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Management from the Nova School of Business and Economics.

Evaluating the perceptions of hoteliers' on Web3

by

Vincent Somsen

Work project carried out under the supervision of:

Prof. Sérgio Guerreiro

&

Prof. Euclides Major

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Abstract

The aim of this study was to assess hoteliers' impressions of Web3, which includes blockchain, cryptocurrencies, smart contracts, NFTs, and the metaverse. The study comprises an analysis of prior research on Web3 and its uses in the hotel industry, followed by interviews with hoteliers. The key conclusions include what hoteliers don't expect to happen because of Web3, as well as what will. resulting in suggestions for Web3 companies and other research topics.

Keywords

Hotels, Tourism, Hospitality, Web3, Cryptocurrencies, Blockchain, Smart Contracts, NFT, Metaverse & Technology.

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Table of Content

Introduction 4

Literature review..... 7

Methodology 17

Data analysis and results 19

Discussion 22

Conclusion, future research & limitation 25

References 27

Appendices 40

Introduction

This is the final individual dissertation of Vincent Somsen, a student at NOVA SBE, carried out as a Directed Research Internship (DRI) at Winding Tree. This company was the first that built Web3 solutions for the travel industry and had an initial public coin offering in 2017. The supervisor at the company is Maksim Izmaylov (CEO) and has approved this research to be carried out. The outcome of this research will provide Winding Tree a better indication of how to build its products and services for hoteliers.

Problem

Hotels have been known for many years for their lack of technology adoption, as compared to businesses in other industries. According to Leung (2019), the attitude toward new technologies does differ among stakeholders. Leung claims that hotel *owners* anticipate that the adoption of new technology would improve their hotel's reputation and brand image, which should lead to improved financial performance. Hotel *managers*, on the other hand, believe that using the new technology would enhance their operational performance, decrease burden, save labour and costs, and generate revenue. Because the sector is practical and "hands-on," invention and innovation are easily transferable and, as a result, should be quickly accepted when proven to be beneficial (Muller, 2010).

With the "Web3 industry" expected to reach \$81.5 billion in market size by Emergen Research (2022), hotels must know how what Web3 is and, more importantly, what it means for their business. Therefore, it is important to review some of the most relevant topics to the hotel sector, which can be found in App. 1.

Relevance of Web3

After reviewing the abovementioned topics in App.1, one should understand why Web3 gives us an indication that it could benefit hotels.

First, the **definition** of Web3 must be understood, which can be described along the lines of:

A blockchain-based decentralized online environment. platforms and apps created on Web3 fundamentals that will be owned by users, who will earn their ownership interest by contributing to the development and maintenance of such services (Edelman, 2021).

The paper by Bambacht and Pouwelse (2022) provides a comprehensive summary of the main motivations for the development of Web3:

There is a growing global movement in favour of a more open and decentralized internet. The privacy of online identities and data is a growing worry for people. The internet is always evolving. Web2 focused on companies that provide services in exchange for personally identifiable user information. Web3 is dedicated to user-centricity through the implementation of zero-server and decentralized systems. To enable individuals and recover authority, the contemporary digital culture needs a global transformation. For the storage of personal data and for-profit digital identity, citizens are held captive by big technology. Data security has shown to be essential, particularly in light of the rise in home internet traffic during the COVID pandemic. Restoring power to citizens and users is the overarching issue and goal of Web3.

The examples in App. 2 are practical changes on the web that Web3 features and illustrate the general shift from Web1 to Web2, and eventually to Web3 (Educative, 2022).

Goals of this research

Despite the short-lived excitements around Web3 in various industries, a complete evaluation of perceptions of Web3 by hoteliers is absent. This research paper aims to provide a clear

evaluation of the perceptions that can be used by academics, Winding Tree, or other Web3 businesses to have a better idea of what hoteliers think about Web3. The result is thought to assist Winding Tree when developing products and services for hoteliers.

Added value to the field

Much has been published on hotel technologies and their implications, like Kasavana (2011), some regarding Web3 for tourism by Albaom, et al. (2021), and Blockchain for tourism by Treiblmaier & Önder (2018). However, none of them have addressed the Web3 perceptions by specifically hoteliers. As a result, the added value of this research is to provide additional insights for that specific stakeholder in the hotel sector.

Furthermore, academic researchers Treiblmaier and Önder (2019), who examined DMO perceptions of Web3, and Abdullah et al. (2022), who examined tourist intentions to utilize Web3, strongly advocate for additional research in Web3 technologies in hospitality and therefore the hotel sector. This again justifies the researcher's study of a stakeholder in the hospitality industry: hoteliers.

Literature review

Web3 characteristics

The third generation of the Web, or Web3, is intended to provide users more control over their data without requiring them to put their trust in outside entities like Meta or Twitter, according to Wang et al. (2022). This includes authority over ownership, identities, and tokens rather than having those centralized as it did in Web1 and Web2. In Web3, developers can create blockchain-based applications and services with a focus on decentralization, which frees data from this centralized control. Web3 developers would prefer not to have to write software that executes on a single server or database to handle business logic (storing user data). Web3 apps are instead developed on distributed networks, including blockchain platforms or analogous P2P servers-hosted distributed systems (ibid).

Web3 is not completely defined by well-known applications like blockchain, cryptocurrency, or NFTs. Web3 is fundamentally based on the three characteristics of **decentralization**, **permissionless**, and **transparency**, according to Gavin Wood, the computer scientist who came up with the term (Wood, 2022). A comprehensive breakdown of these three characteristics can be found in App. 3.

Web3 applications

Now that the principles of Web3 have been outlined, it is crucial to explain how Web3 is currently used. As a reader, it might be too confusing how these principles could be carried out in actual useful applications, therefore it is vital to be aware of the full potential of the third iteration of the web.

1. Blockchain

Web3 applications are primarily supported by blockchains (Gilbert, 2022). That is why this section elaborates more on blockchains than other applications due to their significance of them. The blockchain is an immutable digital database of economic transactions that can be configured to record nearly anything of value in addition to financial transactions (Bhandarkar, 2019).

Blockchains are a type of decentralized recordkeeping that has gained popularity as a result of cryptocurrencies. In 2009, the first blockchain was launched alongside the cryptocurrency Bitcoin. Since then, blockchain technology has been used to create new cryptocurrencies as well as other applications. Blockchains are peer-to-peer networks. Nodes are computers that connect to a network. Nodes are in charge of verifying data alterations. These changes are referred to as transactions. When a transaction is verified, it is turned into a block and permanently tied to the chain's terminus (Biscontini, 2020). The validating system depends on the blockchain used and is further explained by Gan, et al. (2022) in Appendix 4. The blockchain is the collective record of all transactions. Because previous blocks on the blockchain are often unmodifiable, the blockchain itself acts as a permanent record of all information changed on a blockchain network (Biscontini, 2020).

1.1 Blockchain Advantages

Blockchains' increased security, transparency, and fast traceability are the cornerstones of their growing reputation for reliability. Beyond trust building, blockchain offers additional commercial advantages like cost savings through increased speed, efficiency, and automation. Blockchain drastically reduces errors and paperwork, as well as the requirement for intermediaries or third parties to authenticate transactions, which significantly lowers overhead and transaction costs (IBM, 2022).

1.2 Blockchain Disadvantages

The main disadvantage of (some) blockchains is firstly the high energy consumption that is generated by transactions occurring. This is due to validating the transactions and keeping a real-time ledger and therefore a single source of truth/consensus among all 'nodes' (Strebko, 2018). This makes transactions rather costly on some blockchains but ensures security and transparency as well. Secondly, certain blockchains have limited scalability. It is affected by a variety of parameters, including transaction throughput, node count, storage, block size, high connectivity, latency, cost, and the verification process. The most debated element among them is transaction throughput, which is tightly tied to the unique consensus method of a given blockchain (Khan, 2021).

1.3 Blockchain use-cases

Major organizations and companies are currently using blockchain technology in a variety of practical applications. The applications range from boosting government communications to improving manufacturing processes, supply chains, remote patient monitoring, and the issuance of digital currency. The use-cases, which can be found in App. 5, come in a variety of scopes and types of industries.

2. Smart contracts

A smart contract is an electronic transaction system that carries out the terms of a contract. The primary objectives of smart-contract design are to limit malicious and inadvertent exceptions, do away with the need for trusted intermediates, and meet standard contractual requirements (such as payment periods, liens, secrecy, and even enforcement). All of these associated economic objectives—reduced fraud loss, arbitration and enforcement costs, and other transaction costs—could be achieved (Szabo, 1994).

2.1 Smart contract use-cases

Several applications have been launched where smart contracts are used. One clear use-case is legally binding agreements. Take the State of California which allows marriage, birth, and death certificates to be issued through a smart contract and therefore be stored on a blockchain (Gemini, 2021). This would allow for not only a faster, cheaper, and more efficient distribution mechanism that saves Californians both time and money, but it is also considerably more secure because it is practically impossible to hack (Hamilton, 2022). Insurance goods are another example. Consider Arbol, a start-up that collects raw meteorological data from reliable sources, analyses it, and pays out automatically. All of this occurs via a smart contract in which the agreements between the insurer (Arbol) and farmers are written in stone. Farmers across the world can retain their livelihoods without fear of financial ruin from a single terrible weather season because they have hedged against unpredictable weather circumstances (Arbol, 2022).

3. Cryptocurrencies

A peer-to-peer digital exchange system called cryptocurrency uses encryption to create and distribute currency units (Farell, 2015). In other words, it stands for a decentralized means of exchange that carries out financial transactions using cryptographic techniques (Doran, 2015). There are now over 21.000 crypto ‘tokens’ (Coin Market Cap, 2022), which can be divided into the following categories:

The first is *Stablecoins* which are backed by traditional assets (e.g. gold or the US dollar) and those which are backed by cryptocurrencies (e.g. Bitcoin or Ether). The second is *Non-stablecoins* which cryptocurrencies, NFTs, and dApp tokens are classified under. Of these two categories, cryptocurrencies are the largest sub-category in terms of usage which can be primarily differentiated by values, transaction speeds, utility, and volatility characteristics (Makarov & Schoar, 2022).

3.1 Cryptocurrency use-cases

The two most popular cryptocurrencies are Bitcoin and Ether. A decentralized payment system called Bitcoin first surfaced in 2009. The first cryptocurrency that was not under the authority of a single entity was BTC, the native coin. Its goal is to serve as a peer-to-peer payment system with a cap of 21 million bitcoins (Nakamoto, 2009). Ether is the currency used on the Ethereum blockchain (ETH). Similar to BTC, it is fully digital and can be sent "instantly" to anyone on the planet. Additionally, no government or company has any control over the availability of ETH; it is completely decentralized and transparent (Ethereum Foundation, 2022). What value it can offer to businesses and people, though, is the actual issue. By using cryptocurrencies, they may experience lower transaction costs, increased efficiency, increased security and privacy, significant benefits from diversification, alternative finance solutions, and financial inclusion (Rejeb et al., 2021) (Bunjaku et al., 2017).

4. NFTs

Digital assets known as NFTs (non-fungible tokens) represent tangible or intangible forms of creative labor or intellectual property, such as music, digital art, games, gifs, video clips, and more. The word "nonfungible" in NFT refers to the notion that each token is a unique object representing a single distinct thing and cannot be swapped for another token. These tokens are composed of digital media (music, video, and photos) that can have a monetary value expressed in cryptocurrency. The NFTs are primarily a component of the Ethereum blockchain, but they are distinct from Ethereum currencies, which can be swapped for equivalent assets thanks to fungibility (Mani, 2021). Fungible items can be traded for other items of the same kind, including money, commodities, and common shares. Sports cards, real estate, and other non-fungible items, on the other hand, cannot be traded for equivalent goods due to their higher value than their actual material value (Ante, 2022). Since each NFT is distinct and undividable, the word "non-fungible" implies that there could possibly be an infinite variety of NFT types

(Bao & Roubaud, 2022). According to their most popular uses, Dowling (2022) puts NFTs into six main categories: art, collectibles, gaming, metaverse, other, and utility.

4.1 NFT use-cases

Digital art and collectibles may now be sold as NFTs, offering a new revenue stream for artists and creators, especially with minimal entry barriers because everything is done online from creation to sale. The artist earns a commission when his or her NFT is resold. The NFT developer can determine how high the commission should be on the platform/dapp where it is sold (e.g., OpenSea). The NFT 'Everyday: 'The First 5000 Days,' for example, was sold for \$69.3 million, the largest NFT transaction to date (Patrickson, 2021). Or consider Crypto Punks, which includes 10,000 unique digital art artifacts stored on the Ethereum blockchain (Gonserkewitz et al., 2022).

NFTs are now employed in gaming for extra perks and avatars, which are then recorded on a blockchain. These can then be resold to other players for a profit or used to start a new game with the NFTs purchased (Park et al., 2022). The obvious distinction here is that the NFT and its reward to the user do not belong to the game's author (as in Web2 games), but to the person who purchased it, although the creator may receive a commission as previously indicated.

Many projects have yet to see product-market fit due to the novelty of NFTs. As a result, many projects are only ideas that are unsure to succeed (Gonserkewitz et al., 2022).

5. Metaverse

The metaverse is a virtual world created by computers that has an independent economic system and a shared set of moral principles. It combines the suffix "verse" and the prefix "meta," which both mean transcendence (shorthand for the universe). Most people think of the metaverse as a fully immersive, extremely spatiotemporal, and self-sustaining shared virtual environment that combines the physical, human, and digital worlds (Ning et al., 2021). The metaverse is regarded

as an emerging paradigm of the next-generation internet (Web3), which comes after the web and mobile internet revolutions, in which users can live as digital natives and have an alternate existence in virtuality (Wang et al., 2022).

All of the goods you own or produce are unique and unreplicable because the metaverse is built on blockchain technology. Similar to art, blockchain technology makes sure that each digital item sold in the metaverse is unique. Additionally, cryptocurrency powers the metaverse, where everything is traded and purchased using different kinds of cryptocurrencies (Laeq, 2022).

5.1 Metaverse use-cases

The metaverse is expressed in different domains or applications.

The primary application in the metaverse is games. This is where the real world can be overlapped by the digital world where entertainment or education could be used to add value to users. Examples of these incredibly popular Web3 games are Fortnite, Roblox, and Sandbox (Dwivedi et al., 2022).

Another use of the metaverse is a representation of a business. This is where companies have a virtual office where users can interact with the brand as they would do in 'real life'. Think of brands like Nike, Louis Vuitton, Gucci, and EY that have already marked their spot in the metaverse where users can see the latest products or services in a more intuitive way they haven't experienced before (ibid).

When it comes to education, the use of the metaverse can increase educational opportunities to explore places that were previously impractical due to constraints on location, time, and money, ultimately resolving real-world issues in virtual worlds (Tlili, 2022). A better student connection, increased motivation and engagement, and the extension of traditional learning through the provision of experiences that would otherwise be unachievable are all made

possible by the metaverse's greater customization, greater creativity, and reduced risk (Erturk & Reynolds, 2020).

Current applications of Web3 in Hotels

Several projects have been launched in recent years to add value to hotels using Web3 technologies. Even though these projects have gained a lot of attention in the media, little academic research has been conducted to determine their feasibility or relevance to hotels. The following overview has been created to shed some light on the current applications.

Distribution efficiencies

Companies like Winding Tree, the current employer of the researcher, has been building Web3 solutions since 2017. The main activity is focused on disintermediating the distribution landscape of hotels, from finding suitable accommodation to the actual payment. Using Web3 technologies blockchains, smart contracts and cryptocurrencies, Winding Tree seeks to be more open, secure, fast, and cheaper than Web2 distribution platforms. The distribution landscape is currently extremely controlled by large players like Booking.com and Expedia Group and is deemed to be too expensive, controlling, and brand/price diluting for hotels. Hotels can join the decentralized marketplace and benefit from the previously mentioned advantages (Winding Tree, 2022). Decentralization of travel marketplaces has been named one of the main benefits of Web3 technologies in the hospitality industry (Treiblmaier, 2020).

Automation through smart contracts

Smart contracts are defined as having programmability and automated execution that is independent of human intervention, and they offer several benefits to hotels by lowering the effort necessary for the execution of the contract, satisfaction monitoring, reconciling billing, and settlements (Goudarzi & Martin, 2018). This can aid in the discovery of efficiency during

check-in, cleaning, or even access activities where no human intervention is required. Furthermore, a smart-contract-based system for integrated reservations and hotel services makes it easier for customers to receive all types of services safely, while also eliminating part of the intermediary commission fees (Demirel et al., 2021).

Tokenization

A token can be created on a blockchain to represent a (tradable) asset. Creating tokens is a process known as tokenization. Owners can exchange these tokens for rewards (such in travel loyalty programs) or transfer ownership of the underlying assets. A project may alternatively be funded via the creation of tokens that grant the token owner a claim on the project's income or some other advantage, like a discount on the project's products (Barkel et al., 2021). Big hotel brands like Marriott are experimenting with NFTs. They issued a collection created by digital artists and were purchased by three individuals who were awarded 200 000 points on the main loyalty program. This form of tokenization could improve their efforts in marketing, branding, and customer retention (Walia, 2022).

Furthermore, the tokenization of room nights has been claimed to be beneficiary for both accommodation providers and guests. The room nights become effectively NFTs which are tradable and offer personalization opportunities. When a guest can't stay during their originally planned dates, the NFT can be sold again which could be profited from. Additionally, the hotel can also get a limited percentage on the resell (Europe Chain, 2021).

Metaverse

Applications from the metaverse will undoubtedly become more prevalent in the hospitality sector, enhancing marketing, customer interactions, communication, customer decision-making, and visitor experiences. Therefore, hotel-metaverse experiences might be the next disruptive force in the market (Gursoy, et al., 2022). These interactions might take the form of

enhanced digital representations of buildings, services, or goods, perhaps enhancing the aforementioned customer journey components.

CitizenM, for example, has established an NFT collection to fund digital land in the Sandbox metaverse. The limited-edition of 2000 pieces will grant owners the right to real-life stays, voting rights to determine a new site for a property, and, of course, any profit from the sale of the NFT (and its rights). CitizenM will be able to buy land in the Sandbox metaverse and direct revenues to their new real-life property using the proceeds from the sale (Escobar, 2022).

Transferable reputation

Just like users can transfer their reputation, avatars, or identity to another platform in Web3, businesses will be able to do this as well. There's no need for additional permission, this process is all embedded in public code that lives on the blockchain (Bambacht & Pouwelse, 2021). Hotels and other lodging establishments can now move their online reputation to another Web3 platform after collecting a large number of customer reviews, photos, and suggestions on one platform. This is especially useful for hotels that no longer agree with the fees or policies offered by the current platform. Although this "carrying of identity" or "interoperability" is acknowledged as a key component of Web3, hotels or the intermediaries involved have yet to successfully implement it (Stelzner, 2022).

Conclusion

Many academics write about projects that use Web3 for various goals, ranging from automation to customer journeys, funding new ventures, and disintermediation. Because Web3 is rather new, there is a lack of evidence-based studies proving that the applications are perceived useful to hoteliers on the long-term. The discussed research raises intriguing new research directions.

Methodology

Research purpose

The purpose of this study is to gain a better understanding of how hoteliers view Web3. As previously said, the researcher is convinced it is essential to evaluate hoteliers' present opinions of Web3 because of its novelty and recent hypes that may have confused hoteliers as to what Web3 stands for according to academics and current use-cases in other industries.

Research questions

Understanding hoteliers' impressions of the impact of Web3 on the customer journey led to the development of the first research question. The researcher feels that comprehending this is essential to answering the primary research question and achieving the goal of the study. This choice is based on the growing popularity of the focus on customer journeys in the hotel sector. Additionally, when researching the implications of the metaverse in hospitality, academic scholars Buhalis et al. (2022) proposed studies in customer journeys as a direction for future research.

RQ1: How will Web3 technologies impact the customer journey for guests?

The second research question is designed to clarify the potential organizational effects of Web3 from the viewpoint of hoteliers. As the hotel industry is founded on legacy systems that are supposed to slow down operations, which Web3 is thought to typically fix, the researcher believes it is vital to provide a response to this question. It is essential to comprehend how hoteliers see this. Academic research by Hasan et al. (2020) also supports further investigation into the operational efficacy of Web3-based technologies.

RQ2: What operational efficiencies can Web3 bring for hotels?

Data collection

Semi-structured interviews

Using semi-structured interviews for data collection is especially applicable when gathering insights like the researcher does in this study from personal experiences, attitudes, opinions, and beliefs about the issue of interest. Semi-structured interviews can be used the researcher to get first-hand, exploratory data on a study subject or to triangulate existing data sources (Lincoln & Guba, 1985) (DeJonckheere & Vaughn, 2019).

Number of Interviews: 6

Date range: 4 November – 14 November 2022

Interviewees: Henrique Tiago de Castro (*General Manager*), Anonymous (Hotel Owner), Simone Puerto (Hotel Consultant), Luca de Giglio (Hotel Consultant), Yanki Tepe (Central Reservations Specialist) & Gonçalo Rebelo Almeida (CEO / Hotel Chain).

Population

In research, a population is a group of individuals, often known as the target population, to whom the study's findings would be extrapolated. The interviewees are described as hotel industry professionals with extensive expertise. Experts in the hotel sector, including owners, line managers, marketing managers, finance managers, general managers, consultants, and corporate directors, who work in hotels or have a close link to the sector (Garg, 2016).

Interview Questions

Please see App. 6 for the interview questions.

Sampling methods

To achieve a varied and diverse sample, a non-probability purposive sampling approach was assumed. This allowed the researcher to select interviewees with different professional

backgrounds in the hotel sector and therefore get a more holistic view on the matter at hand (Shadish et al., 2002).

Analytical framework

The analytical framework (App. 7) has been developed as a tool that is relevant to the problem studied. Treiblmaier and Önder (2019) utilized variations of this model in earlier research to examine how DMOs perceived Web3. Using the same four theories that are frequently used in the social sciences, namely Agency Theory, Transaction Cost Theory, Resource Based View of the Firm, and Actor Network Theory, we expand this model by looking at social and organizational Web3-specific themes in the hotel sector. This is the result of examining earlier studies, which suggested that this was appropriate. More particularly, it helps the researcher understand agency-related difficulties mitigation, coordination of transferred disposal rights, reciprocal contact between parties, and coordination of relational assets with other companies, all of which are supported by Leiblein (2003).

Data analysis and results

The four theories that were used to examine the data are briefly explained in the chapter that follows, and then their applicability to the hotel sector is discussed. The results are then presented, and they are enhanced by a classified table seen in the appendices where the reader may obtain appropriate examples of expert interviewees' claims. Rather than providing interpretation, which will be covered in the "discussion" part of the following chapter, the researcher describes the data collection's findings in this section.

Agency Theory

The agency theory (AT) refers primarily to describing and understanding distinctions between agents (e.g. firm management) and principles (e.g., shareholders). It was initially developed by Alchian and Demsetz (1972) and has been used to illustrate disparities in earlier studies. Past

studies, particularly the hospitality industry, have focused on the AT regarding the employee workplace by Freedman and Kosová (2010) and the distinctions between management and apartment owners by Warnken et al. (2005).

A clear differentiation within the theory is provided by the categorization of the assertions connected to AT in the table in App. 8. The interviewees primarily note that there is no need for further transparency, and one respondent even claims that they need data that is now being provided. However, one respondent believes that one of the issues that can be solved by the decentralized structure of Web3 is rate leakage. When addressing relationships between intermediaries, respondents typically state that they think Web3 will place them in a better position than they are now in. One respondent talks about the possibility of losing all of his online ratings and reputation when he leaves an OTA in addition to other reputations he built up. He ends by stating that, in his opinion, "blockchain" may resolve this. In the last category, trust, respondents note that Web3 offers more privacy and the potential to transfer the trust that OTAs presently feature to the "internet," which should lead to an increase in direct bookings.

Transaction Cost Theory

The study of a wide range of organizational and strategic issues of substantial relevance to businesses has increasingly relied on the application of transaction cost theory (TCT), particularly the version developed by Williamson (1975). This theory has previously been applied to studies in the hospitality industry to assess the outsourcing choices made by hospitality organizations (Chen and Hsieh, 2013). The researcher concludes that because Web3 technology has the potential to significantly alter transaction costs, it is also relevant to study Web3 perspectives.

The table in App. 9 was made after the findings of the interviews were analysed. Because of outdated systems and the fact that disintermediation is already occurring in Web2, interviewees state that they do not anticipate it emerging any time soon. However, Web3 is thought to have

a favorable impact on transactional costs in the hotel industry. Although one claims that there isn't a critical problem that has to be resolved, Web3 is seen as an enabler that makes systems in the industry faster, cheaper, and shorter.

Resource-Based View of the Firm

Businesses may gain a competitive advantage by utilizing internal resources that are valuable, distinctive, and built for value extraction, according to the Resource-Based View (RBV), a strategic theory. Rather of focusing on the competitive environment, organizations employ internal resources creatively to exploit external resources and build competitive advantage (Gordon, 2022). In their investigation of corporate brand and hotel performance, Silva et al. (2017) showed how well this theory also serves as a framework for issues pertaining to hotels. The researcher concludes that the study is appropriate for analyzing the data in this Web3 study. After all, Web3 technologies may provide hotels with a competitive edge.

The theory is used to classify the statements in App. 10. Before any meaningful changes in the sector can occur, the majority of interviewees noted the need for organizational education. One even said that while the technology and user interface are ready, education is still missing. The viewpoint of those who were interviewed state that with regard to internal processes there could be improvements in revenue management, supplier communication, and stock management. Another respondent claims that Web3 will cause all internal procedures to shift substantially.

Actor Network Theory

Theorists of actor-network theory believe that all networks in the natural and social worlds are always evolving. It claims that everything is connected to such ties (Murdoch, 1998). Furthermore, Jóhannesson (2005) goes into great detail about why this theory is appropriate for studying hotel-related issues due to two factors: first, it's capacity to address the relational materiality of the social world, which is inherent in the idea of translation and emphasizes the

network practices of various actors; and second, its openness to multiple relational orderings, which allows for the inclusion of a variety of spatial analyses of hotel related issues.

Another table was made that contains statements and the categories under which they fall, concluding the reporting of the data (App. 11). Starting with relationships, it is suggested that a benefit of Web3 is the potential for DMOs to evolve into DAOs. One further claims that Web3 will be able to provide the same booking experience as the existing OTAs. Regarding trust, one respondent claims that Web3 code that is open-source and automated might replace governmental entities, restoring public confidence in the government. Another respondent mentions that because blockchains are secure, security will rise. In addition, one claims that the term "cryptocurrencies" makes him think of the distant future and is worrisome. He also believes that because they are volatile, it is impossible to know how much they are worth. Finally, the metaverse is primarily brought up when one interviewee says that visitors want to see a real space and not a fake one. This brings up the topic of digital representation. Concluding by stating that digital representation in the metaverse of his hotel may be useful for brand promotion and possibly cultivating connections with potential customers.

The summarized versions of the interviews can be found in App. 12.

Discussion

Main results

The purpose of this study was to evaluate the perceptions of hoteliers on Web3. Supported by the research questions “*RQ1: How will Web3 technologies impact the customer journey for guests*” and “*RQ2: What operational efficiencies can Web3 bring for hotels?*”. The data analysis discussed in this study examines four theories and their applicability to the hotel sector. The theories are the agency theory, transaction cost theory, resource-based view of the firm, and the actor network theory.

The agency theory is used to understand the distinctions between agents and principles in the hotel industry. The study finds that there is no need for additional transparency in the industry, only one respondent believes that Web3 technology could help solve issues related to rate leakage. In terms of trust, the respondents believe that Web3 offers more privacy and could potentially transfer trust from intermediaries to the "internet," leading to an increase in direct bookings.

The transaction cost theory is used to assess the define any issues related to businesses and costs involved. The study finds that Web3 technology has the potential to significantly alter transaction costs in the hotel industry. While some respondents do not see disintermediation occurring soon, they do see Web3 as an enabler that can make systems in the industry faster, cheaper, and more efficient.

The resource-based view of the firm is used to understand how hotels can gain a competitive edge by exploiting internal resources. The study finds that Web3 technologies may provide hotels with a competitive advantage through education, supplier efficiencies and stock management.

Finally, the actor network theory is used to understand how value is created and captured in the hotel industry as everything is interconnected. The study finds that Web3 technology has the potential to significantly change the evolution of DMOs into DAOs and the potential for improved trust and security. The mention of the metaverse also raises the idea of digital representation and its potential uses for brand promotion and cultivating connections with customers.

Prior research comparison

In line with previous studies of Treiblmaier & Önder (2019), respondents mostly agreed that Web3 could impact transaction costs positively. However, contrary to the findings of that study

we did not find transparency is an important factor for hoteliers when considering Web3 technologies. In addition, Rana et al. (2022), suggests among other things that review systems will be impacted significantly. However, in line with the results of this study it can be concluded that hoteliers do not relate Web3 technologies with improved review systems. Lastly, the results show that there is a lack of knowledge of Web3 technologies. This result ties well with previous studies wherein Lustenberger et al. (2021) show that knowledge is key in the adoption rate of industry professionals.

Implications for business

This study reveals that hoteliers in Web3 believe that transparency is not a problem. It implies that companies who develop hotel solutions should either reevaluate changing their product so that transparency is not one of the key value propositions or start intensively teaching hoteliers on the importance of transparency and how it benefits their business. According to the researcher, too many Web3 businesses now list "transparency" as one of their key characteristics, even though this study demonstrates that this is not at all recommended by the data. Second, hoteliers appear to believe that Web3 can improve direct bookings by shifting OTA trust to blockchains and smart contracts. The business implication is that there appears to be proof that hoteliers are aware of the intention but lack a distinct ROI. Many hoteliers would be more likely to choose Web3 technologies, the researcher is confident, if Web3 enterprises could provide a clear anticipated ROI when specific solutions are adopted. However, there were indications from highly skilled practitioners that they do not regard Web3 as a miracle cure to their issues. The researcher acknowledges that this suggests there may be some hotelier characteristics who are less likely to adopt Web3 and possibly more technologies. The study advises careful characterization of early adopters. To avoid wasting the business's or the hotelier's time, this should be executed. When technology advances, it will be possible to

persuade late adopters that are now skeptical. The study merely makes it clear that, like with any breakthrough, not all hoteliers are content to wait for Web3 to resolve their issues. The findings also demonstrate that hoteliers do not perceive disintermediation as a clear path forward or benefit. Therefore, the study advises enterprises to construct bridges to Web2, as opposed to solely developing on Web3 and hoping hoteliers will jump over. Businesses should be aware that the hotel industry is built on legacy technology and that transitioning to peer-to-peer networks is not simple for hoteliers. Time and careful coordination with the current legacy systems will be needed to transform the sector. Finally, the findings indicate that there are large knowledge gaps between hotels' perceptions of Web3 fundamentals and what they genuinely are. This suggests to the researcher that more education is required. This can be carried out by non-profit industry players like DMOs, who have a strong preference for Web3, according to prior studies mentioned. The format can take the place in interactive Metaverse seminars with hands-on activities like creating a wallet or purchasing an NFT. The researcher is certain that when entry hurdles to Web3 are lifted, hesitant or confused hoteliers will begin to recognize its potential.

Conclusion, future research & limitation

Conclusion

The researcher found that hoteliers do not see the need for additional transparency in the industry and believe that Web3 offers more privacy and could potentially transfer trust from intermediaries to the "internet." Hoteliers also believe that Web3 has the potential to improve direct bookings and alter transaction costs in the industry. However, there is a lack of knowledge about Web3 technologies among hoteliers, and the researcher suggests that more education is needed to help hoteliers understand the potential benefits of Web3. The study also

advises companies to carefully consider the adoption profiles of Web3 technologies and to build bridges to Web2 to facilitate the transition to peer-to-peer networks.

Limitations

The first limitation of this study is that the researcher works for a Web3 company in the travel industry and could therefore be exposed to confirmation bias. Additionally, it is possible that certain hoteliers have more knowledge of Web3 than others, which might influence their perceptions. Further, the number of interviewees is limited, which might affect the validity of the findings and calls for more participants in future studies on this subject. Moreover, there is a lack of literature and models to build on, making it difficult for the researcher to draw any conclusions from established studies. Lastly, in hindsight, the interview questions could have been more catered to the two research questions rather than the theoretical models. This could have provided more significant results for the customer journey and operational efficiencies.

Future research

Several future research directions are possible. Investigating the profiles of early adopters among hotels could be one of the directions. As observed in this study, results may differ among hoteliers from various backgrounds. It may be advantageous for Web3 companies to tailor their offerings to early adopters rather than late users of the technology. This could be accomplished by quantitative research identifying demographic and psychographic variables and attempting to find a correlation of hesitant hoteliers. In addition, future study could strive to replicate our findings with a significantly bigger sample of hoteliers in order to strengthen the data. Finally, it would be useful to investigate perceptions regarding specific Web3 technologies such as metaverses or smart contracts. This could provide a more accurate view of hoteliers rather than a general perception on all Web3 technologies that were showed in this study.

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Appendices

Appendix 1: Relevant topics in the hotel sector

Rising power of intermediaries

The share of **online** revenue of the global travel and tourism market is only expected to increase the coming years, as opposed to **offline** revenue (Statista, 2022). This while there are only few leading online travel companies (Airbnb, Booking.com, Expedia and Trip.com) that truly dominate the distribution landscape (Mauricio Prieto, 2021). Although hotels have their own websites and direct channels to receive bookings on, according to the distribution, they highly rely on online travel agencies and their platform. In fact, according to HOTREC's (2020) distribution analysis, OTA market shares in the European hotel industry climbed substantially between 2013 and 2019, rising from 19.7% in 2013 to 29.9% in 2019. At the same time, the share of direct reservations in Europe has fallen by more than ten percentage points, from 57.6% in 2013 to 45.5% in 2019. Making it evident that if this trend continues, hotels might be in a position that the majority of bookings are received from these platforms.

Aside from the apparent cost disadvantages of 15-30%, there is also brand hijacking, rate parity difficulties, and inability to differentiate from other hotels through OTA's (Ling, 2015),. Nevertheless, Abdullah, et al. (2021) states with their study that, from a transaction cost perspective, the benefits of participation in OTAs outweigh the costs, resulting in substantially higher profitability. However, this finding is based on the current condition of the distribution environment, one can easily predict what will happen if the previously indicated trend of OTAs gaining an absolute majority share of overall bookings continues.

The need for digitalisation of the customer journey

Digitalization is one of the key developments in our fast-paced environment. In fact, improving the customer journey is the primary reason that hoteliers implement new technologies (Shiji Group, 2021). There are numerous digital developments in various industries that are influencing the hospitality business. Given that travel and tourism are all about combining a variety of experiences and on-site benefits, digitalization in this industry is absolutely necessary (Punzon, 2021). Hotels are picking up on this, e.g., the Portuguese hotel group Pestana does this through services like ‘online check-in’, ‘mobile room key’ and ‘online room service requests’ (Nonius Solutions, 2022). One of the reasons hotels do this as well is due to huge labour shortage and therefore digitalize certain processes. With 60% of job seekers not interested in hospitality jobs, finding talent is the new crisis (Barker, 2021). The impact of this could be reduced by implementing new technologies.

Growing data and privacy concerns

Consumers are increasingly concerned about their online data and privacy. The vast majority (66%) of internet users is worried that their identity will be stolen (Statista, 2022). And BCG states that Travel and Transport, which hotels is labelled under in their survey, is among the lowest trusted industries when it comes to data and privacy treatment (Boston Consulting Group, 2022). In addition to this, Johnson, et al. (2018), found evidence of a significant negative stock price effect from the average data breach in the hotel and restaurant industry. Their research also states that over the past years, major brands such as Marriott (in 2005, 2011 & 2022), Wyndham (in 2009 & 2010) Starwood (in 2010) have experienced huge data breaches that led to regulatory fines.

Appendix 2: Shift from Web1 to Web2 to Web3

Web1	Web2	Web3
<i>Read-only</i>	<i>Read & write</i>	<i>Read, write & own</i>
<i>Forms</i>	<i>Applications</i>	<i>Smart applications</i>
<i>Directories</i>	<i>Tagging</i>	<i>User behaviour</i>
<i>Page views</i>	<i>Cost per click</i>	<i>User engagement</i>
<i>Banner Ads</i>	<i>Interactive Ads</i>	<i>Behavioral Ads</i>

Appendix 3: Breakdown of Web3 characteristics

Decentralization

The concept of "decentralization" in the context of the World Wide Web refers to the idea that the web is governed by a large number of people. Decentralization is required to avoid a few firms and governments from gaining worldwide control of the internet and to preserve it a public resource that is healthy and accessible to all of us. Web3 developers do not create apps that run on a single server or store data in a single database. These apps are built on decentralized P2P (peer-to-peer) networks, blockchains, or a hybrid of the two (Goel, et al., 2022). With the current Web2, there is a risk of data hacking due to the concentration of user data in the hands of a select few. Additionally, it makes it simpler for governments to enforce censorship and conduct surveillance. Next to that, any data and connections are lost if any of these centralized entities goes offline. Then there are privacy issues brought on by many organizations' business strategies, which exploit the personal data we voluntarily submit to target us with advertisements (Corbyn, 2018).

Tim Berners-Lee's HTTP network architecture for the Web was intended to have a decentralized system (Ibanez, ., 2017). However, the internet has evolved into a centralized infrastructure throughout the course of its existence. The decentralized network option is gaining popularity because it emphasizes creating new protocols and supporting technologies using peer-to-peer (P2P) technology for an architecture that uses shared data layers (Alabdulwahhab, 2018). A decentralized internet would be able to provide data security resilience, providing users with incentives to collaborate and grow.

The ideal decentralized internet can now be achieved with two different types of decentralized networks (Zarrin, et al., 2021):

The first approach uses a network that is entirely decentralized and controlled by anonymous individuals (Lopez, et al., 2019). These "trust" mechanisms guarantee that controls come from each individual user rather than from a single location. However, this approach has the issue of necessitating network system uniformity. Due to the differences in operating systems and how networks are set up in the upcoming years, this could be an issue. Utilizing a fully decentralized network carries the danger of losing the benefits of Web 2.0-era internet services that were created using centralization technologies (Zarrin, et al., 2021).

Making use of a distributed network is the second kind of decentralization technique. Every participating computer is interconnected and dependent on each other thanks to the distributed network. Due to the interconnectedness of computers, centralized systems from the past could operate 'pseudo-decentralized' within the network. With its current rate of network expansion, it would be extremely difficult to turn the current Web2 internet into something completely decentralized and autonomous. However, this distributed network approach would be effective in decentralizing already-existing webs and enabling legacy centralized networks to continue to operate (ibid).

Permissionless

A network on the Web is considered permissionless if it is possible to take part in using, developing, and governing that system or infrastructure without needing approval from a higher authority, as long as you follow publicly posted guidelines (Nabben & Zargham, 2022).

With permissionless networks, people are no longer restricted to local intranets on private networks and are now free to read, write, and share digital information across interactive links without needing approval from a central authority or gatekeeper (ibid). Innovation and permissionless protocols were made possible by a culture of open-source software development, in which anybody may examine or alter the underlying codebase (Raymond, 2000).

A permissionless network's defining characteristics include full openness, open-source development, mostly anonymous users, and privacy that is constrained by available technology. And lastly, digital assets are not under the control of any authority. This differs from a permission-based network, which has highly regulated transparency, is a development by private entities, is not anonymous, and may or may not contain digital assets (Sharma, 2022).

Concluding that the permissionless Web allows any user to operate without having to ask permission from a central authority and reap the full benefits of whatever application it is using, as long as it respects the pre-programmed guidelines. These pre-programmed guidelines or rules are public and are aimed to prevent misuse of the network.

Transparency

Transparency is a key component of web3, as how we provide data influences how consumers interpret the data. As a result, Web3 users must be able to comprehend and distinguish where the data or content is coming from. To be more specific, data provenance transparency is an essential aspect in establishing trust between parties and developing good relationships with

audiences, communities, and stakeholders. Transparency ensures that every transaction on a Web3 network is accessible to all network participants and can be inspected at any moment by anybody. Because there are no secret acts or events taking place behind closed doors, true Web3 networks are extremely safe (Zypsy, 2022).

Web3 is centered on the principle of employing noncustodial/decentralized solutions, as opposed to data monopolies, where users are bound behind closed interfaces. Users will be able to access the same set of their private data from different platforms (also known as BYOD) and move it freely between storage and apps by using keys (Žavcer, 2022).

In practice, this means that whatever data you write or produce, can be taken from a Web3 'website' and plug it in another Web3 'website'. This can be done partly because of the transparent nature of data produced in Web3.

Appendix 4: Consensus methods

Comparison of Blockchain common consensus algorithms.

Algorithm	Description	Practical example	Pros	Cons
Proof-of-Work (PoW)	A random value 'Nonce' is used by miners to form the block header for resolving a mathematical problem in the hope of obtaining the block header's hash value which should not exceed the previous value or a predefined value. Thus, it is unpredictable to know who will generate the next block in the network.	Bitcoin and Ethereum	<ul style="list-style-type: none"> • Very safe as it is less prone to Sybil attacks. • 51% computing power • Miners can get Bitcoins as a reward • Prevents illegal chain fraud 	<ul style="list-style-type: none"> • High energy consumption • Driven by dedicated rewards for solving the hash, it may run into problems as the rewards diminish
Proof-of-Stake (PoS)	Blockchain adopts the randomization concept to predict the next generator in the network. The single richest person can dominate the network as that person is less likely to attack the network. The underlying idea of PoS is that it is easier to acquire computing equipment than to acquire a digital currency.	Peercoin	<ul style="list-style-type: none"> • Potentially faster than PoW protocol • Low energy consumption • Less potential for hardware centralization • Reduced possibility of a selfish mining attack 	<ul style="list-style-type: none"> • Encourages miners to stick to their stakes rather than converting them into the currency • Economic penalties for fraudulent attempts
Practical Byzantine Fault Tolerance (PBFT)	A new round block will be determined based on the following rules. The entire PBFT process is divided into three phases, which are pre-prepared, prepared, and commit. At least two nodes' vote is required in favor of a node entering the next node. The node sends a request to all other nodes in the network.	Hyperledger Fabric	<ul style="list-style-type: none"> • Fast and efficient • Handles one-third of the faulty or adversarial nodes • Small groups can keep a strong organization because trust is decoupled from resource ownership 	<ul style="list-style-type: none"> • The exact participation of groups must be approved by parties • Comes at the cost of anonymity

(Gad, et al., 2022)

Appendix 5: Blockchain use-cases

Purpose	Goal	Industry	Company	Source
Issuing digital central currency	Building fundamentals of the next generation of financial market infrastructure.	Banking	Reserve Bank of Australia	Consensys (2020)
Manufacturing optimisation	Certification of vehicle compliance at European level.	Automotive	Renault	Renault Group (2021)
Supply chain management	Automate system for managing invoices from and payments to its 70 third-party freight carriers.	Retail	Walmart	HBR (2022)
Remote patient monitoring	Enabling patients to participate in the clinical trial from home.	Healthcare	Mayo Clinic	Fox (2022)
Governmental communications	An identity blockchain network that digitizes and automates workflows enabling the secure exchange of information among the state agency and citizens.	Government	Rhode Island State	Moorhead (2022)

Appendix 6: Interview questions

Introduction

- Please introduce yourself briefly, including your organization and job title.
- How do you believe Web3 will effect the hotel industry?
- What do you believe the potentials of Web3 are for the hotel sector?
- What do you believe the challenges of Web3 are to the hotel sector?

Main questions

AT

- Web3 is intended to encourage transparency. Do you agree this will happen in the Hotel sector?
 - Explain how this may affect the relationships between the various stakeholders in the hotel sector.

TCT

- Web3 may impact the transaction costs between businesses. Do you agree with this will happen in the hotel sector? And how may this affect the hotel industry?
- Who will be the most affected?
- Is there a possibility of disintermediation?
- Which firms will profit, and which will incur any consequences?

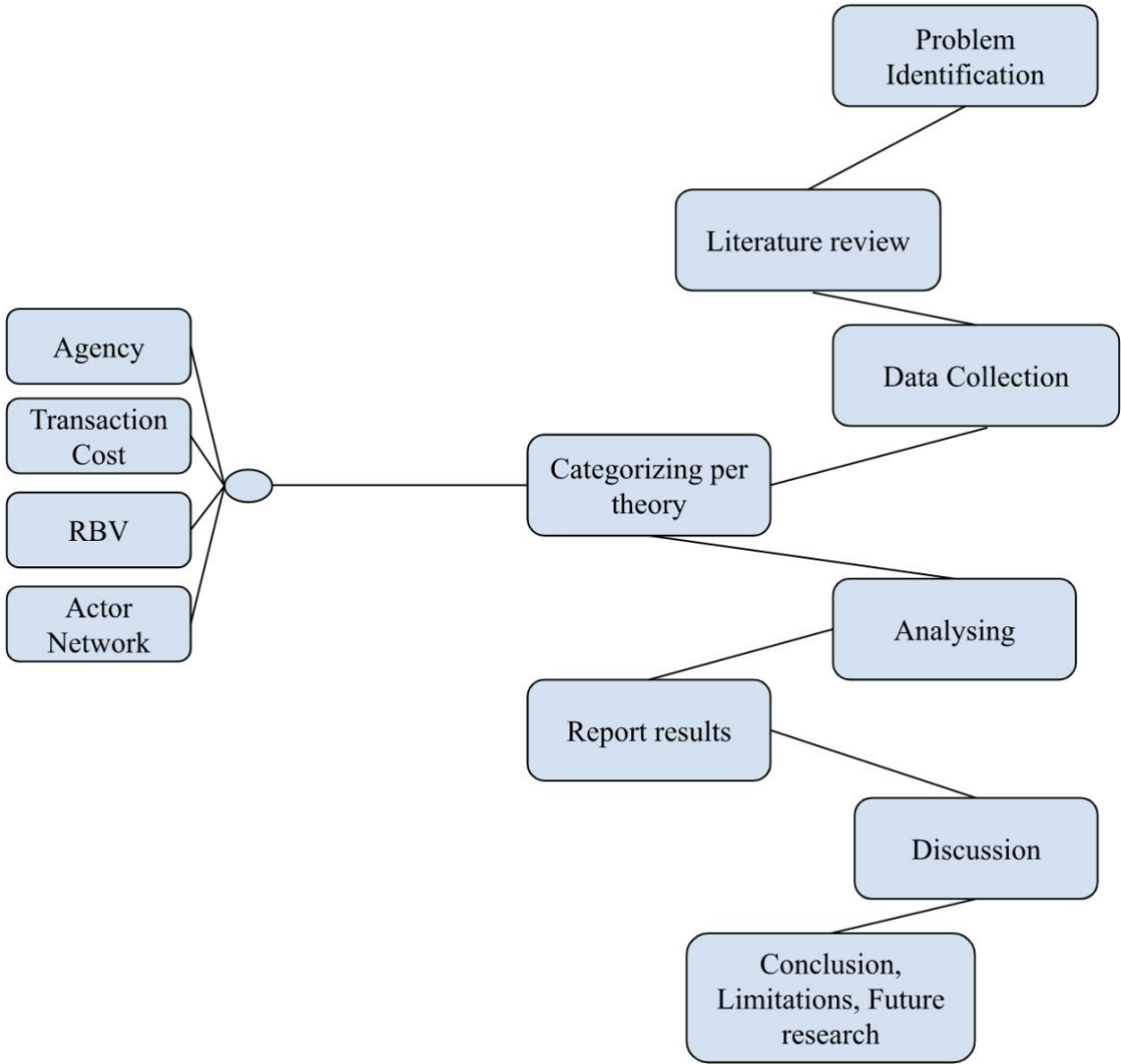
RBV

- What are the primary organizational assets (e.g. financial, psychical, people, operational) in the hotel sector that Web3 may have a significant impact on?

NT

- One of Web3's goals is to eliminate the requirement for trust. How will this effect the hotel sector?
- Which business relationships in the hotel sector rely largely on trust?

Appendix 7: Analytical framework



Appendix 8: Agency Theory Results

Categories	Interview statements
Transparency	<i>“Rate leakage is a big problem in hotels, a decentralized ledger where you can send a rate could offer more transparent rates among all channels and prevent discrepancies.”</i>

	<p><i>“There has to be a different way of getting the data from the guest in Web3.”</i></p> <p><i>“I don't think hotels feel a need for transparency, I would prefer that without transparency if I could keep the trust but it seems like a necessary evil.”</i></p> <p><i>“The market is quite transparent nowadays because everything that happens on a hotel it's made basically public via social network.”</i></p>
Relationships	<p><i>“If an OTA wants to ban my hotel, they now can and with Web3 I expect that won't be possible.”</i></p> <p><i>“(In Web3) We're not a hostage of stakeholders like Google, Facebook, and all those key players.”</i></p> <p><i>“The power could be with the people and then they have the power of choice whether you go left, or you go right.”</i></p>
Reputation	<p><i>“When I choose not to go on Airbnb as a rental, I lose all my reviews and reputation. That for me is insane, it needs to change and could be through blockchain.”</i></p>
Trust	<p><i>“I think Web3 will be especially better because it offers a lot more privacy.”</i></p> <p><i>“Today travellers trust OTAs, in the future I think they will trust internet enabled by Web3, removing the need of OTAs.”</i></p> <p><i>“If you can replace the trust in the OTA with Web3 tech to the Hotel, it will drive more direct bookings.”</i></p>

Appendix 9: Transaction Cost Theory Results

Categories	Interview statements
Disintermediation	<p><i>“Having a completely decentralized system with your suppliers running on a blockchain amazing. Again, I don't see this coming very soon because of legacy systems.”</i></p> <p><i>“I expect that there will be many Web3 services to be bought but are still centralised and closed, which worries me.”</i></p> <p><i>“I don't see how some of these technologies may help to accelerate disintermediating distribution, it is already happening now.”</i></p>
Reduce costs	<p><i>“Even a direct booking now costs 35-40% because of the centralised parties; booking engine, payment provider & promotion on Google. So a decentralised system could lower costs I think.”</i></p> <p><i>“For big chains it is ok to pay 9-10% but for independents it is not cause they have to pay like 20%, so we need to fix distribution.”</i></p> <p><i>“If we can reduce fees, we will be able to reduce rates with crypto for guests as well and invest in sustainability.”</i></p> <p><i>“I use revolute to buy crypto but I don't know how much the fees (are) but it's probably lower than the normal bank fee.”</i></p> <p><i>“I used to pay tons of money to call international, that has changed and so will fees for intermediaries with Web3.”</i></p>

	<p><i>“Crypto needs to be cheaper than normal transactions, otherwise it will not succeed no matter what.”</i></p> <p><i>“Building content in the metaverse is probably expensive and I’m not sure if it will have a positive ROI, versus just filming in my hotels.”</i></p>
Systems	<p><i>“Communication systems will be much shorter, much faster and less cost involved.”</i></p> <p><i>“I only see Web3 changing payment infrastructure and systems, if at all, but there’s no pressing issue now regarding that.”</i></p> <p><i>“Crypto could solve the system limitations we have accepting all kinds of worldwide currencies.”</i></p> <p><i>“If these technologies can offer a cheaper and faster solution than all separate integrations we have, it would be something to consider.”</i></p>

Appendix 10: RBV Results

Categories	Interview statements
Education	<p><i>“So, it's educational. Like I don't see there's complexity there. Even in terms of in terms of user interfaces of wallets, which are super simple.”</i></p> <p><i>“Web3 won’t change the status quo by building tech alone, you need to educate users like hotels on why it is better.”</i></p> <p><i>“I think tech wise, Web3 tech pretty much ready to</i></p>

	<i>make changes in hotels. But from, from an educational or understanding point of view, the sector is not.”</i>
Internal processes	<p><i>“In terms of stock management and supplier communication we’re going to see a lot of benefits using blockchains.”</i></p> <p><i>“Revenue Management will change; reservations will be re-sellable in Web3, and the market will outperform the RM manager.”</i></p> <p><i>“Web3 is changing the soil under the hotel, the basic (internal) processes will change in the sector.”</i></p>

Appendix 11: Actor Network Theory

Categories	Interview statements
Relationships	<p><i>“DMOs manage top-down, it needs to be bottom-up. A local DAO could solve this by including entrepreneurs, travellers and governments and increase democratic policies.”</i></p> <p><i>“Hotels in Web3 will be able to offer the same experiences in booking as an OTA.”</i></p>
Trust	<p><i>“You take the government out, cryptographic code in. I see this happening soon and is already in France. This will bring trust in government back to the hotel sector.”</i></p> <p><i>“In terms of data security, it's going to be much harder and more expensive to cheat.”</i></p> <p><i>“The name, cryptocurrencies, it seems something from the future which is quite scary.”</i></p>

	<i>“With crypto it's difficult you never know what is the value what you have in your pocket.”</i>
Digital representation	<i>“Guests don't want to see a fake room in the metaverse, they want to experience the real deal, and if they will want it in the future it will be a problem cause that is not our core business.”</i> <i>“If we can get a metaverse-representation, we could potentially promote our brand there and build relationships with new customers.”</i>

Appendix 12: Summary of interviews

Interviews: 6

Date ranges: 4 November – 14 November 2022

Interviewees: Henrique Tiago de Castro (General Manager), Anonymous (Hotel Owner), Simone Puerto (Hotel Consultant), Luca de Giglio (Hotel Consultant), Yanki Tepe (Central Reservations Specialist) & Gonçalo Rebelo Almeida (CEO / Hotel Chain).

Interview Summaries

Interview number: 1

Date: 4 November 2022

Interviewee: Henrique Tiago de Castro

Profession: General Manager

Experience in hotel sector: 16 years

Summary

The interviewee believes that Web3 can help hotels achieve a democratic internet where hotels and customers are not held captive by powerful middlemen. Potential use-cases mentioned by interviewees include fee reduction and payment options. He points out that hotels require a return on their investment, and it's unclear if Web3 will provide that. Mentions that while direct bookings are rising as well, it could potentially influence distribution in general. Gives a few more instances of disruptions before explaining how the platform economy have impacted sectors like transportation that are now controlled by strong intermediaries. Generally, thinks there needs to be more education before hotels can see the full benefits and challenges in the hotel sector.

Interview number: 2

Date: 4 November 2022

Interviewee: Anonymous (on request)

Profession: Hotel (co)owner

Experience in hotel sector: 35 years

Summary

The interviewee discusses intermediary commissions and generally feels that Web3 will have the most influence on distribution. Continues by stating that because of high costs, hotels can invest in sustainability or green energy. cites the hotel industry's lack of creativity and openness to trying new things as the primary obstacle to Web3 technology. Afterward, elaborates on transparency and makes the case that Web3 will result in significantly shorter communication channels. Transaction costs might also be reduced, which would immediately boost

profitability. The discussion then shifts to the eventual redundancy of intermediaries in Web3, which would consume a lot of time. The interviewee continues by saying that large hotel chains would benefit the most since they have the funding to adopt new technology. The respondent sees the inability of Web3 to disclose customer information as it does with direct reservations as a possible drawback. The interviewee claims that the elimination of trust in Web3 will have the most positive impact on the connection between travellers and hotels.

Interview number: 3

Date: 8 November 2022

Interviewee: Simone Puerto

Profession: Hotel Consultant

Experience in hotel sector: 24 years

Summary

The interviewee discusses the necessity for decentralization and the various problems that independent properties and chains now face. He goes on to say that there is a general lack of technology in the hotel industry and that it could take some time before Web3 is adopted there. He argues that improvements to products should come after education. Also continues by claiming that hotel firms and Web3 enterprises have different levels of understanding. He makes a statement by claiming that rate leakage is caused by a general lack of openness in the hotel industry. He gives real-world instances of the sector's leakage issues. Continues with describing the origins of Web2 businesses and the fundamental demand/supply problem for marketplaces. Argues that hoteliers need to understand the significance of Web 3. The necessity for bridges across older systems is then discussed. argues that the present Web3 apps are excessively geared toward power users and not the public. The article continues by outlining

the function of technology in smaller hotels, emphasizing that it is limited to the fundamentals and that Web3 may be necessary, but that it differs from chain hotels. Then discusses the price of direct reservations and how Web3 can lower those prices. And then discusses the industry's need for SSI while citing a few instances on Instagram. Concludes by stating that there is a use-case for DMOs as well but recommending the creation of a DAO in the community.

Interview number: 4

Date: 11 November 2022

Interviewee: Luca de Giglio

Profession: Hotel Consultant

Experience in hotel sector: 31 years

Summary

The interviewee begins by outlining how OTA's function is dwindling and how consumers are growing more trust in companies. Says there is a compelling use-case for smart contracts to take the place of promises and conventional agreements. Then discusses the drive for hoteliers to enter Web3 and how they cannot wait to act as they did in Web1 and Web2. The interviewee goes on to explain that when customers are involved, there is no further need for transparency in the hotel industry. Additionally, the interviewee claims that NFTs and loyalty programs will benefit the industry and perhaps open up new markets. The interviewee continues by claiming that blockchain allows the elimination of trust and relates this to review sites like Tripadvisor. The price of the booking is then described, along with the fact that it will soon disappear as phone charges did. Then makes the case that revenue management will evolve and be powered by AI. Continues by giving examples of how Web3 might affect hotels from an organizational

standpoint. Concludes by drawing a comparison between the foundation upon which hotels are built and how Web3 is reshaping that foundation and radically altering how hotels will operate.

Interview number: 5

Date: 11 November 2022

Interviewee: Yanki Tepe

Profession: Central Reservations Specialist

Experience in hotel sector: 12 years

Summary

The interviewee starts off by saying that Web3 will have the biggest effects on reservations and identity management. In addition, hotels will be able to further improve the personalization of their services. Continues by saying that hotels' biggest problem is their ignorance of Web3 and its effects. The author continues by stating that there is a fantastic opportunity to improve openness in the area of distribution, particularly with regard to the data sharing between hotels and GDS/OTA systems. Continues by stating that there is a need for transparency about rankings for travelers on travel websites. It continues by adding that customers want to pay the least amount possible, therefore if Web3 can assist reduce expenses, it would be beneficial as prices might drop. Continues by saying that changes to the backend will be more obvious than to external operations or the front end. The interviewee then continues by arguing that in order to avoid disparities, the industry needs to embrace a single reality. The interviewee ends the interview by suggesting that Web3 has a possibility to stop rate leakage, which would otherwise result in unhappy customers.

Interview number: 6

Date: 14 November 2022

Interviewee: Gonçalo Rebelo Almeida

Profession: CEO / Hotel Chain

Experience in hotel sector: 35 years

Summary

The interviewee says that the current methods of payment for travelers and hotels are effective and do not require replacement. The interviewee continues by noting that since customers don't want to sleep in an improvised/fake room, the metaverse has no actual application in hotels. Then goes on to explain that the costs seem excessive, similar to how they were in the past when they attempted to adopt "Second Life." The interviewee continues by saying that because different markets are served by travelers, cryptocurrency may one day be preferred for secure payments. The interviewee goes on to talk about how transparent the hotel industry is now and how she doesn't anticipate Web3 making a bigger difference in that regard. He uses examples like Google Reviews and TripAdvisors to illustrate his point. The interviewee continues by saying that any technology that is more affordable and useful would find a market. He says further that direct bookings are already well under way, particularly for brands like their own. Then it indicates that although there aren't any significant issues, Web3 might help internal operations. He continues by saying that it is incorrect for the general public to consider cryptocurrency use as primarily criminal activity. The interview concludes by stating that, similar to any investment in the hotel industry, any Web3 implementation should result in increased profitability and return on investment.