



The Emergence of Fintech in Higher Education Curriculum

Yamato Shino¹, Chandra Lukita², Kim Beom Rii³, Efa Ayu Nabila^{4*}

¹Engineering, University of Miyazaki, Japan

²Management, Catur Insan Cendekia University, Indonesia

³Jisan College, South Korea

⁴Digital Business, University of Raharja, Indonesia*

Email: yamatoshino@yahoo.com, chandralukita@cic.ac.id, kimbeomrii@yahoo.com, efaayunabila@raharja.info*

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ABSTRACT

The digital revolution in the economic sector such as e-commerce and financial technology has affected various industries, one of which is the financial industry in various parts of the world. Conventional finance in the industrial era 4.0 is challenged by the existence of fintech as an innovation in various financial sectors. The job opportunities with fintech are wider than conventional ones. However, this digital finance requires human resources to support it. The university acts as a competent and competitive human resource maker in the financial sector by incorporating fintech into its curriculum. Sharia fintech also needs to be applied to the curriculum of a university. Islamic universities are also able to implement fintech in their curriculum. The method used in this study uses the literature review method with evaluation results from the application of fintech at the University. The original proposition in this study incorporates a hypothetical commitment in terms of monetary innovation. The novelty of this research is that by utilizing Kitchenham's methodical writing audit approach, apart from topical investigation, meta-examination and perception to agree on the nature of writing and investigation, the consequence of this research is to give fintech research a hypothetical premise from the point of view of the data framework, including fintech innovation idea plans. and change of events.

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Corresponding Author:

Digital Business, University of Raharja, Indonesia

Email: efaayunabila@raharja.info

1. INTRODUCTION

Human life today is greatly influenced by technological developments[1][2]. Mobile phones and the internet are essential things that cannot be separated from human hands.

Data from the Association of Internet Service Providers Indonesia and We Are Social that internet users in Indonesia are approximately 52%, and most of them access mobile internet for 4 hours per day.

Not only has a positive impact on human life, but technology can also threaten civilization if its development is not anticipated and appropriately utilized by its users. This includes technology in the economic sector, where the world economy has now transformed into a digital economy[3].

Business development is marked by the increasingly rapid existence of the digital economy and trade that uses the internet as a medium of communication, collaboration, corporations between companies or individuals. The growth of the digital economy has had a significant impact on the development of Greater Indonesia. A report from Oxford Economics (2016) states that information and communication technology makes a substantial contribution to the Gross Domestic Product (GDP) and the number of jobs in Indonesia.

Specifically, every 1% increase in mobile penetration is projected to contribute an additional 640 million US Dollars to Indonesia's GDP and create 10,700 new jobs in 2020. The contribution of information and communication technology to Indonesia's GDP accounts for 7.2% of Indonesia's total GDP. This sector experienced a growth of around 10%, the most significant increase compared to other industries. This makes the digital economy gain significant attention from the Indonesian government; even President Joko Widodo targets Indonesia to become the most significant digital economy power in ASEAN by 2020 with a potential of USD 130 billion or IDR 1,690 trillion (exchange rate of IDR 13,000/USD).

The financial technology (fintech) sector that is of concern to the government is the digital economy sector. Fintech currently plays in the payment business, loan facilities, crowdfunding, financial advisors, insurance and others[4].

The massive growth of digital fintech business activists in Indonesia is also shown by fintech which in 2016 was declared the business sector with the second highest number of investments after e-commerce (Tech in Asia Indonesia). Fintech offers services and products that are more profitable and easier for consumers. Fintech is shaping the financial industry by cutting costs, improving the quality of financial services and creating a more diverse and stable financial landscape.

FinTech services over time provide greater ease of access, more attractive interest rates or lower fees, and a better online experience and functionality. Fintech can have a negative impact and can also be an advantage for financial businesses such as banking. The negative impact of fintech can be avoided with traditional financial institutions. Collaboration can also be carried out between banks and fintech start-ups and has good results. Also, this research has the following objectives: (1) knowing the state of the art fintech; (2) identify gaps in financial technology research; and (3) identify challenges and trends for potential future research.

2. DIGITAL ECONOMY

Tapscott in Achmad portrays the computerized economy as a sociopolitical and financial framework that has qualities as a knowledge space, covering data, different admittance to data and data handling instruments, as well as correspondence limit.

The presence of the advanced economy will be set apart by the undeniably inescapable improvement of business or exchange exchanges involving the web as a vehicle of correspondence, joint effort, and collaboration between organizations or people. The pattern of advanced monetary development in Indonesia as of now is centered around 3

areas, to be specific on-request administration (spearheaded by Go-Jek), web based business and monetary innovation (fintech)[5][6].

3. FINANCIAL TECHNOLOGY

As indicated by The Oxford Dictionary, fintech is "PC programs and other innovations used to help or empower banking and monetary administrations". Likewise, FinTech Weekly characterizes fintech as "A business that targets offering monetary types of assistance by utilizing programming and present day innovation" and the National Digital Research Center in Dublin, Ireland characterizes monetary innovation as "advancement in monetary administrations".

Fintech is an advancement in the monetary business that expects to make it simpler for general society to get to monetary items, work on exchanges and work on monetary proficiency[7][8][9].

3.1. The Development of Fintech

The advancement of PC innovation and web networks in 1966 has made it ready for business people in the monetary business to grow their business universally. During the 1980s, fintech started to show up in the banking and other capital frameworks. This is checked when banks begin utilizing PCs to complete information recording frameworks. The rise of E-exchange (1982) made it simpler for financial backers to get to the economic framework. Alongside the inexorably quick and globalized web development (period 1990), the E-Trade monetary model is progressively being utilized. In 1998 web-based banking was sent off. With the beginning of internet banking, which offers comfort in fintech installment exchanges, it has additionally started to be well known and utilized by the more extensive local area. As of recently, fintech is progressively being created using different programming advances.

Indonesian fintech players in the 2015-2016 period grew 78%. Because of information from the Indonesian Fintech Association (Aftech) in the DailySocial report entitled Fintech Report 2016, the quantity of enlisted neighborhood financial innovation players until November 2016 stretched around 135-140 players. A large portion of the neighborhood fintech is occupied with the installment area, arriving at 43%. Then the advance area is 17%, trailed by aggregators 13%, crowdfunding 8%, individual accounting arranging 8%. The excess 11% are occupied with different regions.

3.2. Fintech Ecosystem

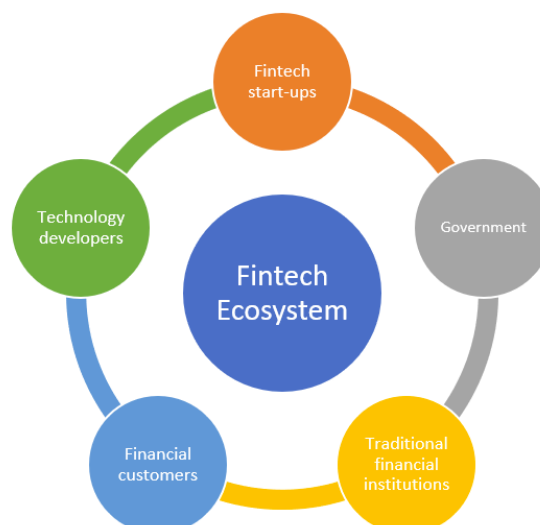


Figure 1. **Fintech Ecosystem**

In a study conducted by In Lee on the fintech ecosystem and business model, there are five elements in the fintech ecosystem. Five of them are (1) Fintech startups, (2) Technology development, (3) government, (4) financial consumers (5) traditional financial institutions.

Fintech startups consist of entrepreneurs who have innovations in payments, wealth management, lending, crowdfunding, and capital markets and provide more personalized services than traditional financial companies[10][11][12]. Technology developers create an enabling environment for startups to start running innovative services. Tech developers offer platforms for social media, big data analytics, cloud computing, artificial intelligence, smartphones and mobile services[13][14][15].

Technology developers, whose function is to create an ecosystem environment that supports startups to start running innovative services[16][17][18]. Technology developers currently provide platforms such as social media, big data analytics, cloud computing, mobile services, artificial intelligence, and smartphones.

In supporting the development of fintech, the government has provided regulations that support fintech since the financial crisis in 2008. Responding to the development of fintech in Indonesia, BI has issued BI Regulation No. 18/40/PBI/2016 concerning the Implementation of Payment Transaction Processing and the Indonesian Legal Brief entitled BI Regulations Fintech Industries. This is a Peer to Peer (P2P) fintech business implementation guide. The government regulates business activities, licensing registration, risk mitigation, reporting and governance of information technology systems related to P2P. In addition to regulations to assess, mitigate risks, and evaluate business models and fintech service products, BI has also established a BI Fintech Office. In addition, OJK has also formed a development team for digital economic and financial innovation, where this team will later be tasked with reviewing and studying fintech developments and preparing regulations and development strategies.

In view of the overview, it is gotten that the buyers of the fintech business are generally youthful and affluent clients. The buyers who are generally proficient and receptive to fintech are the individuals who are technically knowledgeable, youngsters, metropolitan networks and big time salary people. Indeed, even the metropolitan working class twenty to thirty year olds (early adopters of the most recent innovation) are the biggest fintech clients. As per information delivered by the Boston Consulting Group (BCG), the forecast of Indonesia's MAC (Middle-Class and Affluent Customer) populace in 2020 is 141 million individuals or 64% of this all out populace of Indonesia. Around the same time, the anticipated number of metropolitan working class recent college grads in Indonesia - as indicated by information accumulated by Alvara Research from different sources - will contact 35 million individuals. 10 Consumers who fall into this classification are extremely acclimated with shopping either through online entertainment, internet business upheld by fintech.

3.3 Fintech Business Model

Several types of fintech in Indonesia include payment startups, lending, personal finance, retail investment, crowdfunding, remittances, financial research[19]. The payment gateway service provided by fintech startups was created to support e-commerce business. This service connects e-commerce companies with customers, especially in the payment system. The existence of a payment gateway provides many alternative choices for the community in making digital-based payments. Fintech startups in Indonesia are dominated by startups that provide payment gateway services such as Veritrans, Kartuku, iPay88, Easypay, Mcpayment, padipay, Truemoney, Faspay, WallezIndopay, and others.

Crowdfunding[20] is a startup that provides a fundraising platform to be channeled back to people in need such as victims of natural disasters, war victims, to fund the

creation of creative and innovative works. Some crowdfunding startups like Kitabisa. com, WeCare.id, KapitalBoost.com, Ayopeduli.com and others.

Resource the board is a fintech stage that offers help so a business can be run all the more basically and productively. Fintech new businesses in resource the executives attempt to assist with companying activities like finance, worker the board, supporting frameworks and others. One illustration of this startup is Jojonomic.com. In Indonesia, there are additionally a few venture new businesses that make it simpler for individuals to contribute, like Bareksa (Mutual Fund Marketplace), IpotFund (Mutual Fund Supermarket) and Xdana.com.

3.4 Fintech in Entrepreneurship

Fintech together with e-commerce players and startup companies (Micro, Small and Medium Enterprises) are the main players in the digital economy. Fintech helps in increasing financial inclusion and MSME capital. There are still many MSME sectors that are not bankable and do not have access to work finance through banking. Fintech is expected to provide a solution for that. Fintech companies such as P2P can act as a mediator between MSMEs and investors[21][22].

4. RESULTS AND DISCUSSION

4.1. Curriculum of Higher Education in Indonesia

An instructive organization has a framework to create quality alumni. The advanced education framework in Indonesia has four primary stages, in particular information, cycle, result; and results[23]. The educational plan in Indonesia changes now and again. Starting in 1994 through the Decree of the Minister of Education and Culture of the Republic of Indonesia Number 056/U/1994 concerning Guidelines for Curriculum Preparation.

Advanced education and Student Learning Outcomes Assessment, the educational program that was framed focuses on the accomplishment of dominance of science and innovation, consequently it is known as the Content-Based Curriculum. Then, at that point, in 2000, Indonesia reproduced the idea of its educational plan from content-based to Competency-Based Curriculum (KBK).

The 2002 educational program was shaped with an attention on capability accomplishment, as a type of work to carry schooling nearer to the states of the work market and industry (DUDI).

During worldwide advancements in 2012, another educational plan was created called the Indonesian National Qualifications Framework (KKNI). The educational plan of study programs in advanced education is constructed alluding to the KKNI in view of Presidential Regulation (PP) Number 8 of 2012. D

There are levels 1-9 in the IQF which fill in as a source of perspective for the improvement of Indonesian HR and labor force with capability acknowledgment alluding to formal schooling, yet additionally preparing acquired external conventional instruction, autonomous learning, and work insight. In light of Presidential Regulation (PP) Number 8 of 2012. In the IQF there are levels 1-9 and become a reference for the advancement of HR and Indonesian specialists with capability acknowledgment alluding to formal schooling, yet additionally preparing acquired external conventional instruction, autonomous learning, and work insight[24][25].

4.2. The Emergence Of Fintech In Curriculum

Fintech has actually entered into many curricula at universities in developed countries[26]. Recognizing the rapid growth of fintech startups and the role of fintech in the financial industry, educational institutions in several countries such as Singapore and

America include fintech into their curriculum[27]. Incorporating discussions about fintech into the curriculum can be done in various ways, including by making special fintech courses, creating a series of teaching and teaching materials, making fintech undergraduate study programs, bootcamps, campus goes to school, forming student clubs and conducting entrepreneurial incubation[28][29][30].

In Singapore to help boost Singapore's growth as a FinTech Hub, five local polytechnics have partnered with Fidor, a leading digital banking group, to launch a FinTech education curriculum. Supported by the Monetary Authority of Singapore (MAS), the Akademi Fidor Student Singapore program will be incorporated into the banking or IT diploma program curriculum offered by five polytechnics (Nanyang, Ngee Ann, Republic, Singapore and Temasek Polytechnics). In addition to being included in the curriculum, another program offered is internships for selected students at fintech startups[10][31][32][33].

Understanding of academics can be improved by: industry players, and regulators about the extent to which the financial technology industry is developing, a literature review is needed. Thus, this research has the following objectives: (1) knowing the state of the art fintech; (2) identify gaps in financial technology research; and (3) identify challenges and trends for potential future research.

5. CONCLUSION

Development in the monetary sector as a fintech has been at the stage of developing the financial industry from the traditional to the modern stage due to digital transformation. Digital businesses in the financial sector, venture industry, financing industry and installment industry must be improved to compete with fintech or cooperate with fintech for its progress.

These developments have had many positive impacts on the world economy. The effect is that there will be a lot of interest for those who can be insightful based on economic data innovation. Colleges can also prepare graduate schools according to market demands and advanced financial patterns and to become visionaries of innovation-based businesses. There must also be a fintech education plan in the Bachelor's program, one of which is entering the Digital Business Department, which studies a lot of business digitization and marketing.

The difficulties of the modern period in fintech exploration can be looked for by deciding the fintech structure, including business endlessly models that are as per the way of life of every country. Fintech adjusts to the requirements of every country. A few circumstances require strategy support from the public authority. For example, the utilization of crypto computerized cash which is as yet hard to execute in certain nations. This fintech requires expansive rules that additionally stay up with current mechanical advances. Consequently, a few nations have carried out the idea of an administrative sandbox, to be specific the brooding of fintech new businesses. For this situation, fintech requires a lot of individual information, so stage observing is additionally gainful for buyer assurance. On that premise, the degree of information and foundation security should keep on being created. As of now, fintech is additionally expected to work together with customary monetary establishments like banks. This resolves the issue that fintech is a problematic innovation. Banking needs fintech as an essential accomplice in light of the fact that fintech is viewed as quicker in following computerized change.

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BIOGRAPHIES OF AUTHORS

	<p>Chandra Lukita is a lecturer in the Catur Insan Cendekia University. He has more than 20 research studies in the field of Management, Information System, Entrepreneurship published worldwide with reputations from SINTA to SCOPUS.</p> <p>Can be contacted at email: chandralukita@cic.ac.id</p>
	<p>Efa Ayu Nabila (Student Member, IEEE) currently running an undergraduate program at the Faculty of Economics and Business, University of Raharja, majoring in Digital Business. Efa has 14 research studies on the reputation of SINTA and SCOPUS. Fields of interest are Economics, Gamification, Information Systems.</p> <p>Can be contacted at email: efaayunabila@raharja.info</p>