	0.78
	IQ 2	0.82	0.6724	0.3276		
	IQ 3	0.76	0.5776	0.4224		
	IQ 4	0.78	0.6084	0.3916		
	IQ 5	0.79	0.6241	0.3759		

We then tested for divergent validity as the second step in our structural model using the hetrotrait-monotrait ratio of correlations (HTMT test) and Fornell and Larcker's criterion. The HTMT test tests the discriminant validity between the reflective constructs. We found more than 0.85 (0.878) values, indicating sufficiency in discriminant validity for all the constructs. (Henseler et al., 2015). To establish the divergent validity, we checked the diagonal values of Table 2 and inter-item correlation. About the guidelines, we confirmed that the square root of the AVE (average variance explained) is greater than the inter-item correlation. The results help establish reliability and validity, which is often considered a prerequisite to testing the model.

Table 2: Correlation values among constructs (Measures for discriminant validity)

	TFT	SVCB	SB	BA	KBT	OP	DDI	IQ
TFT	0.83							
SVCB	0.33	0.76						
SB	0.25	0.22	0.84					
BA	0.36	0.31	0.37	0.66				
KBT	0.43	0.36	0.45	0.22	0.68			
OP	0.31	0.23	0.14	0.32	0.38	0.72		
DDI	0.21	0.25	0.26	0.20	0.39	0.35	0.83	
IQ	0.30	0.34	0.19	0.25	0.36	0.38	0.39	0.80

5.2 Common Method Bias

We collect primary empirical data for our study using a systematically designed questionnaire. Podsakoff and Organ (1986) discussed various preliminary data issues, and common method bias (CMB) is critical. Podsakoff et al. (2003) indicate that CMB is often a result of variations in responses caused by the instrument rather than the predispositions of the respondents. Various studies have claimed that it is difficult to eliminate the chances of having CMB in the data. However, its effect can be reduced by following the guidelines of Ketokivi and Schroeder (2004). We performed two tests to ensure that the data did not suffer from CMB. First, we completed the contemporary Harman's single factor test, which indicates that a single factor explains 27.47% of the overall variance. While most studies report Harman's single factor test sufficient, we further validate the same using Lindell &Whitney (2011) guidelines and performed a correlation marker technique. We picked up an unrelated variable and tested its effect in the model. We found a significantly low difference between the unadjusted and adjusted correlations scores. Referring to the guidelines of Lindell and Whitney (2001) and the results found from the statistical tests, we conclude that the study does not suffer from the problem of CMB.

Most empirical studies quote that hypothesis testing often misses the causality test as a final step. Kock's (2017) guidelines calculated the non-linear bivariate causality direction ratio (NLBCDR). The guidelines report that the acceptable value is greater than or equal to 0.7. We found the NLBCDR ratio to be 0.82, higher than the threshold value. This confirms that causality is not a critical issue in this study. The other statistical values that form the quality and model fit indices are reported in Table 3.

Table 3: Model Fit and quality indices parameters

Causality Assessment Indices	**Values (Threshold Values if any)**
Sympson's Paradox Ratio (SPR)	0.781 (Acceptable if $\geq$ 0.7)
R^2 contribution ratio	0.914 (Acceptable if $\geq$ 0.9)
Statistical Suppression Ratio (SSR)	0.783 (Acceptable if $\geq$ 0.7)
Non-linear bivariate causality direction ratio (NLBCDR)	0.811 (Acceptable if $\geq$ 0.7)

5.3 Results of Hypothesis Testing

The results of the hypotheses testing are drawn from PLS-SEM using Warp PLS. The data's parametricity was not tested as WARP PLS does not assume the data to be normally distributed. The bootstrapping method was used to estimate the standard errors (SE) and the path coefficients, represented in Table 5. The p-values for H1-H7 are significant, indicating that this study supports the constructs of both task-technology fit and resource-based view. The moderating effect of data-driven innovation on symbolic benefits and blockchain adoption is not supported by H8b (β=0.102, p>0.001). Next, we tested the moderating effect of information quality on blockchain adoption, and operational performance H9b (β=0.003, p>0.001) is insignificant.

Table 4: Convergent Validity of Constructs

Model fit and quality indices	**Values (Threshold Values if any)**
Average Path Coefficient (APC)	0.443 (p <0.001)
Average R^2	0. 765 (p <0.001)
Average block VIF	4.23 (Acceptable if value ≤ 5)
Tenenhaus GoF	0.425 (Large if value ≥ 0.36)

The model's explanatory power based on the explained variance of the endogenous constructs (R^2) was calculated. We obtained the values of 38.4% for FB, 27.6% for SB, and 58.4% for BA. We also found that the values were significantly higher for trust (49.4%) and operational performance (46.3%).

Table 5: Causality Assessment Indices

Hypothesis	**Effect of**	**Effect On**	**B**	**p-value**	**Results**
H1	TTF	FB	0.669	***	Supported
H2	FB	BA	0.795	***	Supported
H3	TTF	SVCB	0.602	***	Supported
H4	SVCB	BA	0.665	***	Supported
H5	BA	KBT	0.555	***	Supported
H6	BA	OP	0.803	***	Supported
H7	KBT	OP	0.695	***	Supported
H8a	FB X DDI	BA	0.008	*	Not Supported
H8b	SVCB X DDI	BA	0.478	***	Supported
H9a	BA X IQ	KBT	0.698	***	Supported
H9b	BA X IQ	OP	0.014	*	Not Supported

6 Discussion of the Results

This section discusses the results of the hypotheses (H1-H7) and the moderating effect of DDI (H8a, H8b) on FB, SVC, KBT and OP. It further discusses the moderating effect of IQ (H9a, H9b) on BA, TR and OP. The results of the study analysis suggest that H1 is supported in the study where TTF is positively related to functional benefits. The results indicate an association between the task at hand on the crowdfunding platform and how it associates with the help the crowdfunding platform is expected to achieve by using appropriate technology, blockchain in this case. The finding of this study is in sync with blockchain adoption through supporting H1 (Liang et al., 2021).

Funcitonal benefits also impacts the adoption for blockchain technology, leading to its adoption (Lian et al., 2020). A crowdsourcing platform can benefit from blockchain technology by simplifying the trading transactions, supporting regulatory events and supporting peer-to-peer transactions between partners (Ma et al., 2020). Blockchain technology provides economic benefits of cost savings, efficiency and speed (Fleischmann & Ivens, 2019). Thereby the results further suppots H2 (Kock, 2019). The finding suggests that crowdfunding platforms need to develop strategies to promote how blockchain technology can enhance self-worth. To stay competitive, crowdfunding platforms adopt blockchain technology and differentiate themselves from their competitors, thereby pressuring competitors to embrace it (Zheng et al., 2019).

The study's findings indicate Task-technology fit are positively associated with social value creation beliefs in blockchain technology supporting H3. Blockchain technology includes functional and process-related benefits such as anonymity, automation, immutability and traceability while making donations on crowdfunding platforms (Fleischmann & Ivens, 2019). Blockchain-based systems lead to functional a nd monetary benefits; thus, most organizations adopt them (Malik et al., 2019).

This study suggests that Social value creation beliefs are positively associated with adopting blockchain technology as proposed in H4. These findings concur with Liang et al., (2021). Organizations adopt technologies to enhance their image (King & He, 2006). Crowdfunding platforms may use blockchain technology to reaffirm their social status to seem technologically savvy (Pinno et al., 2017; Grover et al., 2019). An organization derives value by using information communication technologies (ICT) and organizational resources, giving it a competitive edge over its competitors through locability of data (Chau et al., 2007). These values generated through ICT usage are categorised into functional and symbolic benefits. Locability of data indicated the sharing of the data within the blockchain networks without loosing it or without losing the proper ownerships. In addition, the decentralized nature of blockchain systems has solved numerous problems related to safety, authentication, and maintenance (Pinno et al., 2017; Grover et al., 2019).

Furthermore, blockchain adoption is positively associated with knowledge based trust in the crowdfunding platform supporting H5. Blockchains is a technique that offers one version of the truth to build trust for completing transactions that are transparent, secure and traceable (Schuetz & Venkatesh, 2020). Transactions in blockchains are decentralized, and the authorized peer nodes can be used to authenticate and enrol data about new transactions, thereby enhancing trust in the transaction (Lian et al., 2020). In crowdfunding platforms adopting blockchain technology can eradicate the need for intermediaries, which enhances the trust in the platform (Duarte et al., 2018). Trustworthy crowdfunding platforms backed by blockchain technology using bitcoins have a higher probability of donors contributing to various initiatives (Cai, 2018).

The relationship between blockchain adoption and crowdfunding platform as proposed in H6 was supported in the study. Transactions on blockchain-enabled crowdfunding platforms can help manage duplicate transactions, eradicate non-regulated transactions and additional paperwork, and improve transactions (Aslam et al., 2021; Nguyen et al., 2021). Blockchain adoption on crowdfunding platforms resolves issues related to double payment, ensuring unique transactions. This technology reduces labour costs, eliminates paper documents, and improves transfer and transactions efficiency. Transactions on blockchain-enabled crowdfunding platforms facilitate the transfer, transaction, circulation of funds with the third party efficiently with low costs and no risks of a centralized failure. Blockchains enable less paperwork, thus reducing labour costs, eliminating legal risks related to funding management, and improving transactions and transfer operational efficiency (Muneeza et al., 2018).

The relationship between *knowledge based Trust in the blockchain-enabled crowdfunding platform* and the operational performance was supported as suggested in H7. *knowledge based Trust* in a crowdfunding platform ensures that the platform will not result in opportunistic behaviour. Trust contributes towards gaining a competitive advantage for crowdfunding platforms leading to improved operational performance (Behl et al., 2020; Behl et al., 2021).

Researchers further suggested that due to the rapid development of devices which uses internet excessively, it is essential to secure important data produced through blockchain networks. In the standard IoT (internet of things) -cloud-based infrastructure, crucial data was stored in a third cloud service provider and hence, the private IoT data can be revealed in this way (Memon e tal.,2020). However, blockchain storage has been considered as a distributed and decentralized storage method and further by considering the dynamic scale of interconnection, direct connectivity with several blockchain systems, and through authentication central servers can be defined in which all things and systems are forced to relay credentials.

The study findings confirm that data-driven innovation does not moderates the relationship between Functional benefits and Blockchain adoption. Data-driven innovations such as investments in big data, analytics, and artificial intelligence on crowdfunding platforms provide insights into donors' psychometrics which enables engaging them more with the right causes to fund (Sasaki, 2019). Data-driven innovations improve visibility which helps encourage faster cash flows on the platform (Sasaki, 2019). Crowdfunding platforms that have leapt in adopting blockchain technology have developed new products leading to increased profits over the competitors (Behl, Dutta, et al., 2021). Furthermore, Social Value Creation Beliefs and Blockchain adoption was indentified as a moderator. Both academia and business are paying close attention to the value generating potential of blockchain technology (Abdollahi et al., 2022). Social influence comes in many different forms, including family influence (Rana et al., 2017).

Information quality positively moderated the relationship between blockchain adoption and knowledge based trust, thus supporting H9a. The donor trusts a crowdfunding platform that is credible and compassionate. By adopting blockchain technology, crowdfunding platforms can improve the transparency in the transactions eliminating concerns related to attracting funds as it detects anomalous transactions (Nguyen et al., 2021; Zhu & Zhou, 2016). Improved information quality in terms of images, texts and videos used to describe the projects on crowdfunding platforms can attract more donors. These causes seem more authentic and complete to donors, making them donate to the causes. The results in this study did not support H9b which is blockchain adoption and operational performance. Information quality did not positively moderate the relationship between blockchain adoption and operational performance. The operational performance of the tasks on a blockchain-enabled crowdfunding platform can be explained by how the platform can offer quality information to donors. The finding of this study contradicts Behl et al., (2020).

6.1 Theoretical Implications

This study contrbutes the exsisiting literature throught two ways. Firstly, when considering the theoratical contribtution towards TTF, this study validates that TTF based variables indicating qality of the dataset, locatability of data, authorizations to access, compatibility, ease of use and training timelines affect towards BC adoption. Blockchain technology's functional and symbolic benefits, such as improved data storage, reduced operational costs, safety and transparency in operations, lead to blockchain adoption on crowdfunding platforms. These findings align with Nguyen et al. (2021) and Zhu & Zhou (2016). It illustrates that the adoption of blockchain can be desirable and lead to a positive performance impact on crowdfunding platforms.

Secondly, we also sought to explore the influence of RBV theory on the relation between blockchain adoption on opex and operational performance in crowdfunding platforms. There are very few studies in the literature that have addressed crowdfunding platforms. Most studies have focussed on blockchain adoption in the supply chain context (Aslam et al., 2021; Dubey et al., 2020; Nandi et al., 2020; Wamba et al., 2020). When consdeirng the moderating effect of DDI and information quality adds to a unique dimension previously not examined in the blockchain-enabled crowdfunding platforms which is in line with the procedent of studies of (Behl et al., 2020; Behl et al., 2021). Overall, findings from this study empirically prove that DDI moderates the relationship between functional benefits/ information quality and blockchain adoption. The results also demonstrate how information quality enhances trust on blockchain-enabled crowdfunding platforms.Moreover, the moderating effect of DDI and information quality adds to a unique dimension previously not examined in the blockchain-enabled crowdfunding platforms.

6.2 Practical Implications

This study examines how blockchain-enabled crowdfunding platforms can enhance donors' trust in making donations and improve the overall performance of crowdfunding platforms. Due to the functional benefits obtained by blockchain technology, crowdfunding platforms should adopt it which is in line with the former findings of the study by Behl et al., (2020). Similarly, as competing crowdfunding platforms invest in blockchain technology, other crowdfunding platforms will be forced to follow suit in order to attract, retain, and grow donors (Ahluwalia et al., 2020; Behl et al., 2021). As a major practical contribution, it can be stated that with crowdfunding platforms drawing their attention to blockchain technologies understanding what makes them adopt it is imperative, especially with the lens of technology fit and resource-based view. Furthermore, this study offers critical insights into a crowdfunding platform in understanding how adopting blockchain technology on the platform can lead to improved data-driven innovation and information quality on the adoption of blockchain technology on crowdfunding platforms which supports required policy makers to decide on which technological insights to adopt when desining blokchain based platforms.

7. Conclusion, Limitations and Future Scope of the Study

The study uniquely positions itself by studying the antecedents of blockchain adoption from the lens of TTF theory and extends the post-adoption phase of blockchain to explain improvements in trust and operational performance using resource-based view theory. The study also adds a layer of DDI and information quality, both of which hold a crucial role in explaining blockchain adoption and improving crowdfunding platforms' trust and operational efficiency. The study offers two counter-intuitive arguments as the moderating effect of DDI on the relationship between symbolic benefits and blockchain adoption and information quality's moderating relationship to explain the adoption of blockchain technology and its impact on the operational performance of crowdfunding platforms. The study offers critical insights into linking TTF theoretical lens with RBV theory. Thus, with a growing degree of innovation and fundraising is a critical aspect, it is important to implement the right technology that helps achieve trust and transparency in the flow of funds and adds to the functional and symbolic benefits of blockchain technology adoption.

The study lacks filtering the crowdfunding platforms based on the nature of their primary business-like debt-based, equity-based or reward-based crowdfunding platforms. While most crowdfunding platforms offer one or more types of crowdfunding campaigns, it is difficult to generalize the results for all the platforms, which is another limitation of the study. Lastly, as the study uses primary data, the study will face issues like self-reporting bias, non-response bias, and even reputational bias, which is difficult to ignore or even rectify. Thus, the study suffers from the issue of cross-sectional data, which can be resolved by collecting panel data going forward. The study can be further improved by specifying and controlling the time and experience of using blockchain technology on their platform. A case-based approach to understanding the pre- and post-adoption process of blockchain technology needs to be carried out in the future.

Appendix A

Construct	Operational Definition	Reference
Task-Technology Fit (TTF)	TTF refers to the fit between the tasks to be carried out on a crowdfunding platform and the role of blockchain technology in achieving them	(T.-P. Liang et al., 2021; McGill & Klobas, 2009)
Functional Benefits	The functional benefits of blockchain technology on crowdfunding platforms refer to meeting technology-related benefits such as transparency, anonymity, traceability, security, efficiency and speed	(Fleischmann & Ivens, 2019; Liang et al., 2021)
Social Value Creation Benefit	The social vaue creation beliefs relate to the characteristics social value is derived by resolving social problems obtained by using blockchain technology on crowdfunding platforms	(Meynhardt et al. 2017, 2018)
Blockchain adoption	Blockchain adoption refers to the use of blockchain technology on the crowdfunding platform due to the technological and organizational perception	(Fosso Wamba & Guthrie, 2020; Queiroz & Fosso Wamba, 2019)
Knowledge based Trust	knowledge-based trust is the idea that an algorithm can establish the level of trust a blockchain platform deserves based on its accuracy on the crowdfunding platform	(Hawlitschek et al., 2018)
Operational Performance	Operational performance is how the crowdfunding platform experiences cost, delivery speed, quality, and flexibility by using blockchain technology.	(Kim, 2014; Kim & Shin, 2019)
Data-driven Innovation	Data-driven innovation refers ot the use of advanced techniques such as blockchain, AI, analytics on crowdfunding platforms	(Sultana et al., 2022)
Information Quality	Information quality refers to the extent to which crowdfunding platform provides readable, updated opinions and comments, questions about the project on them	(Behl & Dutta, 2019, 2020)

References

Ahluwalia, S., Mahto, R. V, & Guerrero, M. (2020). Blockchain technology and startup financing: A transaction cost economics perspective. *Technological Forecasting and Social Change*, *151*, 119854.

Akter, S., McCarthy, G., Sajib, S., Michael, K., Dwivedi, Y. K., D'Ambra, J., & Shen, K. N. (2021). Algorithmic bias in data-driven innovation in the age of AI. In *International Journal of Information Management* (Vol. 60, p. 102387). Elsevier.

Akter, S., Michael, K., Uddin, M. R., McCarthy, G., & Rahman, M. (2020). Transforming business using digital innovations: The application of AI, blockchain, cloud and data analytics. *Annals of Operations Research*, 1–33.

Abdollahi, A., Sadeghvaziri, F., & Rejeb, A. (2022). Exploring the role of blockchain technology in value creation: a multiple case study approach. *Quality & Quantity*, 1-25.

Abdollahi, A., Sadeghvaziri, F., & Rejeb, A. (2022). Exploring the role of blockchain technology in value creation: a multiple case study approach. *Quality & Quantity*, 1-25.

Aslam, J., Saleem, A., Khan, N. T., & Kim, Y. B. (2021). Factors influencing blockchain adoption in supply chain management practices: A study based on the oil industry. *Journal of Innovation & Knowledge*, *6*(2), 124–134.

Aydiner, A. S., Tatoglu, E., Bayraktar, E., & Zaim, S. (2019). Information system capabilities and firm performance: Opening the black box through decision-making performance and business-process performance. *International Journal of Information Management*, *47*, 168–182.

Agrawal, D., Bansal, R., Fernandez, T. F., & Tyagi, A. K. (2022, March). Blockchain Integrated Machine Learning for Training Autonomous Cars. In *Hybrid Intelligent Systems: 21st International Conference on Hybrid Intelligent Systems (HIS 2021), December 14–16, 2021* (pp. 27-37). Cham: Springer International Publishing.

Akash, R. (2022). Blockchain for mobile cellular networks: Recent advances and future use. *IJEM*, *2*(2), 01-07.

Baber, H. (2020). Blockchain-based crowdfunding. In *Blockchain Technology for Industry 4.0* (pp. 117–130). Springer.

Battah, A. A., Madine, M. M., Alzaabi, H., Yaqoob, I., Salah, K., & Jayaraman, R. (2020). Blockchain-based multi-party authorization for accessing IPFS encrypted data. *IEEE Access*, *8*, 196813-196825.

Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management*, *27*(6), 643–650.

Behl, A. (2020). Antecedents to firm performance and competitiveness using the lens of big data analytics: a cross-cultural study. *Management Decision*.

Behl, A., & Dutta, P. (2019). Social and financial aid for disaster relief operations using CSR and crowdfunding: Moderating effect of information quality. *Benchmarking: An International Journal*.

Behl, A., & Dutta, P. (2020). Engaging donors on crowdfunding platform in disaster relief operations (DRO) using gamification: a civic voluntary model (CVM) approach. *International Journal of Information Management*, *54*, 102140.

Behl, A., Dutta, P., Lessmann, S., Dwivedi, Y. K., & Kar, S. (2019). A conceptual framework for the adoption of big data analytics by e-commerce startups: a case-based approach. *Information Systems and E-Business Management*, *17*(2), 285–318.

Behl, A., Dutta, P., Luo, Z., & Sheorey, P. (2021). Enabling artificial intelligence on a donation-based crowdfunding platform: a theoretical approach. *Annals of Operations Research*, 1–29.

Behl, A., Dutta, P., Sheorey, P., & Singh, R. K. (2020). Examining the role of dialogic communication and trust in donation-based crowdfunding tasks using information quality perspective. *The TQM Journal*.

Behl, A., Gunasekaran, A., Singh, R., & Kamble, S. (2021). *Guest Editorial: Application of blockchain technologies for global operations*.

Bjørnstad, M. V., Krogh, S., & Harkestad, J. G. (2017). *A study on blockchain technology as a resource for competitive advantage*. NTNU.

Cai, C. W. (2018). Disruption of financial intermediation by FinTech: a review on crowdfunding and blockchain. *Accounting & Finance*, *58*(4), 965–992.

Cakmak, N., & Basoglu, N. (2012). An investigation of factors that influence user intention to use location based mobile applications. *2012 Proceedings of PICMET'12: Technology Management for Emerging Technologies*, 276–285.

Candi, M., & Kahn, K. B. (2016). Functional, emotional, and social benefits of new B2B services. *Industrial Marketing Management*, *57*, 177–184.

Centobelli, P., Cerchione, R., Del Vecchio, P., Oropallo, E., & Secundo, G. (2021). Blockchain technology for bridging trust, traceability and transparency in circular supply chain. *Information & Management*, 103508.

Chang, V., Baudier, P., Zhang, H., Xu, Q., Zhang, J., & Arami, M. (2020). How Blockchain can impact financial services–The overview, challenges and recommendations from expert interviewees. *Technological Forecasting and Social Change*, *158*, 120166.

Chau, P. Y. K., Kuan, K. K. Y., & Liang, T.-P. (2007). Research on IT value: what we have done in Asia and Europe. In *European Journal of Information Systems* (Vol. 16, Issue 3, pp. 196–201). Springer.

Chmait, N., Dowe, D. L., Li, Y.-F., & Green, D. G. (2017). An information-theoretic predictive model for the accuracy of AI agents adapted from psychometrics. *International Conference on Artificial General Intelligence*, 225–236.

Cho, S., Lee, K., Cheong, A., No, W. G., & Vasarhelyi, M. A. (2021). Chain of values: Examining the economic impacts of blockchain on the value-added tax system. *Journal of Management Information Systems*, *38*(2), 288–313.

Clohessy, T., Treiblmaier, H., Acton, T., & Rogers, N. (2020). Antecedents of blockchain adoption: An integrative framework. *Strategic Change*, *29*(5), 501–515.

Cohen, M. C., Lobel, R., & Perakis, G. (2016). The impact of demand uncertainty on consumer subsidies for green technology adoption. *Management Science*, *62*(5), 1235–1258.

Cong, L. W., & He, Z. (2019). Blockchain disruption and smart contracts. *The Review of Financial Studies*, *32*(5), 1754-1797.

Daim, T., Lai, K. K., Yalcin, H., Alsoubie, F., & Kumar, V. (2020). Forecasting technological positioning through technology knowledge redundancy: Patent citation analysis of IoT, cybersecurity, and Blockchain. *Technological Forecasting and Social Change*, *161*, 120329.

Doney, P. M., & Cannon, J. P. (1997). An examination of the nature of trust in buyer–seller relationships. *Journal of Marketing*, *61*(2), 35–51.

Duarte, P., e Silva, S. C., & Ferreira, M. B. (2018). How convenient is it? Delivering online shopping convenience to enhance customer satisfaction and encourage e-WOM. *Journal of Retailing and Consumer Services*, *44*, 161–169.

Davis, F. D. 1989. "Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology." *MIS Quarterly* 13 (3): 319–340.

Duan, J., Zhang, C., Gong, Y., Brown, S., & Li, Z. (2020). A content-analysis based literature review in blockchain adoption within food supply chain. *International journal of environmental research and public health*, *17*(5), 1784.

Dubey, R., Bryde, D. J., Foropon, C., Tiwari, M., Dwivedi, Y., & Schiffling, S. (2021). An investigation of information alignment and collaboration as complements to supply chain agility in humanitarian supply chain. *International Journal of Production Research*, *59*(5), 1586–1605.

Dubey, R., Gunasekaran, A., Bryde, D. J., Dwivedi, Y. K., & Papadopoulos, T. (2020). Blockchain technology for enhancing swift-trust, collaboration and resilience within a humanitarian supply chain setting. *International Journal of Production Research*, *58*(11), 3381–3398.

Dubey, R., Gunasekaran, A., Childe, S. J., Blome, C., & Papadopoulos, T. (2019). Big data and predictive analytics and manufacturing performance: integrating institutional theory, resource-based view and big data culture. *British Journal of Management*, *30*(2), 341–361.

Fawcett, S. E., Wallin, C., Allred, C., Fawcett, A. M., & Magnan, G. M. (2011). Information technology as an enabler of supply chain collaboration: a dynamic-capabilities perspective. *Journal of Supply Chain Management*, *47*(1), 38–59.

Fisch, C. (2019). Initial coin offerings (ICOs) to finance new ventures. *Journal of Business Venturing*, *34*(1), 1–22.

Fleischmann, M., & Ivens, B. (2019). Exploring the role of trust in blockchain adoption: an inductive approach. *Proceedings of the 52nd Hawaii International Conference on System Sciences*.

Fosso Wamba, S., & Guthrie, C. (2020). The impact of blockchain adoption on competitive performance: the mediating role of process and relational innovation. *Logistique & Management*, *28*(1), 88–96.

Garg, P., Gupta, B., Chauhan, A. K., Sivarajah, U., Gupta, S., & Modgil, S. (2021). Measuring the perceived benefits of implementing blockchain technology in the banking sector. *Technological Forecasting and Social Change*, *163*, 120407.

Grover, P., Kar, A. K., Janssen, M., & Ilavarasan, P. V. (2019). Perceived usefulness, ease of use and user acceptance of blockchain technology for digital transactions–insights from user-generated content on Twitter. *Enterprise Information Systems*, *13*(6), 771-800.

Goodhue, D L, & Thompson, R. L. (1995). *Task-technology fit and individual performance. MIS Q. 19, 213 (1995).*

Goodhue, Dale L. (1995). Understanding user evaluations of information systems. *Management Science*, *41*(12), 1827–1844.

Graeff, T. R. (1996). Using promotional messages to manage the effects of brand and self-image on brand evaluations. *Journal of Consumer Marketing*, *13*(3), 4–18. https://doi.org/10.1108/07363769610118921

Grant, R. M. (1991). The resource-based theory of competitive advantage: implications for strategy formulation. *California Management Review*, *33*(3), 114–135.

Grover, P., Kar, A. K., & Dwivedi, Y. K. (2020). Understanding artificial intelligence adoption in operations management: insights from the review of academic literature and social media discussions. *Annals of Operations Research*, 1–37.

Grover, V., Chiang, R. H. L., Liang, T.-P., & Zhang, D. (2018). Creating strategic business value from big data analytics: A research framework. *Journal of Management Information Systems*, *35*(2), 388–423.

Hawlitschek, F., Notheisen, B., & Teubner, T. (2018). The limits of trust-free systems: A literature review on blockchain technology and trust in the sharing economy. *Electronic Commerce Research and Applications*, *29*, 50–63.

Hua, X., & Zheng, Y. (2019). *Financial technologies: Artificial intelligence, blockchain, and crowdfunding*. Emerald Publishing Limited London.

Kang, M., & Shin, D.-H. (2016). The effect of customers' perceived benefits on virtual brand community loyalty. *Online Information Review*.

Karsh, B.-T., Escoto, K. H., Beasley, J. W., & Holden, R. J. (2006). Toward a theoretical approach to medical error reporting system research and design. *Applied Ergonomics*, *37*(3), 283–295.

Keller, K. L. (1993). Conceptualizing, measuring, and managing customer-based brand equity. *Journal of Marketing*, *57*(1), 1–22.

Kim, D.-Y. (2014). Understanding supplier structural embeddedness: A social network perspective. *Journal of Operations Management*, *32*(5), 219–231.

Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems*, *44*(2), 544–564.

Kim, J.-S., & Shin, N. (2019). The impact of blockchain technology application on supply chain partnership and performance. *Sustainability*, *11*(21), 6181.

King, W. R., & He, J. (2006). A meta-analysis of the technology acceptance model. *Information & Management*, *43*(6), 740–755.

Kodzilla. (2022). *Top 10 Platforms for Crowdfunding in Crypto*. BitKE. https://bitcoinke.io/2022/04/top-10-platforms-for-crowdfunding-in-crypto/

Korzynski, P., Haenlein, M., & Rautiainen, M. (2021). Impression management techniques in crowdfunding: An analysis of Kickstarter videos using artificial intelligence. *European Management Journal*.

Kshetri, N. (2018) '1 Blockchain's roles in meeting key supply chain management objectives', International Journal of Information Management. Elsevier, 39(June 2017), pp.80–89.

Kowalski, M., Lee, Z. W., & Chan, T. K. (2021). Blockchain technology and trust relationships in trade finance. *Technological Forecasting and Social Change*, *166*, 120641.

Kumar, V., Ramachandran, D., & Kumar, B. (2021). Influence of new-age technologies on marketing: A research agenda. *Journal of Business Research*, *125*, 864–877.

Lian, J.-W., Chen, C.-T., Shen, L.-F., & Chen, H.-M. (2020). Understanding user acceptance of blockchain-based smart locker. *The Electronic Library*.

Liang, T.-P., Kohli, R., Huang, H.-C., & Li, Z.-L. (2021). What Drives the Adoption of the Blockchain Technology? A Fit-Viability Perspective. *Journal of Management Information Systems*, *38*(2), 314–337.

Liang, X., Hu, X., & Jiang, J. (2020). Research on the effects of information description on crowdfunding success within a sustainable economy—the perspective of information communication. *Sustainability*, *12*(2), 650.

Lu, L., Liang, C., Gu, D., Ma, Y., Xie, Y., & Zhao, S. (2021). What advantages of blockchain affect its adoption in the elderly care industry? A study based on the technology–organisation–environment framework. *Technology in Society*, *67*, 101786. https://doi.org/https://doi.org/10.1016/j.techsoc.2021.101786

Liu, N., & Ye, Z. (2021). Empirical research on the blockchain adoption–based on TAM. *Applied Economics*, *53*(37), 4263-4275.

Ma, Y., Sun, Y., Lei, Y., Qin, N., & Lu, J. (2020). A survey of blockchain technology on security, privacy, and trust in crowdsourcing services. *World Wide Web*, *23*(1), 393–419.

Malik, G., Parasrampuria, K., Reddy, S. P., & Shah, S. (2019). Blockchain based identity verification model. *2019 International Conference on Vision Towards Emerging Trends in Communication and Networking (ViTECoN)*, 1–6.

McGill, T. J., & Klobas, J. E. (2009). A task–technology fit view of learning management system impact. *Computers & Education*, *52*(2), 496–508.

Moysidou, K., & Hausberg, J. P. (2020). In crowdfunding we trust: A trust-building model in lending crowdfunding. *Journal of Small Business Management*, *58*(3), 511–543.

Mukkamala, R. R., Vatrapu, R., Ray, P. K., Sengupta, G., & Halder, S. (2018). Blockchain for social business: Principles and applications. *IEEE Engineering Management Review*, *46*(4), 94–99.

Memon, R. A., Li, J. P., Ahmed, J., Nazeer, M. I., Ismail, M., & Ali, K. (2020). Cloud-based vs. blockchain-based IoT: a comparative survey and way forward. *Frontiers of Information Technology & Electronic Engineering*, *21*(4), 563-586.

McConaghy, M., G. McMullen, G. Parry, T. McConaghy, and D. Holtzman. 2017. “Visibility and Digital Art: Blockchain as an Ownership Layer on the Internet.” *Strategic Change 26* (5): 461–470

Muneeza, A., Arshad, N. A., & Arifin, A. T. (2018). The application of blockchain technology in crowdfunding: towards financial inclusion via technology. *International Journal of Management and Applied Research*, *5*(2), 82–98.

Nagel, E., & Kranz, J. (2020). *Exploring Technological Artefacts at the'Trust Frontier'of Blockchain Token Sales*.

Nandi, M. L., Nandi, S., Moya, H., & Kaynak, H. (2020). Blockchain technology-enabled supply chain systems and supply chain performance: a resource-based view. *Supply Chain Management: An International Journal*.

Nandi, S., Sarkis, J., Hervani, A., & Helms, M. (2020). Do blockchain and circular economy practices improve post COVID-19 supply chains? A resource-based and resource dependence perspective. *Industrial Management & Data Systems*.

Nguyen, L. T. Q., Hoang, T. G., Do, L. H., Ngo, X. T., Nguyen, P. H. T., Nguyen, G. D. L., & Nguyen, G. N. T. (2021). The role of blockchain technology-based social crowdfunding in advancing social value creation. *Technological Forecasting and Social Change*, *170*, 120898.

Oliveira, T., & Martins, M. F. (2010). Understanding e-business adoption across industries in European countries. *Industrial Management & Data Systems*.

Pinno, O. J. A., Gregio, A. R. A., & De Bona, L. C. (2017, December). Controlchain: Blockchain as a central enabler for access control authorizations in the iot. In *GLOBECOM 2017-2017 IEEE Global Communications Conference* (pp. 1-6). IEEE.

Priem, R. L., & Butler, J. E. (2001). Is the resource-based "view" a useful perspective for strategic management research? *Academy of Management Review*, *26*(1), 22–40.

Queiroz, M. M., & Fosso Wamba, S. (2019). Blockchain adoption challenges in supply chain: An empirical investigation of the main drivers in India and the USA. *International Journal of Information Management*, *46*, 70–82. https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2018.11.021

Reddick, C. G., Cid, G. P., & Ganapati, S. (2019). Determinants of blockchain adoption in the public sector: An empirical examination. *Information Polity*, *24*, 379–396. https://doi.org/10.3233/IP-190150

Reijers, W., & Coeckelbergh, M. (2018). The blockchain as a narrative technology:

Investigating the social ontology and normative configurations of cryptocurrencies. *Philosophy & Technology*, *31*(1), 103–130.

Rejeb, A., & Karim, R. (2019). Blockchain technology in tourism: applications and possibilities. *World Scientific News*, *137*, 119–144.

Rana, N. P. et al. (2017) 'Citizens' adoption of an electronic government system: towards a unified view', Information Systems Frontiers. Information Systems Frontiers, 19(3), pp. 549–568

Roth, T., Stohr, A., Amend, J., Fridgen, G., & Rieger, A. (2022). Blockchain as a driving force for federalism: A theory of cross-organizational task-technology fit. *International Journal of Information Management*, 102476.

Ryu, S., & Park, J. (2020). The effects of benefit-driven commitment on usage of social media for shopping and positive word-of-mouth. *Journal of Retailing and Consumer Services*, *55*, 102094.

Saadat, M. N., Halim, S. A., Osman, H., Nassr, R. M., & Zuhairi, M. F. (2019). Blockchain based crowdfunding systems. *Indonesian Journal of Electrical Engineering and Computer Science*, *15*(1), 409–413.

Salam, M. A. (2017). The mediating role of supply chain collaboration on the relationship between technology, trust and operational performance: An empirical investigation. *Benchmarking: An International Journal*.

Sasaki, S. (2019). Majority size and conformity behavior in charitable giving: Field evidence from a donation-based crowdfunding platform in Japan. *Journal of Economic Psychology*, *70*, 36–51.

Saura, J. R., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2021). From user-generated data to data-driven innovation: A research agenda to understand user privacy in digital markets. *International Journal of Information Management*, *60*, 102331. https://doi.org/https://doi.org/10.1016/j.ijinfomgt.2021.102331

Schatsky, D., & Muraskin, C. (2015). Beyond bitcoin. *Blockchain Is Coming to Disrupt Your Industry*.

Schuetz, S., & Venkatesh, V. (2020). Blockchain, adoption, and financial inclusion in India: Research opportunities. *International Journal of Information Management*, *52*, 101936.

Schuitema, G., Anable, J., Skippon, S., & Kinnear, N. (2013). The role of instrumental, hedonic and symbolic attributes in the intention to adopt electric vehicles. *Transportation Research Part A: Policy and Practice*, *48*, 39–49.

Secinaro, S., Calandra, D., & Biancone, P. (2021). Blockchain, trust, and trust accounting: can blockchain technology substitute trust created by intermediaries in trust accounting? A theoretical examination. *International Journal of Management Practice*, *14*(2), 129–145.

Seebacher, S., Schüritz, R., & Satzger, G. (2021). Towards an understanding of technology fit and appropriation in business networks: evidence from blockchain implementations. *Information Systems and E-Business Management*, *19*(1), 183–204.

Shibin, K. T., Dubey, R., Gunasekaran, A., Hazen, B., Roubaud, D., Gupta, S., & Foropon, C. (2020). Examining sustainable supply chain management of SMEs using resource based view and institutional theory. *Annals of Operations Research*, *290*(1), 301–326.

Sinha, A., Kumar, P., Rana, N. P., Islam, R., & Dwivedi, Y. K. (2019). Impact of internet of things (IoT) in disaster management: a task-technology fit perspective. *Annals of Operations Research*, *283*(1), 759–794.

Suvajdzic, M., Stojanović, D., & Kanishcheva, I. (2022). Blockchain and AI in Art: A Quick Look into Contemporary Art Industries. In *Blockchain and Applications: 3rd International Congress* (pp. 272-280). Springer International Publishing.

Sultana, S., Akter, S., & Kyriazis, E. (2022). How data-driven innovation capability is shaping the future of market agility and competitive performance? *Technological Forecasting and Social Change*, *174*, 121260. https://doi.org/https://doi.org/10.1016/j.techfore.2021.121260

Schlecht, L., Schneider, S., & Buchwald, A. (2021). The prospective value creation potential of Blockchain in business models: A delphi study. *Technological Forecasting and Social Change*, *166*, 120601.

Scekic, O., Nastic, S., & Dustdar, S. (2018). Blockchain-supported smart city platform for social value co-creation and exchange. *IEEE Internet Computing*, *23*(1), 19-28.

Syed, F. (2018). *Blockchain: waiting is not an option*. https://assets.kpmg/content/dam/kpmg/ae/pdf/Blockchain.pdf

Tan, T., & Ming, M. (2003). Leveraging on symbolic values and meanings in branding. *Journal* *of Brand Management*, *10*(3), 208–218.

Toufaily, E., Zalan, T., & Dhaou, S. Ben. (2021). A framework of blockchain technology adoption: An investigation of challenges and expected value. *Information & Management*, *58*(3), 103444. https://doi.org/https://doi.org/10.1016/j.im.2021.103444

Upadhyay, A., Ayodele, J. O., Kumar, A., & Garza-Reyes, J. A. (2021). A review of challenges and opportunities of blockchain adoption for operational excellence in the UK automotive industry. *Journal of Global Operations and Strategic Sourcing*, *14*(1), 7–60. https://doi.org/10.1108/JGOSS-05-2020-0024

Wamba, S. F., Queiroz, M. M., & Trinchera, L. (2020). Dynamics between blockchain adoption determinants and supply chain performance: An empirical investigation. *International Journal of Production Economics*, *229*, 107791.

Wang, P. (2010). Chasing the hottest IT: effects of information technology fashion on organizations. *MIS Quarterly*, 63–85.

Warrier, U., Shankar, A., & Belal, H. M. (2021). Examining the role of emotional intelligence as a moderator for virtual communication and decision making effectiveness during the COVID-19 crisis: revisiting task technology fit theory. *Annals of Operations Research*, 1–17.

Wu, H., Z. Li, B. King, Z. Ben Miled, J. Wassick, and J. Tazelaar. 2017. "A Distributed Ledger for Supply Chain Physical Distribution Visibility." *Information. 8*, (4), 130- 137

Wu, J., & Tran, N. K. (2018). Application of blockchain technology in sustainable energy systems: An overview. *Sustainability*, *10*(9), 3067.

Xu, L. Z. (2018). Will a digital camera cure your sick puppy? Modality and category effects in donation-based crowdfunding. *Telematics and Informatics*, *35*(7), 1914–1924.

Yen, K.-C., & Cheng, H.-P. (2021). Economic policy uncertainty and cryptocurrency volatility. *Finance Research Letters*, *38*, 101428.

Zhang, Y., Tan, C. D., Sun, J., & Yang, Z. (2020). Why do people patronize donation-based crowdfunding platforms? An activity perspective of critical success factors. *Computers in Human Behavior*, *112*, 106470.

Zhao, H., & Coffie, C. P. K. (2018). The applications of blockchain technology in crowdfunding contract. *Available at SSRN 3133176*.

Zheng, Z., Dai, H.-N., & Wu, J. (2019). Blockchain intelligence: When blockchain meets artificial intelligence. *ArXiv Preprint ArXiv:1912.06485*.

Zhou, M. J., Lu, B., Fan, W. P., & Wang, G. A. (2018). Project description and crowdfunding success: an exploratory study. *Information Systems Frontiers*, *20*(2), 259–274.

Zhu, H., & Zhou, Z. Z. (2016). Analysis and outlook of applications of blockchain technology to equity crowdfunding in China. *Financial Innovation*, *2*(1), 1–11.