

## **Disruptive Innovation as a Tool for Transforming Physical Money to E-Payment System and Economic Growth**

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### **Abstract**

This study is the literature review based upon exploring the importance of disruptive innovation having vital role in transforming physical money to E-payment by building a strong and well-establishing stock exchange market that benefits the growth of economy. The focus of this paper is on the physical money transformation to the e-payment system through establishment of banks, investment banks and building stock exchange market, which could work as a hub that people of Kurdistan can buy and sell stocks globally. The establishment of such an important market may face many difficulties such as trust of people, family owned businesses, bank infrastructure, investment banks, financial advice-giving agencies, government involvement and so on. In such situation it gets important of transferring money form people pockets to E-payment through banks then it may have the core of the economy of region by attracting foreign direct investments and also can give opportunities to the domestic investors to participate in buying and selling of stocks and securities mean the whole stock exchange operations locally and internationally by encouraging Initial Public Offering to play a role of stock exchange market on development and strengthening the Kurdistan economy.

**Keywords:** Disruptive Innovation, Physical Money, E-payment system, Stock Exchange Market, Kurdistan Region Government of Iraq, Economic Growth.

### **1.1 Introduction**

After undergoing of different and brutal and endless pains such as genocide form different dictatorship regime of Iraq. In 1992 Kurdistan become an autonomous region in northern part of Iraq. Kurdistan has made huge developments about building its economic loss, achieving and controlling of two main borders of Iran and Turkey that generated revenue back at that time. “After 2005 Kurdistan Regional Government (KRG), based in Erbil, has the right under the Iraqi constitution of 2005, allowed KRG to exercise legislative, executive, and judicial powers according to the constitution, except in what is listed therein as exclusive powers of the federal authorities. The Iraqi constitution defines the Kurdistan Region as a federal entity of Iraq” (The World Bank, 2014).

Economically KRG begun to send its oil in 2014 after the cut of its budget form the central government of Iraq, which was at the same time of emerged of Islamic State of Iraq And Syria (ISIS) in which they occupied half of Iraq's land and KRG was not apart from ISIS and was in battle and protection of its territory of occupation. The battle with ISIS cost it KRG a lot and resulted in hosting internal displaced people and refuges form Syria. Therefore and till now KRG is suffering form financial crises by its poor implementation and focusing just on the oil production and revenue generation form limited sources. KRG has many other opportunities in strengthening its economy such as farming, building and producing goods and services internally by educating and using the young generation of its population. As a solution to inject and help economic development and as a good step, KRG is looking for all other opportunities that may help the economy and nothing can be more helpful than establishing stock exchange market and transforming physical money to virtual money of cash from peoples pocket to banks and through that even government can achieve development and build new projects that can be in favor of national welfare of its society. Stepping toward such an amazing shift has many challenges. Kurdish people have lost the trust of banking system due to the poor performance and it is the first challenge of the government in which KRG should build that trust and change the mindset of the society by bringing and providing financial advice-giving institution. Also KRG has to measure, enhance and strengthen the financial segment and advance the region's capital market. The KRG has to commit to placing expert financial organizations and mechanisms for transforming the physical money to virtual by stepping from internal and limited resources of exchange to a stock market. The transforming of physical to virtual money could be a disruptive innovation of government, investors and small and big family owned businesses.

### ***1.2 Research Problem***

Kurdish society and its market are mostly based on the physical money internally and people hold money at home or in their pockets and externally isolated form the capital market. Another problem is the belief and religion values of interest on money disposal into banks. KRG can play a role model of thinking in a different way and impose new way of financial capital by regulating it. Physical money that has been hold by people is in favorite of weakening the economy. KRG should find and think in a way that elevator is out of order and should take the stairs and should implement the Unlearn-Relearn and Learn strategy from its failure of past and society mindset in order to improve it economic growth, by considering and implementing disruptive innovation of transferring money form physical to virtual through establishment of trusted banks and building a stock exchange market and become a hub to global financial market. People in Kurdistan do not have much excess to their disposal because of a few existing banks and still banking system and disposing their money to the bank and been familiar

with stock exchange is extremely weak. The establishment of trusted bank and a stock market in Kurdistan will be one of disruptive innovation by the KRG in enhancing economic growth. However the stock exchange market is crucial to the economic growth of Kurdistan, but implementing such a advance step toward globalization has its challenges that should be examined such as a trust between people and banks, small and big family owned businesses and the lack of investment banks, and financial advice- giving agencies.

### 1.3 Research Objectives

The research objective is to find the important character of disruptive innovation as a tool in transforming physical money to the virtual money by establishment of banks and a well-structured stock exchange market and to explain how the transformation of money can enhance the economic growth.

### 1.4 Hypothetical model

The relationship between Disruptive innovation theory of Clay Christensen (Baatartogtokh, 2015) in transforming physical money to e-payment by government new rules and regulations in IT infrastructure, banking system and establishment of Kurdistan stock exchange as a hub to global stock exchange market and its effect on the national economic growth.



## 2.1 Literature Review

### 2.2 *Disruptive Innovation*

Disruptive innovation theory has absorbed the business awareness as one of the most effective modern tool of creating ideas. Christensen's theory of disruptive innovation has effected beyond the businesses life cycle. Christensen and his team have suggested disruption as a tool for thinking of social issues such as poverty, lack of access to social services, education and manpower of building nations (Baatartogtokh, 2015). In an interview with the Idea Program which Harvard Business Review is in charge of it Clay Christensen, Harvard Business School professor lays out his landmark theory of disruptive innovation and describes the disruptive innovation that is not a breakthrough innovation that makes good products a lot better but it has a very specific definition and that is it transforms a product that historically was so expensive complicated that only a few people with a lot of money and skill has access to it. Disruptive innovation makes things so much affordable and accessible than a much larger population have access to it (Lambert, 2014)

According to the interview and definition of disruptive innovation can be a very useful tool of economic growth as an indicator that transformation of physical money to virtual money. And another indicator of such important step is that many people do not have access to capital market, government tax collection is not accurate and the fug of all transactions between people and market. Government even can have stronger control over the market and can do projects with people's money like other developed country did. So as a powerful tool the disruptive innovation can be addressed as a solution to Kurdistan physical money to virtual money and by that mean KRG can take another step to build Kurdistan Stock Exchange because without transformation of money and establishment of a strong and trusted bank system the Stock exchange market will never work.

### 2.3 *History of Money*

According to (Konig, 2001) Money has been used as a commodity in the past years and the commodity was accepted widely if a societies was agreed on for the exchange of goods and services. Commodity money which were been used in transition of good and services were like animal leather to salt. And goods were not just only for goods exchange, but for punishments, debts and even marriages. Because of it disadvantages societies could not store goods for a long time and the exact measure of goods were not easy. Then societies used metals exchange such as gold and silver in the exchange of goods and services. These metals worked as a standard of exchange in most communities. Metals currency was an advance to that days, because it was simpler to transport and lasted for a long time. At that time the

economy was gold economy based until nineteenth century again it had disadvantages of security and storing and so many countries did not have the raw material.

Because of above disadvantages of metals, banks developed in seventeenth century in England. Investors used to put their gold there and in return received a statement that how much investor had deposited. As an outcome, physical currency, which are piece of paper that role as a standard of exchange were born.

Physical and coin currency was and still is at risk of stalling and costly in term of transportation. As a result of banking development cheque were invented and which let the users sell and buy goods without using the currency. Cheques made the transaction much easier for large amount of money it reduced about twelve percent of transportation and improved economic efficiency.

(Konig, 2001) After development of the computer and information system technologies new way in the payment system emerged, like the creation of the electronic funds transfer system (EFTS). The EFTS introduced people entree to the payment system by funds of a debit card reader or a personal computer. Deposits are simply transmitted from sender to receiver using electronic devices, for instance, commercial banks, central banks, , or corporations can transfer capitals to another organizations EFTS. The whole accounts can actually be eliminated by converting it to the EFTS. The efficiency of the EFTS is much more than payment systems based on paper, because it decreases the cost of transferring currencies.” (Besson, 2011) debit and credit cards are basically the beginning of electronic payment systems. Innovations of these electronic payment systems helped to reduce transaction costs a lot and initiated the creation of digital money”.

#### ***2.4 Transforming Physical money to E-Payment System***

As it has been explained in the history of money that there is always changes in the payment system form the commodity to the cash and coins currencies, this indicate that the payment system is inevitable. Banks and money transaction is one of the important aspect of economic growth by peoples’ depositing to the banks based on the bank and depositors agreement that for how long the money will be kept by the bank, then the bank will lend to other parties that are interested in new projects which called money creation. In most developing countries the main issue is the trust between banks and the depositor, which resulted in economic inefficiency (Dehghan and Haghghi, 2015). The electronic payment system has occupied almost all the developed countries and they started form the trusted banks and changes in government new rules and regulation that how the money will be circulated in the market (Hackney, 2010). KRG does need to innovate a new payment system just by adopting the same payment system to its culture, environment, and financial institution is a step to economic

growth. Because for the local and foreign investors is challenging to invest and trust the cash payment because of security and transportation costs.

### ***2.5 E-payment and Economic Development***

Electronic cards are advantageous as well as assume an essential part in encouraging financial development in nations around the globe. In recent 50 years, the fast explosion of electronic payment specifically credit, debit and prepaid cards has changed how purchasers pay for merchandise and ventures, how vendors deal with their organizations, and how governments make and gather a wide range of payments. According to (Slozko & Pelo, 2014) Electronic cards included \$296 billion in genuine (U.S.) dollars to GDP in the 70 nations examined between 2011 and 2015. Nations with the biggest raises in card utilization encountered the huge gest commitments to development of economy. Expanded electronic payment brought about generally the same percentage increment in GDP between 2011 and 2015 for developing markets (0.11%) with respect to created nations (0.08%). (Hasan, De Renzis & Schmiedel, 2012) found that the advancement in the utilization of electronic payment frameworks, for the most part electronic retail payment instruments, is identified with outstanding changes in saving money execution. These changes are connected not exclusively to the cost side of saving money tasks yet in addition to the income side. Besides, as per an examination from Banca d'Italia (1999), having a more productive payment framework will enable nations to acknowledge expanding benefits on the genuine side of the economy. The use of cashless payment is firmly identified with the level of financial advancement. From one perspective, more elevated amount of prosperity and improvement of the budgetary framework in wealthier nations empower cashless exchanges. Then again, cashless payment add to quicken financial advancement, through the spreading electronic payment that can cause utilization developing. The satisfactory e-exchanges direction can be utilized as an instrument for developing the economy (Slozko & Pelo, 2014).

### ***2.6 Stock Exchange Market***

Stock Exchange Market is a structured market for dealing of stocks, securities and bonds. It offers a tool over which businesses can increase wealth for growth purposes by selling and issuing different kinds of securities, stocks and bonds (Avadhani, 2002). The significant to Stock exchange is that it become a part of the economy of the world depends on the stock trades to encourage exchange the supplies of organizations by interfacing individuals who look for money with the individuals who can give it. The basic role of the stock exchange is a core of markets as a point of exchanging in securities is the raising of assets for interested parties in long run to the public investment (kaur, 2014).

According to (Musonera, 2008) stated that the stock exchange market serves a country or economy in transforming reserves for investment, restructuring of capital, opening a new door for new investment for new and small businesses, adding more power to the government to build new projects, examining the management of organizations and a gauge of the economy.

Stock exchange will inspire savings by allowing slept money to the market by matching the buyers and sellers together. Specially, the stock market will offer informal contact to finance and give the KRG and industry to increase long-term wealth for funding new plans, and growing, revolutionizing industries by inviting foreign direct investment, market observing, source of capital, commercial banks and education.

Challenges can be classified by poor performance of government infrastructure on the poor local saving, nonexistence of financial intermediaries, lack of accounting and auditing professional services, and most importantly monopolized business and family owned businesses and lack of skills and information in society. Another important point is establishment of investment banks in order to encourage the family business owners to go to public Initial Public Offer (IPO) and raise the capital form the local because the investment banks are in charge of equities and are intermediaries between stock issuers and stock buyers. IPO markets exist when stock markets are essential to their development. It provides investors with the chance to advance funding for their firms or for themselves. The main IPO studies have been on schedules of equities, normally normal stocks. This is to guarantee family business owners selling equity (Chambers, 2016).

### **3.1 Research Method**

The study is based on qualitative literature review of different dimensions of economic development of the study hypothetical model which disruptive innovation theory, transformation of physical money to electronic payment system and strengthening the financial market by establishment of stock exchange market. The study has developed a hypothetical model of all factors of payment systems and the advantages and challenges it may face in implementation. Future research is going to be qualitative on examining the dimensions in participation of three parties' public and private banks, people and family owned businesses.

### **4.1 Discussion**

Disruptive Innovation as a tool for transforming physical money to E-Payment system and economic growth has not been reviewed altogether but can be reviewed through the rich literature of different dimensions of this study and has started with the history of money that how people form past have used it and changed from the commodity to gold, form gold to cheque, cheque to coins, cash and then



saving in bank account having one of the cards such as credit, debit and prepaid cards. Nowadays it has gone beyond the e-payment system in many countries which people are dealing with the cryptocurrencies such as Bitcoin, Litecoin, Ethereum and so on which is a way of eliminating the banks as intermediates. Electronic cards or e-payment system are advantageous as well as assume an essential part in encouraging financial development in nations around the globe. In recent 50 years, the fast explosion of electronic payment specifically credit, debit and prepaid cards has changed how purchasers pay for merchandise and ventures, how vendors deal with their organizations, and how governments make and gather a wide range of payments. Disruptive innovation can have a vital role in transforming physical money to E-payment system. The electronic payment system has occupied almost all the developed countries and they started form the trusted banks and changes in government new rules and regulation that how the money will be circulated in the market (Hackney, 2010). According to Christensen's theory of disruptive innovation, it has effected beyond the businesses life cycle. Christensen and his team have suggested disruption as a tool for thinking of social issues such as poverty, lack of access to social services, education and manpower of building nations (Baatartogtokh, 2015). Having and transforming such a huge step of physical money to e-payment will boost the economy of Kurdistan and will add to the GDP as well. According to (Slozko & Pelo, 2014) Electronic cards included \$296 billion in genuine (U.S.) dollars to GDP in the 70 nations examined between 2011 and 2015. Nations with the biggest raises in card utilization encountered the huge gest commitments to development of economy. Expanded electronic payment brought about generally the same percentage increment in GDP between 2011 and 2015 for developing markets (0.11%) with respect to created nations (0.08%). Considering and implementing disruptive innovation of transferring money from physical to E-payment through establishment of trusted banks and building a stock exchange market and become a hub to global financial market need people in Kurdistan which do not have much excess to their disposal because of a few existing banks and still banking system and disposing their money to the bank and been familiar with stock exchange is extremely weak. The establishment of trusted bank and a stock market in Kurdistan will be one of disruptive innovation by the KRG in enhancing economic growth. However the stock exchange market is crucial to the economic growth of Kurdistan, but implementing such an advance step toward globalization has its challenges that should be examined such as a trust between people and banks, small and big family owned businesses and the lack of investment banks, and financial advice-giving agencies. In such situation it gets important of transferring money form people pockets to E-payment through banks then it may have the core of the economy of region by attracting foreign direct investments and also can give opportunities to the domestic investors to participate in buying and selling of stocks and securities mean the whole stock exchange operations locally and internationally by encouraging Initial Public



Offering to play a role of stock exchange market on development and strengthening the Kurdistan economy.

## 5.1 Conclusion

Disruptive innovation theory has absorbed the business awareness as one of the most effective modern tool of creating ideas and one of the main important roles that it could be used in enhancing human life better in all aspects such as lowering the poverty and helping countries to make changes according to the social needs. One of the advantages of this theory could be used in transforming the physical money to e-payment system by regulating the local market of Kurdistan and integrating to the banking system in order to foster the transactions and help the foreign investors reach the Kurdistan market in an easier manner. Kurdish society and its market are mostly based on the physical money internally and people hold money at home or in their pockets and externally isolated from the capital market. Another problem is the belief and religion values of interest on money disposal into banks. KRG should find and think in a way that elevator is out of order and should take the stairs and should implement the Unlearn-Relearn and Learn strategy from its failure of past and society way of trust in order to improve its economic growth, And most important step is establishment of investment banks in order to encourage the family business owners to go to public Initial Public Offer (IPO) and raise the capital from the local because the investment banks are in charge of equities and are intermediaries between stock issuers and stock buyers. Stock exchange will inspire savings by allowing slept money to the market by matching the buyers and sellers together. Specially, the stock market will offer informal contact to finance and give the KRG and industry to increase long-term wealth for funding new plans, and growing, revolutionizing industries by inviting foreign direct investment, market observing, source of capital, commercial banks and education. And challenges can be classified by poor performance of government infrastructure on the poor local saving, nonexistence of financial intermediaries, lack of accounting and auditing professional services, and most importantly monopolized business and family owned businesses and lack of skills and information in society.

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