

## Viability of compensating employees in cryptocurrency – An exploratory study

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### Abstract

*Cryptocurrency is an emerging digital currency that revolutionized the transactional economy. It was valued at \$2.2 trillion in April 2021, suggesting the widespread acceptance and usage of the currency. It penetrated numerous sectors including entertainment, infrastructure, healthcare, public sector, agriculture, financial services, travel, retail and information services. Recently these sectors started the practice of compensating employees in cryptocurrency (coins/ tokens). This research explored the viability of compensating employees in crypto, across various components of compensation structure. This qualitative informative-exploratory research used the principles from the PRISMA model to screen 8,621 scholarly publications and reviewed 26 research publications and 23 companies using crypto for compensating employees. Content analysis and thematic analysis were conducted to report the findings. This research found that multinational organisations prefer to compensate global employees in crypto because of several advantages including ease of transfer, encrypted features, integration of blockchain technology, tax benefits, cost-saving and gain from crypto investments. Limiting factors such as the bartering nature of crypto, high volatility, tax regulations, limited investment avenues, resistance from employees and the market and concerns over its legality posed some doubts on its viability as a mode of payment. This study is of value to compensation and benefits experts, human resources professionals, finance professionals, scholars, and organisations who are interested in evolving technologies adding value to employees and businesses. This research added a new piece of knowledge concerning paying employees in cryptocurrency that remained understudied until now.*

**Keywords:** *Compensating employees; cryptocurrency; compensation in cryptocurrency; salaries in cryptocurrency; payment in cryptocurrency*

### 1. Introduction

The fourth industrial revolution, powered by new technologies, facilitated automated transactions (Javaid, Haleem, Pratap et al., 2021) and globalized the digital currency that is commonly known as cryptocurrency. For generations, mankind experienced shifts in the transactional nature of the economy, moving away from barter to commodity money and later to asset-backed money and digital money. However, from 2013 onwards, the global economy witnessed a mega shift in the mode of payment where irregular digital currency, cryptocurrency (crypto) gained momentum (Jumde & Cho, 2020) to the extent of reaching its valuation of \$2.2 trillion in April 2021. Crypto changed the landscape of payment systems in numerous sectors including financial services, infrastructure, healthcare, tourism, public sectors, agriculture, mining, retail, education, entertainment, information services, and logistics and supply chain. The principles of crypto were charted in the 1970s but failed to prosper due to poor technological infrastructure. Inevitably, the crypto morphed in the 2000s

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(Rose, 2015) as globalization diluted the economic borders, technological advancements escalated and access to the internet widen.

The Cryptos presented opportunities to market by processing fast, tax-free and secured (end-to-end encryption) international payments that can easily be accessed. Being a novelty, tech-savvy companies, customers and employees were lured into it to be the forerunners and to polish their brand image. Cryptos smoothly became an acceptable currency for payments towards shipments of goods, music royalties, food and beverages, entertainment, education fees, shipping and logistic services, online shopping, grocery shopping, stock trading, telecom services and other online services. Crypto created a buzz in the tech-savvy community and financial markets but failed to replace the fiat currency on account of legitimacy issues posed by governments and their central banks (Chohan, 2017). While some countries encouraged the usage of crypto, some remained in opposition. Regardless, crypto emerged as one of the most powerful digital currencies that organizations cannot ignore, especially when employees and vendors started demanding payments in cryptos (MacMartin, 2021). The attention of employees and employers to this fancy digital currency was drawn by cryptos' lucrative returns, fast processing and tax-free payment. In 2013, cryptos infiltrated the employees' compensation and benefits system as Carlson-Wee became the first person to receive his full salary in crypto. Thereafter, a plethora of employers (including Sc5, Fairlay, Bitwage, Bench, Ratehub, Aliant payments, Kik interactive, Twitter, the City of Miami, the City of Jackson, the Sacramento Kings, GMO Internet Group and Finder) revised their compensation strategies to pay employees in cryptos. Special payroll services were established to record, process and manage employees' compensation in cryptos. Furthermore, companies amended their talent acquisition and retention strategies as tech-savvy talent expressed their interest in receiving their compensation in cryptos.

The literature on the cryptocurrency's evolution, advantages and limitations is available in abundance. However, the scholarly work on the usage or application of crypto to compensate employees is limited. Compensating employees in cryptos (hereafter, CEIC) is relatively a new concept in the human resources discipline. There exists a dearth of literature exploring the employers' and employees' rationale to accept CEIC, the pros and cons of CEIC and the operational and legal practicability of CEIC. This paper aims to explore the viability (practicability and sustainability) of CEIC by understanding the factors influencing employers and employees to accept cryptos as a mode of payment in-lieu-of employees' services and by analyzing the pros and cons of CEIC. The CEIC is gaining momentum in tech-savvy organisations as crypto infiltrated financial markets and diverse payment channels. At this juncture, research like this will provide informative insights to policymakers, human resources leaders, international human resources professionals, compensation and benefits experts, payroll experts and software developers.

This research paper is organized into five sections including the above introduction as Section one. Section two set the stage whilst describing the evolution of cryptos and the application of cryptos in business. Section three describes the theoretical framework and the role of the Agency theory in compensating employees. Section four delves into the findings and discussions pertaining to the companies adopting CEIC practice, the rationale behind CEIC, the challenges it entails and the viability (practicability and sustainability) of CEIC. Section five presents the conclusion concerning the viability of CEIC and recommendations to enhance the viability of CEIC.



## 2. Setting the Stage

Cryptocurrency, as defined in the Merriam-Webster dictionary is “any form of currency that only exists digitally, that usually has no central issuing or regulating authority but instead uses a decentralized system to record transactions and manage the issuance of new units, and that relies on cryptography to prevent counterfeiting and fraudulent transactions”. Crypto, a relatively new form of digital currency that was first used in 2009, drove the market by 2021 to a value of above \$2 trillion. At this stage, for readers, it becomes necessary to summarise the emergence of cryptocurrency and its adoption and application in the context of business organisations.

### 2.1 Emergence of Cryptocurrency

The fiat currency (money issued and controlled by the government) lost the monopoly of the solo mode of money as cryptos gained popularity amidst financial markets. Crypto originated as the outcome of developments in the financial sectors and payment systems (Mikhaylov, 2020). The concept of crypto was based on the ‘Agorism’ philosophy, proposed by Samuel Edwards Konkin II in the 1970s which aimed to eliminate state intervention in regulating people’s life. In 1989, Digicash (the first crypto) was born in Netherland but failed after nine years due to limited technological capabilities. Later, in the early 1990s, with globalization and internet expansion, the Cyberpunks society expanded (700 members in 1994 to support individuals’ identity and their transactions anonymous).

As the technology evolved, the financial markets observed a sudden rise in cryptos from 2009 onwards. The popularity of crypto amongst digital financial markets was facilitated by blockchain technology, cryptographic algorithms, block mining and distributed ledger technologies. The process became user friendly wherein the investors can buy cryptos from exchanges and use the crypto wallet (tokens and coins) to purchase goods and services. The secured ownership and transactions were facilitated through the blockchain system and the verification and creation of new tokens were processed through mining. The availability of internet connection further eased the process and encouraged people to embrace cryptos in their lives. By October 2021, several active cryptos were in circulation – Bitcoin, Litecoin, Namecoin, Peercoin, Dogecoin, Gridcoin, Prime coin, Ripple, Nxt, Auroracoin, Dash, NEO, Maza coin, Monero, Titcoin, Verge, Stellar, Vertcoin, Ethereum, Nano, Tether, NEM, Firo, ZCash, Cardano and Bitclout (SoFi Learn, 2021). While numerous crypto companies were established, many were closed due to fraudulent activities including Conye, BitConnect, KodakCoin and Petro. The most widely accepted cryptos in the market such as Bitcoin, Ethereum; Dash and Monero.

Initially, the crypto market stayed refrained from government regulations but from 2016 onwards several governments started regulating cryptos in their respective countries. Data collected from several reports (Zaller, 2021; Brown, 2018) suggested that a plethora of countries banned cryptos. These countries included Ecuador, Macedonia, Saudi Arabia, Morocco, Qatar, Vietnam, Bolivia, China, Iceland, Bangladesh and Algeria. On the contrary, there were countries such as Canada, Ukraine, USA, UK, Australia, Switzerland, France, Germany, Japan, South Africa and Netherlands that regulated cryptos and initiated crypto payments for some government services. Canada, Japan, Australia and Ukraine became the pioneer nations promoting cryptos and advocating it on global platforms. Other nations including UAE, Singapore, Indonesia, South Korea, Thailand, Philippines and Brazil

proposed to regulate cryptos in their countries. However, government regulations banning cryptos hardly made an impact on the percentage of crypto users. According to a report by TripleA (2021), in 2021, 11.91% of the population in Vietnam, 3.36% of the population in Qatar, 2.36% population in Morocco, and around 1.8% population in Saudi Arabia and Macedonia were crypto users. Furthermore, 12.73% of the UAE's population were crypto users while UAE did not completely regulate the cryptos. This indicates that the crypto users' gains were significant for them to even overpass the government regulations.

Higbee (2018) attributed the popularity of crypto due to its accessibility at any time, anywhere, with minimal fees. Saleh, Ibrahim et al. (2018) and Sigler (2018) added the decentralization and independent character of crypto as a lucrative advantage for the investors, in addition to its immunity to inflation. Bunjaku, Gjorgieva-Trajkovska, and Miteya-Kacarski (2017) postulated the wider acceptance of cryptos due to secure transfers, user-friendliness and lower processing fees. Additionally, the sudden boom in the crypto market and exponential returns on investment was another factor for users to prefer crypto over fiat currency (Zaiets and Yeskov, 2021). However, Cryptos remain complicated to those who lack the understanding of the technologies driving it such as cryptography and algorithms. Further, the possibility of hacking, open availability on the blockchain and the inability to identify the owner pose challenges related to privacy and security. In addition, crypto transactions are viewed as suspicious (Brown, 2018) because of the absence of government intervention and insurance protection. The above challenges limit the trust and wider acceptance of crypto by organisations and individuals. Further, Cryptos are associated with fiduciary activities and the dark web. The crypto volatility and predictableness, in comparison to fiat currency, refrained many possible non-speculative investors to accept it as a digital currency (Zaiets and Yeskov, 2021). Fiat money is the legal tender issued by the government and hence is preferred over crypto because of its acceptability in the payment system, liquidity and stability (Jumde & Cho, 2020). Despite the limitations of crypto, it is considered novel and modern with open access and anonymity, technically uncontrolled yet accepted by the tech-savvy generation (Bondarenko, Kichuk and Antonov, 2019). Mikhaylov (2020) asserted that crypto will replace fiat money. Business organisations, through blockchain technology, started transacting in Cryptos and started paying their vendors and employees in crypto. The next section describes the industries and sectors that use blockchain technology and use crypto in regular transactions.

## 2.2 Applications of Cryptocurrency in business

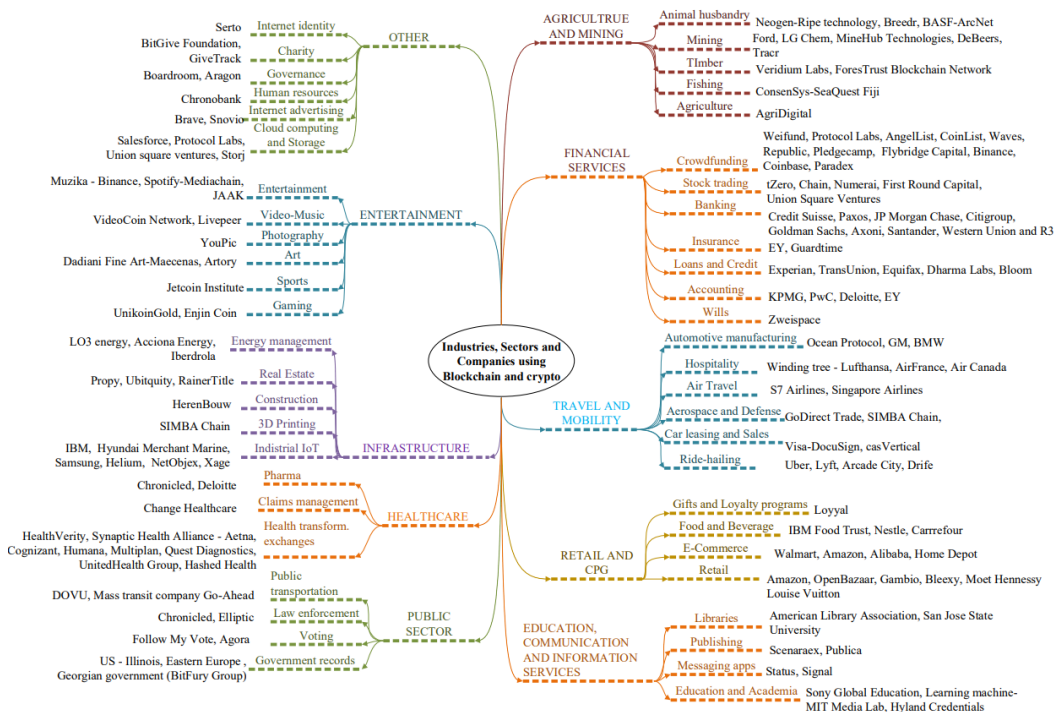
The literature on the application or purpose of using crypto by business organisations is scanty. However, there are several blog posts, trade publications, and open sources on the internet highlighting the application/usage of crypto by business organisations. Webster (2018) and Reuter (2015) highlighted the extensive use of crypto in the past few years, based on blockchain technology. Bitcoin alone had a market capitalization worth over \$5 billion. Some companies in the service sector started accepting payments in cryptos.

Figure 1 summarizes the sectors and industries that utilise blockchain applications for their business purposes and transact in cryptos. In financial services, blockchain and crypto work in synergy for banking transactions, trading cryptos, crowdfunding, securing wills and inheritances, credit facilities, and insurance payments and processes. The travel and mobility sector too incorporated crypto payments in their services including car leasing, ride-hailing, hospitality, air travel, aerospace, defence, and automotive manufacturing. The crypto



transactions are also adopted by the Infrastructure sector, across the real estate industry, 3D printing, energy management, construction, and the Industrial Internet of things. The Healthcare sector is not oblivious to these new-age technologies where claims management, health transformation exchanges and Pharmaceutical industries have started adopting blockchain in their processes and dealing in cryptos. Similarly, Retail and consumer packaged goods too have embraced blockchain technology and started to accept crypto payments in their retail industry, E-commerce, Food and beverage industry, and for processing gift products. Fishing, Animal husbandry, Crops and Agriculture, Timber and Mining too followed the trend. Along with the sectors discussed here, one can find similar trends in Education, communication and information services, in the Entertainment sector and others (*CB Insights*, 2021).

This section shed the light on the revolution brought by blockchain technology on digital transactions and crypto payments across numerous industries. Kelly (2020) posited that from 2015, the media and IT companies prominently used crypto for financial transactions. One such financial transactions include CEIC. Compensation, in the human resources discipline, is defined as the monetary and non-monetary payments made to an employee in exchange for job performance. In simple terms, compensation includes salaries, allowances, benefits, performance-based rewards, and provisions for adequate working conditions. Dwelling on compensating employees in crypto, Brown (2018) noted that companies are finding ways to introduce blockchain or encrypted currencies, such as crypto, in their compensation plans. Mainly, companies issuing cryptos and IT companies prefer to pay their employees in crypto. Companies have started adjusting their processes to align with the market requirements and employees' demands to be compensated in crypto. However, literature on this subject remains scarce because paying employees in crypto is still new and many organizations and researchers are not familiarized with this new concept. The next section will explore the literature that sheds light on understanding the intentions that drive employees and employers to accept Crypto as a mode of compensation payment.

**Figure 1.** Industries, Sectors and Companies using Blockchain technology and Cryptocurrency as mode of payment

### 3. Theoretical Framework

The success of any compensation strategy is determined by its fulfilment of employees' and employers' objectives, which rarely align. There are several components in compensation that employers consider as a cost but employees do not. For example, providing posh office space or creche is a cost that the employer associates with employees' compensation but employees perceive it as a responsibility of the employer. Likewise, depositing amount towards provident fund or gratuity is a compensation component for the employer while employees see that as a statutory requirement. The success of compensation components and their payment mode is dependent on the fulfilment of employers' and employees' demands or goals. The principles of the Agency theory are apt to understand such demands by employers and employees to prefer CEIC.

#### 3.1 Agency theory driving Compensation and Benefits

The Agency theory was introduced by Stephen Ross in 1973 showcasing the problems revolving around "selecting optimal compensation for the agent" (Mitnick, 2006, P.5). In the employment context, the principal is the employer and the agent is the employee. This research adopted the Agency theory proposing that managers create compensation structures to encourage employees so that employee productivity can be increased. The core principles of the Agency theory in the compensation context suggest that the "organizational performance improves when agency costs are reduced" (Welbourne & Cyr, 1996, P.6). Often





there is a conflict between the employers and employees as the former aims to reduce the costs associated with compensation payment and the later wants to increase the amount of compensation. Eisenhardt (1989) proposed that Agency theory resolves such problems by proposing both parties (employer and employee) enter into either a behaviour-oriented contract (payment of salaries) or an outcome-oriented contract (payment of compensation based on performance). Many researchers have undertaken agency theory to study the concepts of organizational behaviour, accounting, and organizational performance because it governs the relationships between employees and employer (agent-principal), which is both behaviour oriented and institutional oriented. Some researchers have criticized this theory as a substitute of social exchange between the employer-employee where both strive to gain through exchange of performance for compensation. Despite this criticism, the agency theory is appropriate for this research because compensation payment using crypto is desirable by both employer and employees on account of saving costs or increasing gains. However, existing literature remains mute on the factors that drive employer and employees to embrace CEIC. To this date, literature (both theoretical and empirical) explaining the pros and cons of CEIC for both parties in Agency relationship – employer and employee is non-existent. This leads to our research questions:

RQ1. Who is compensating employees in crypto?

RQ2. Which components of the compensation structure are paid in crypto?

RQ3. Why do business organisations and their employee prefer CEIC?

RQ4. What are the factors making CEIC a viable (or a non-viable) compensation practice?

### 3.2 Research Methodology

A constructivist research paradigm is adopted to answer the research questions that emerged due to emerging trends in CEIC and the absence of adequate scholarly literature. Questions such as why and what are best answered through a qualitative exploratory lens of enquiry. The existing literature for critical review was extracted by mining the databases available in the institutional libraries. The records from Ebsco, Proquest, Emerald, Elsevier, Science Direct, Google Scholar and Web of Science were identified, screened and reviewed using the 27-items checklist from the PRISMA model (Hébert et al., 2003). The preliminary data search using keywords, ‘salaries + cryptocurrency’, ‘compensation + cryptocurrency’, ‘employees + cryptocurrency’, ‘remuneration + cryptocurrency’, ‘wages + cryptocurrency’, ‘paying employees + cryptocurrency’, ‘sustainability + compensation + cryptocurrency’ and ‘viability + compensation + cryptocurrency’ generated 8,621 records. 8,334 records were excluded during the screening stage based on irrelevant titles and duplication. Abstract of 287 records were reviewed, out of which 261 were excluded for not meeting the inclusion criteria. These records did not address CEIC (in part or full). Only 26 records met the inclusion criteria and were analysed in full. Additionally, relevant trade publications and organizational self-reported information on compensating employees in crypto were reviewed to gauge the practical aspects. However, it was challenging to find the literature on CEIC and despite attempts from the authors, not a single article met all the inclusion criteria. Therefore, the corporate literature of 23 companies was reviewed to gain insights into their practices of CEIC. The outcome of this research will fill this gap, adding to a new piece of knowledge in CEIC using the Agency

theory and determining whether Cryptos are a practical and sustainable mode of compensating employees. The content was analysed using the recursive process and six phases for theoretical and interpretive thematic analysis as proposed by Braun and Clarke (2006). The authors generated codes and themes after reading the data thrice. The themes were reviewed, named and reported in the following section. Since compensation is often replaced by salary, remuneration, wages and benefits, the analysis was also conducted at the semantic level.

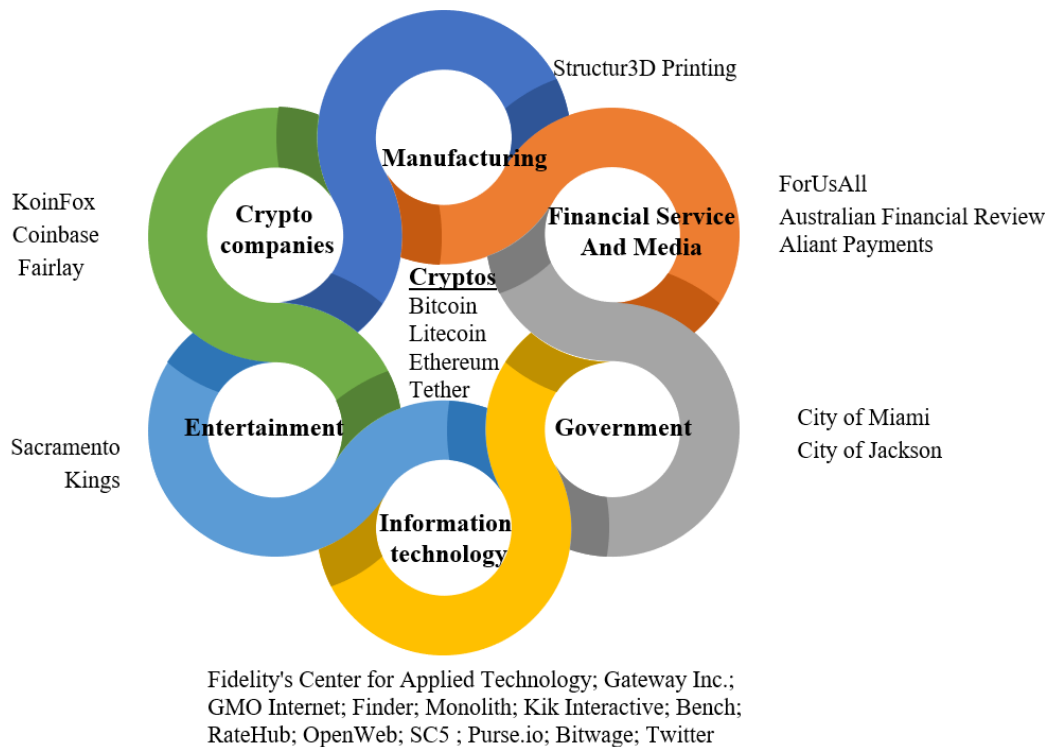
## **4. Compensating Employees in Crypto**

### **4.1 Companies compensating employees in crypto**

The content analysis of trade publications and Web of Science directed the investigation toward twenty-three (23) companies compensating their employees in crypto (see Figure 2). These companies were grouped into six categories based on their sector – Financial Service and Media, Information technology (IT), Manufacturing, Government, Entertainment and Crypto (see Figure 2). In 2013, four companies - Coinbase, SC5, Fairlay and Bitwage started paying their employees' salaries partly in Bitcoins (Sanyal, 2021). Since 2013, companies issuing cryptos were found to CEIC. In 2014, three companies paid employees' salaries in crypto – Bench, RateHub and Purse.io (Bradbury, 2014) and all these companies belonged to the IT sector. In 2019, the trend in compensating in cryptos accelerated wherein three companies in 2019 (Monolith, 2019), one company in 2020 (Fottrell, 2021) and eight companies in 2021 paid employees' compensation in crypto (Aburish, Hulse, & Wilson, 2021). A deeper analysis highlighted that from 2019, companies from diverse sectors embraced the trend. For instance, in 2019, companies belonging to the IT and service sector paid their employees in a variety of cryptos – Bitcoin, Ethereum and Litecoin. In 2021, companies from six different sectors (Finance, IT, Manufacturing, Government, Sports, and Media) paid employees in various cryptos. This indicates that recently the trend in paying employees in crypto using a variety of tokens and coins has suddenly increased. Furthermore, these companies originate from different parts of the world – the United States (5 companies); Canada (3); Australia (2); India (2); Japan (1); Finland (1); and the United Kingdom (1). The remaining eight companies are virtual companies and their headquarters or location is not available. The evolving trend of CEIC prompted further investigation into the compensation components and the reasons for paying in crypto.





**Figure 2.** Companies compensating employees in cryptocurrency

#### 4.2 Compensation-in-crypto structure and practices

The mobilization of people, technological advancements, leniency in international trade regulations and the rise in virtual businesses internationalized the human resources practices, including compensation. The competitive advantage of international organizations is dependent on the quality of talent acquisition and talent retention practices and processes (Pandya & Janahi, 2021), and the success of these strategies is managing compensation in the global sphere. Gomez-Mejia and Werner (2008) postulate that international organizations need to embrace a global approach when developing compensation strategies. Harvey (1993) pointed out that developing global compensation strategies for foreign employees, expatriates and third-country nationals is a pressing issue faced by international organizations. Milkovich and Bloom (1998) posited that economic factors, individual factors, and organizational factors play a key role in developing a global compensation structure. At an individual level, the compensation structure is determined by factors such as the nature of the job, duration of the assignment, location of the employee, benefits, and family needs (SHRM, 2017). Literature suggests that international organisations may adopt any approach to compensate employees – home-country based approach, host-country based approach, headquarters-based approach, or balance-sheet based approach. These approaches, respectively, aim to compensate employees based on their home country, the country where employee is assigned, the compensation structure followed by the headquarter or to convert the home-country compensation to host country currency. However, these approaches must be revisited for compensating remote or virtual employees who are not moving between countries. The

concepts of international compensation in fiat currency may become obsolete once employees and employers prefer to be compensated in cryptocurrency. The prevalent compensation structure includes base salary, incentive pay – short term and long term, mobility allowance, hardship allowance, cost-of-living allowance, education allowance, housing allowance, paid leaves, medical insurance, retirement plans, dual-career couple benefits, and training (SHRM, 2017). However, the compensation structure recently has evolved in the context of the emergence of crypto and an increase in the number of freelancers, contractors and remote workers. According to a report published by Upwork (2020), freelancing in America has increased from 57.3 million freelancers (in 2017) to 59 million freelancers (in 2020), contributing to over \$ 1.4 trillion in freelance earnings. Freelancing is a rising trend due to technological advancements and this further has forced organizations to reconsider their compensation structures.

The content analysis revealed that the compensation components paid in crypto included base salary, stock options, retirement benefits, health care benefits, performance incentives, and cashless fringe benefits. The results indicate that 22 companies pay salaries to their employees in crypto and one company used cryptos for rewards. These companies are – KoinFox, Coinbase, Gateway Inc., GMO Internet, Finder, Australian Financial Review, Structur3D Printing, Monolith, Kik Interactive, Aliant payments, Bench, RateHub, OpenWeb, SC5, Fairlay, Purse.io, Bitwage, Twitter, City of Miami, City of Jackson and Sacramento Kings. These companies, following the labour laws and taxation regulations, paid part of the salaries in crypto and the remaining salary in fiat currency so that minimum base pay regulations are met. This study found that the Fidelity's Center for Applied Technology paid crypto to incentivize employees for high performance, meeting attendance requirements, and using crypto tokens to attend training. ForUsAll, a retirement investment platform offered employees with Alt401 (k) retirement investment plan encouraging employees to invest a portion of their balances (up to 5%) into a secured account exposed to crypto. GMO Internet, an IT company from Japan provided a bonus of 10% to its employees for choosing to receive part of their salary in bitcoin. The Australian Financial Review, an Australian media company, compensates its executives in bitcoin. Silva, Nardali, and Kashefi (2018) revealed that companies issue crypto-tokens "subject to vesting based on continued service or achievement of performance targets" (Para 5). The authors proposed that soon crypto tokens will replace compensation equity offered to executives. Coinbase, in 2020, compensated the CEO, Brian Armstrong, \$60 million. In the same year, the Mayor of New York City, Eric Adams, tweeted to take his first three paychecks in crypto. While OpenWeb, Fairlay, Purse.io. and Bitwage compensates all their employees in crypto.

CEIC is no more a foreign concept. Brown (2018) reviewed compensation-in-crypto paid to executives and concluded that whether companies "decide to use-or not use-in connection with its executive compensation practices, the adoption of this technology or something similar is inevitable" (P.150). The author also cautioned companies to do a cost-benefit analysis before commencing this new compensation practice.

#### **4.3 Rationale for compensating- employees- in-Crypto using the theory of Agency**

The literature discussed earlier disclosed certain advantages and limitations of cryptocurrency. Extending that to compensation-in-crypto and to understanding whether crypto will remain a viable currency in compensation or not, we conducted content analysis exploring the benefits of paying in crypto (employers' perspective) and receiving compensation in crypto



(employees' perspective). The next section presents the limitations of compensating-in-crypto. Referring to the Agency theory, mutual gains for both - the employer (principal) and employees (agent) is crucial for a viable and sustainable compensation structure.

The trade publications revealed that employees have been the driving force, demanding their compensation to be paid in crypto. Reports available online highlighted that employees, irrespective of their hierarchical position, have been seeking compensation in crypto. For example, the Mayor of New York City (Eric Adams) (Reimann, 2021) and the CEO of Bitcoin (Armstrong) demanded their salaries in bitcoins (Detrixhe, 2021). Even the athletes from the Sacramento Kings (National basketball team) made headlines in 2019 when they demanded to be paid in Bitcoin (Dean, 2021). Russell Okung was the first professional player who received his salary (in part) in Bitcoin (MacMartin, 2021). Similar cases are found for employees working in technological jobs or as freelancers. Mitaal (2021) reported from her interview with Vikram Subburaj, CEO of Giottus Crypto Exchange that in India, the freelancers were at the forefront in receiving their salaries in cryptos. The reasons for employees to demand their compensation in crypto need further exploration.

From the employees' perspective, this research found a plethora of reasons that resulted in employees favouring payments in crypto. The most popular reason for favouring compensation-in-crypto is cost-effectiveness in funds clearance (Brown, 2018; Hildebrand, 2021). Employees do not have to incur bank clearance charges, money-exchange fees, commission, or any other kind of payment to intermediaries (Brown, 2018; Webster, 2018). Besides saving costs, employees also prefer cryptos to widen their investment portfolio because of their high return yielding power (Brown, 2018; Aburish, Hulse, & Wilson, 2021; Kelly, 2020). Moreover, with stable coins (pegged 1:1 to national currencies), employees can make capital gains with minimal volatility in crypto. Referring to the Agency theory (Welbourne, 1996), the employee (agent) is reaping financial benefits, that justify their demand to be compensated in crypto. Other than financial benefits, crypto has an advantage over fiat as it provides easy access, transaction, and spending crypto with no restrictions on timings and location (Zaller, 2021; Brown, 2018; Kelly, 2020; Zaiets & Yeskov, 2021). Further, with blockchain technology, there is transparency in the salaries paid because the records are available on the public ledger (Zaller, 2021; Bradbury, 2014; Caughhill, 2021; Redman, 2020). Employees also prefer crypto salaries as fraud and hacking are not possible because the transactions are secured through safe wallet features, private keys, and cryptography (Nghiem, 2017; Brown, 2018; Redman, 2020; Reuter, 2015). Besides security and transparency, employees feel empowered when employers provide employees with a choice to receive salaries in part or full in crypto. This research also found that tech-savvy employees prefer cryptos over fiat salaries due to their comfortableness in crypto transactions (Hildebrand, 2021). Additionally, they can build social image and status by showing that they are progressive and trendy.

The other party in the Theory of Agency is the employer (principal) and this study found that employers are equally benefited by compensating-in-crypto. The crypto transactions eliminate the middlemen (Lauderdale, 2021) which reduces the transaction costs (Brown, 2018; Hildebrand, 2021), and an overall reduction in transfer costs (Jackson, 2019) associated with salary payments. It also facilitates employers to increase the frequency of transactions because the transaction processing fees are much lower (for example, the bitcoin processing fee is less than 1%) than the fees charged by banks, exchange houses and processing merchants (ranging

from 2% - 3%) (Zaller, 2021; Brown, 2018; Kelly, 2020; Zaiets & Yeskov, 2021). And upon setting up the crypto account, the transaction fees are negligible. This reduced the payroll processing costs. In addition to being cost-effective, the transactions are 96% faster than wire transfers and are not bound by geographical locations and time. The blockchain facilitates transparency and security in payment through 100% verification using blockchain and cryptography technology (Nghiem, 2017; Brown, 2018; Redman, 2020; Reuter, 2015). Further, the transaction history information is readily available. These features of cryptocurrency are ideal for compensating international employees, freelancers and consultants, either in full or in part. The executive compensation packages are made lucrative by including crypto in the structure because of the capital gains enjoyed by many (Lerer, 2019). Moreover, using latest technology positions companies as tech savvy and advanced, which assists in building the brand image (Zaller, 2021; Nghiem, 2017; USA Staffing Services, 2020).

The above discussion depicts that the compensation-in-crypto reaps benefits for both parties – employers and employees. Most of the benefits are common amongst both - saving costs by eliminating intermediaries, faster and secured transactions, and building social/brand image. The basic principle of the agency theory is that reduction in costs improves organizational performance (Welbourne & Cry, 1996). Hence by reducing administration and operational costs in processing and remitting salaries, companies' overall payroll cost is reduced. Simultaneously, employees also enjoy the capital gains, expansion in their investment portfolio, and indirect increase in salaries caused by an absence of exchange intermediaries. However, several employees and employers around the world have reservations about transitioning their compensation systems from fiat currencies to cryptos.

#### **4.4 Viability of compensating employees in Crypto**

Companies need to weigh the benefits and challenges involved in compensating employees in crypto. The content analysis revealed numerous challenges posed by the labour laws, taxation regulations (Bradbury, 2014; Sanyal, 2021), foreign exchange regulations (Redman, 2020; Sharples, 2021), volatile financial markets (Caughhill, 2021), technological infrastructures, organizational capabilities (Zaller, 2021), operational and administrative processes and ethical practices. The founding principle on which crypto originated was Agorism, which intended to undermine government intervention in regulating transactions (Rose, 2015). With highly secured cryptography, the salaries paid in crypto are highly difficult to be traced by the regulatory bodies. Due to this, some governments have started imposing bans on crypto transactions. Further, the labour laws in many countries require companies to pay minimum wages in local currency (Barker, 2021). Such regulations complicate the operational and administrative processes involved in employee compensation. The content analysis revealed that companies pay part of their salaries in crypto and part in fiat currency (Lurina 2017; USA Staffing Services, 2020). Further, companies offering a choice of part payment to employees (Goforth, 2021) have complex payroll administration processes. So, though costs are saved because of the absence of intermediaries (Barker, 2021; Kelly, 2020), the cost of administration has increased. Further, the transition from a fiat compensation system to a crypto system entails training payroll employees and accountants and setting infrastructure (Lauderdale, 2021; Jackson, 2019). The transitional costs and the amendment of payroll system costs cannot be ignored along with the disclosure to the key stakeholders (Pandya & Rao, 2021). Additionally, non-compliance with minimum wage payments or payments in non-national currency may result in legal penalties.



Another challenge is the varied crypto regulations in different countries (Corderoy, 2019; Brown, 2018). In the event of the employer's country supporting crypto and the employee's country opposing it, may place employees at risk because they may not be able to liquidate their cryptos (Lerer, 2019; Reuter, 2015). Further, the countries restricting crypto markets have lower trading volumes and, in such markets, employees cannot liquidate at the anticipated price or at their desired time. Employees, also have to bear the risks generated by volatile markets, unless they are receiving stable coins. The market price of crypto is based on the date of receiving compensation-in-crypto, and employees may incur gains or losses. Some countries where crypto is regulated will consider cryptos as assets and may tax the (Brown, 2018; Reuter, 2015) capital gains. Moreover, the taxation laws may create barriers for employers (Bondarenko et al., 2019; Brown, 2018; Barker, 2021; Reuter, 2015), enforcing tax-deduct-at-source and depositing employer and employee contributions towards retirement funds. Also, it is not clear who will bear the clearance expenses. Some cases have been also reported where employers claimed the gains from employees' crypto gains and employees were not sure of the related regulations. These grey areas may result in employers and/or employees violating the government regulations, leading to distrust of the compensation-in-crypto.

The highly secured crypto-transactions pose another risk to employees, the risk of abandonment of cryptos (Webster, 2018). The cryptos are secured with a private key and if the key is lost, the money is lost (Bunjaku, Gjorgieva-Trajkovska, & Emilija, 2017; Chohan, 2017). Moreover, crypto data is stored on the cloud and the account name is linked with the true identity. Anyone with access to the employee's ledger, can access the confidential information and steal the crypto, which is highly difficult to track and recover. There are custody concerns as well because cryptos are attached to the digital wallet and the process of establishing ownership is highly complex. Because cryptos are still not completely regulated (Akhtar et al., 2021), the risk mitigation systems such as insurance coverage or legal systems to report stolen cryptos are non-existent. Employees need to determine whether such risks outweigh the benefits (Blachman 2018) availed from compensation-in-crypto.

Compensation-in-crypto is suitable for tech-savvy companies (Jackson, 2019; Redman, 2020; Zaiets & Yeskov, 2021) and employees, who understand blockchain technology, cryptography, crypto transactions and know the process involved in crypto markets and exchanges. Employees who do not possess these competencies may resist receiving compensation-in-crypto. Also, there is heavy dependence on technology to transact in cryptos (Angel & McCabe, 2015; Webster, 2018; Zaiets & Yeskov, 2021) and poor infrastructure or networks may slow down the transactions. All the challenges discussed in this section highlighted that the compensation-in-crypto is not as fluid as the compensation-in-fiat. However, one must understand that fiat is in existence for centuries and crypto started gaining momentum recently. The viability of compensating employees in crypto is subjected to overcoming the barriers.

## 5. Conclusion, Recommendation and Implications

This study found that crypto is embraced by many employers and employees for the compensation function of human resources management. Applying the Agency relationship between both parties, the research found that there are gains to both and hence support to continue using crypto. However, the challenges posed by crypto cannot be neglected in light

of its long-term viability. For crypto to sustain, employers need to follow the taxation regulations, labour laws, minimum payment standards, and foreign exchange regulations of the country from where crypto payment is initiated. From employees' perspective, it is important to understand the nation's regulations related to taxation of capital gains and foreign-exchange laws. Otherwise, the benefits from crypto would be diluted by the legal penalties. Further, if either party wants to reap the benefits from crypto compensation, they must understand the requirement of having a strong technological infrastructure and know-how. Though the cryptos are considered to be highly secured, the payer and the receiver should not neglect the possibility of losing the key, hence losing the compensation. The extra cost of training the payroll function or sourcing it to crypto payroll services such as Bitwage, Gilded Mass Pay, and WagePoint should be compared with the cost saved by compensating in crypto. Additionally, part payment in crypto and part in fiat may complicate the payroll processing and record-keeping. The companies should also draft agreements with employees clarifying the party bearing the exchange expenses, undertaking the risks due to market volatility, and the contribution towards retirement funds. To build trust amongst employees, employers are suggested to waive the right to future capital gains on the cryptos transferred to employees. For crypto companies, it is easier to compensate employees in crypto, but companies that are not in the crypto business need to secure the cryptos for compensating-in-cryptos.

This research study offers a deeper understanding of the benefits and limitations involved in compensating employees in crypto. Though crypto is trending amongst employees and employers, the challenges cannot be over sighted. The above recommendations will assist companies to overcome the challenges and/or in devising compensation structures thoughtfully. The companies that are planning to pay their employees in crypto also will gain benefits from reading this research paper. Furthermore, the regulations related to minimum wage payments, paying salaries in national currency only, retirement benefits, and income tax can be streamlined to align with the emerging currency. Technological advancement, government regulations, and carefully crafted corporate strategies can overcome the barriers to compensating-in-crypto, making it viable.

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