
A Qualitative Study of Digital Disruption in Educational Business during COVID-19 Situation in Thailand

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Abstract

The objective of this paper is to present the effect of COVID-19 outbreak towards educational business in Thailand where technology is used to replace a suspension of learning and teaching in the traditional classroom. Experts have estimated that the ending of COVID-19 could last in 1-3 years; therefore, online learning is essential for Thai education. Educational institutions and companies that are involved in developing digital platforms and creating contents find this opportunity from digital disruption. However, they need to be aware of some factors, such as the resistance in changing the use of new technology, the panic buying that has raised sales in certain period but showed a steady drop after post-lockdown. Hence, apart from good platforms and contents, training and support can help gain more customers and profits and build the technology ecosystem for sustainable growth.

Keywords: digital disruption, COVID-19, educational business, game-based learning application, activity-based learning, new normal

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1. Background and significance of the study

In December 2019, according to the evidence informed by World Health Organization (WHO), World Health Organization (2020), there was the unknown virus cause of lung inflammation reported to WHO China Office, which this virus was found in Wuhan in Hubei province. After that, it was named COVID-19. In January 2020, Thailand's Ministry of Public Health officially confirmed the first COVID-19 case outside China was found in Thailand. As a consequence of COVID-19, it intensely has caused a recession in Thailand's economy. There are about 7 million Thais losing their jobs, and it is predicted to reach 10 million if the virus situation is still spreading in 2 to 3 months (REUTERS, 2020).

Figure1 demonstrates the number of confirmed infected cases and death worldwide, which is correlated with cases in Thailand from January 2020 to April 2020. In 30 April 2020, more than 3 million people were infected with the virus, and over 200,000 were death (approximately 3,000 confirmed cases and 50 deaths in Thailand), John Hopkins University & Medicine (2020).

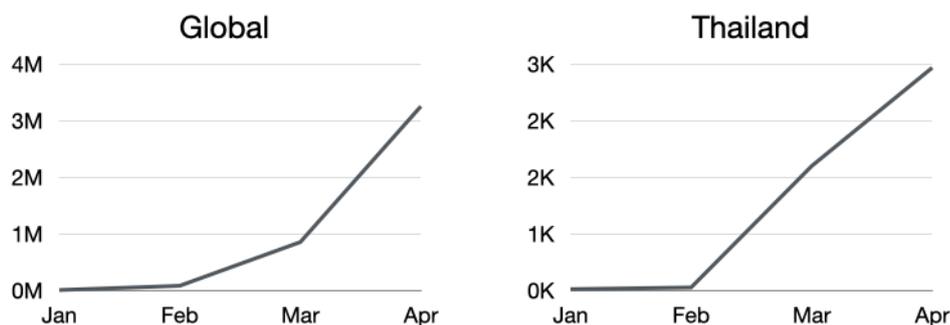


Figure 1 The number of Global and Thailand confirmed COVID-19 infected cases from January 2020 to April 2020

Source: COVID-19 Dashboard by the Center for Systems Science and Engineering (CSSE)

at John Hopkins University (JHU), John Hopkins University & Medicine (2020)

As shown in the graph in figure 1, the spreading of COVID-19 will not end very soon. The trend was predicted by the researchers who used past pandemic (H1N1 flu) to estimate the ending of the virus after the vaccines were developed and distributed, which generally lasted between 12 and 36 months (Krouse, 2020). Therefore, as recommended by Harvard scientists (Wood, 2020), people have to practice social distancing to avoid spreading of the virus and have to follow this rule until the year 2022.

Because of COVID-19, there are preventions, such as social distancing, self-quarantine and lockdown policy in some countries, it has directly affected educational institutions. All parties related to education sector have to cope with unavoidable change in the way people learn. According to UNESCO Institute for Statistics data (UNESCO, 2020), at the end of April 30, 2020, there were more than 1,200 billion affected learners and school

closures in 182 countries caused by COVID-19. Thailand is also one of countries to close schools and delay the opening of the new school semester from May 18, 2020 shifted to July 1, 2020 (Post Reporters, 2020). UNESCO (2020) has shown over 15 million of Thai students in preprimary, primary, secondary, and tertiary cannot go to school as a consequence of COVID-19. As a result, schools all over the world have to rapidly move to online learning.

Figure2 shows the number of learners in Thailand affected by school closures; the figures are categorized by school types with total of 7.6 million female and 7.7 million male students who cannot go to school because of COVID-19. Also, Ministry of Education has made a decision to shift the open date for new school semester in July (UNESCO, 2020).

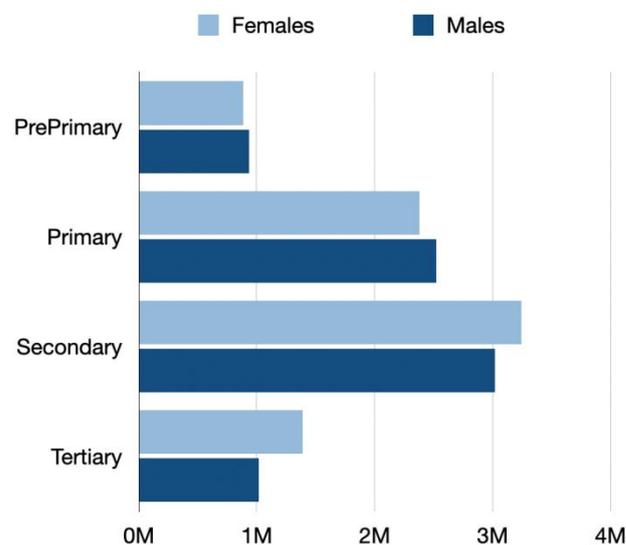


Figure 2 The number of affected learners in Thailand caused by COVID-19 in April 2020

Source: Global monitoring of school closures caused by COVID-19, UNESCO (2020)

Table 1 provides a part of the list from various sources concerning digital learning, which include learning platforms, educational applications and other useful resources, such as psychosocial support, to assist teachers, students, parents, schools and school administrators during school closures that are guided by the UNESCO (UNESCO, 2020).

Table1 Distance learning resources for teachers, parents, students, schools and school administrators available for free or purchase

Lists	Sources
1. Psychosocial support	WHO, UNICEF
2. Digital learning management systems	Google Classroom, Moodle, Schoology
3. Online Course Platforms	Alison, EdX, Coursera
4. Self-directed learning content	British council, Code.org, YouTube
5. Live-video communication	Meet, Teams, Zoom
6. Tools to create digital learning content	Trello, Nearpod, EdPuzzle
7. External repositories of distance learning solutions	Common Sense Education, Education Nation, UNEVOC Resources, UNHCR

Source: Distance learning solutions, UNESCO (2020)

The information and statistics data mentioned above can explain why all parties in education have to concern about digital learning and prioritize to use online learning tools and resources to perform distance learning and teaching. Nathan Harden said that the technology will transform education as the access of free contents for everyone who is being to access the internet. Therefore, the residential college campus will become largely out-of-date, which makes tens of thousands of professors lose their jobs, and half of around 4,500 colleges and universities currently operating in the USA will have been ceased (MAVIM, 2020). However, with the sudden change of moving to online learning, it creates digital disruption in education; consequently, it is the aim of this paper to study the digital disruption in educational business in Thailand. The related studies, theories and concept were conducted for further studies.

2. Objective of the study

The objective of this study was to understand digital disruption in educational business in Thailand during COVID-19 pandemic and to suggest how to overcome with this sudden change as well as preparing to transform education towards 21st century learning.

3. Scope of the study

This study focused on the fast moving of online learning in Thailand that has created digital disruption by the force of COVID-19 pandemic, and it analyzed and suggested the education sector to manage these rapid changes. The study took 6 months started from December 2019 when the WHO reported the first case of the virus in China and the population in this research were Thai educational sector.

4. Review of concepts, theories, and related research studies

The investigations and recommendations in this study were based on concepts and theories related to digital disruption in education, online learning, change management, technologies implication to education and applications and implementations.

1. Technology adopted in Thailand Education

Technology in education has been dramatically adopted many years in Thailand, for example, a traditional blackboard, in some schools, was replaced with interactive whiteboard to create collaborative learning and flexibility in teaching; and a tablet or laptop was used to search for enormous information online instead of going to the library. Those instances connect with the 21st century skills that education system needs to adapt to response for fast-paced global environment (Delaney, 2020). In parallel with international movement of 21st century skills, the government of Thailand has delivered the policy statement by General Prayut Chan-o-cha, Prime Minister, to prepare Thai citizens for the 21st century by creating digital learning platforms. This learning platforms allow the use of proper information technology and inspire creativity in online learning to increase self-learning; to develop learning spaces and learning parks for youth highlighting links between technology and lifestyle; and to promote learning for the elderly (The Secretariat of the Cabinet, 2020).

For this statement announced to the national assembly on 25th July 2019, was a result of COVID-19 to make online learning tangible. According to the news from Bangkok Post, universities in Thailand were moving from traditional classroom to online classes as well as universities worldwide that they were switching to online teaching and cancelled in-person classes (Dumrongkiat, 2020). At the same time, schools, announced by Office of the Basic Education Commission (OBEC), were on trial run (18 May to 30 June) from on-air broadcasting distance learning television (DLTV) with 15 programs covering all grades starting from Kindergarten to Matthayom 6 in 15 channels via television (Office of the Basic Education Commission, 2020). Furthermore, students who can access the internet can study online as DLTV is available on the website. For high school students, Thailand Ministry of Education is preparing platform called DEEP (Digital Education Excellence Platform) which can be accessed on the first week of July. DEEP allows teachers create teaching timetables and directly open the access to students in their classes with a single email to login. Then, the students learn from bitesize video for each lesson; do activity-based learning and exercises; and use live-video communication program and functions to practice live teaching with their own school teachers in case of the students needing discussion, question and answer session as well as submitting and reviewing homework (DEEP, 2020).

As this study was linked with one of required skills in 21st century which is digital literacy, the theories about digital technology and disruption and study of online learning and education in Thailand were used to analyze the disruption and readiness of educational sectors towards the rapid change of online learning.

2. Digital Literacy in Thailand

Ventimiglia & Pullman (2016) defined digital literacy as the ability to perform tasks effectively in a digital environment. Thus, a person should be able to use digital devices, such as a computer, tablet and mobile phone to apply new knowledge and to make educated judgements from the information found online.

According to World Competitiveness Ranking from International Institute for Management Development: IMD (Office of the National Digital Economy and Society Commission, 2020), Thailand was ranked at 38th out of 63 countries in technological infrastructure and was ranked second in ASEAN in the internet bandwidth speed. The statistics were correlated with the global report of time per day spent on using the internet from Kemp (2019). Thailand was ranked third in the amount of time spent online, this rank was only behind the Philippines and Brazil where they spent 9:11 hours (global average was 6:42 hours). Expectedly, the number one in the world of time per day spent on using mobile internet (5:13 hours where 3:14 hours were the average). At the same time, the education infrastructure in Thailand was ranked 56th out of 63, which was particularly contrasted with the amount of time spent on the internet. Thus, digital literacy rate of Thai people was the matter that should be concerned since it could reflect the disruption of technology in education business.

As stated by Sukman, Sukkamart, Pimdee, Sodbhiban, & Klinhom (2018), Office of the Civil Service Commission (OCSC) coordinated with Thailand Professional Qualification Institute (Public Organization) to develop Thailand's Digital Literacy Standard, in which later the Digital Technology ICDL (International Computer Driving License) was chosen and certified. ICDL provided the standard to measure digital literacy skills as well as assessment tool and online testing to examine each individual performance. Also, ICDL provided computer skill certification in countries from different regions including ASIA, Arab States, Europe, The Americas, USA and Canada in which Sukman et al. (2018) compared the digital literacy standard to Thailand's Digital Literacy Standard. Sukman et al. (2018) categorized the digital literacy standard into 3 levels to compare the standard from other countries. The modules include Bass, Intermediate, and Advance.

Figure 3 illustrates three modules starting from Bass, Intermediate and Advances Modules. The Bass Modules comprises of 4 basic skills and 17 skills for Intermediate Modules, followed by 4 skills in Advances Modules.

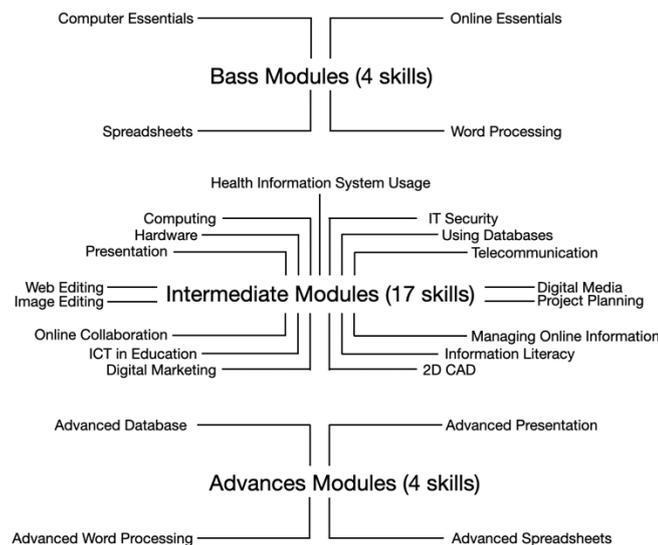


Figure 3 Three levels of Digital Literacy Standard and skills in each Module

Source: Comparison of Digital Literacy Standard between Thailand and Other Countries, Sukman, Sukkamart, Pimdee, Sodhibhan, & Klinhom (2018)

The comparison from Sukman et al. (2018) obviously indicated that Thailand's Digital Literacy Standard was fit to Bass Modules that are the use in daily working life (Computer, Online Essential, Word Processing, Spreadsheets), while only one skill (Presentation) matched with the Intermediate Modules. Hence, the digital literacy standard in Thailand was different from other countries and was not set on Advanced Modules. As a result, Thailand is the country that was set the least Digital Literacy Standard. When looking to the fact that online learning plays an important key to drive Thailand education during COVID-19 pandemic, skills, such as ICT in education; online collaboration; managing online information; and information literacy, are missing in Thailand's Digital Literacy Standard that could make a difficulty to educational providers to seamlessly move from traditional to online teaching and learning.

3. Digital Disruption in Thailand Education

Since the coming of COVID-19, the way people learn totally was different from what usually could be found in traditional classrooms, and suddenly this situation twisted the education system in Thailand when technology is urgently needed to make teaching and learning continue during social distancing. Consequently, digital disruption has occurred and has disrupted the educational institutions. As people are facing digital

disruption; generally, it benefits them in getting huge information in online platform and it allows people to independently pick the skills they want to study (Mano, 2019). Educators and other education providers have to learn to cope with these changes.

Referring to disruptive innovation theory, the theory that explains when smaller firms or firms that do not have much resources to compete with big firms, they are able to challenge and establish business by entering at the ground market and pursuing to up-market (Larson, 2016). This could happen when big firms invest on their innovation and development to serve profitable customers but ignore the needs of down-market. Meanwhile, the new entrants focus on this abandoned market, offering low prices and grow upon their development to attract big firms' mainstream customers. This has shown the reflection of disruptive innovation in Thailand education when there are many free online courses and platforms from small private firms available for people to access to upskilling and reskilling, but education institutions in Thailand are offering short courses in traditional classroom settings. When people are able to upskill and reskill from online courses and use their skills to apply to highly demand jobs that request specific skills, it creates the disruption to those education institutions because there is no longer need to apply in that short courses.

Another example of digital disruption is from DEEP (Digital Education Excellence Platform by Ministry of Education) when this platform follows flipped classroom concept where students study and collaborate in online environments, giving teachers to adjust lessons depended on the difficulty level of learner (Mano, 2019). In DEEP, Teachers create and arrange class schedule, suggest and assign students to search for information and submit homework online, to play on game-based learning, to read eBooks and to do discussion via live-video communication. For teachers, they play their role as students to develop and keep updated with global trends and skills by accessing DEEP to study skills related to their specialty area in order to meet the criteria set in the Excellence Individual Development Plan (EIDP by Ministry of Education) and book their test at Human Capital Excellence Center (HECE), the official test center for teachers and people to test their skills learn from e-learning and to earn certification that certified by trusted institutions (Rohitsatien, 2020). As such examples, the companies that produce contents will have to plugin into DEEP platform to gain competitive advantages over the others as DEEP will be a center platform and millions of learners will visit.

As DEEP mentioned, the use of online education globally has surged since COVID-19 (Li & Lalani, 2020). Li & Lalani (2020) reported that the online learning market will enormously reach 350 Billion US dollars in the year 2025 which is paralleled with the high growth and adoption in education technology, and the rapid movement to online learning will also emerge in school education. Nonetheless, the digital disruption is a big opportunity but it is a threat to companies operating in education sector. Even though the technology can help learners to break the boundary of traditional classroom by making the content more accessible and with variety of courses to choose globally, but still there are some causes blocking students, teachers, and education providers to be fully benefited in utilizing technology in education.

4. Application and Implementation

In order to gain competitive advantages, the education institutions need to understand the theory of disruptive innovation by not only investing on the existing customers but also looking for the opportunity gain from digital disruption to welcome new customers from new education market; otherwise, heavy spending on development of new technology will not much bring back profits in return.

During COVID-19 pandemic, there are many companies providing online learning courses, including educational institutions that flip traditional teaching to online teaching to allow students seamlessly resume their study while they cannot go to schools or universities. However, with rapid changes of using technology in education caused by spreading of the virus it has raised questions whether implementing online learning in have Thailand education will succeed or not when education providers and students never have the experience of fulltime teaching and learning online. Also, in higher education, when people are looking for affordable courses and earn certifications on certain skills, they need those certificates because many firms require, but they do not want to spend four years in Bachelor or two years in Master in institutions. Furthermore, in case when companies in Thailand do not require a degree from university to apply for a job; instead, they offer well-paying jobs to people who are certified from training in certain skill needed or experts in related field. This has become the trend of companies operating globally, and as reported from Glassdoor Team (2020), in January 2020, there were 15 more companies that no longer require a degree. Those well-known and top companies that have settled business in Thailand are presented in a table below.

Table 2 The example of positions sought from well-known companies that no longer require a degree to apply for jobs

Company	Job Hiring
1. Google	Network Specialist, Technical Program Manager, Software Engineer, Account Strategist, Senior Interaction Designer, Revenue Lead & more
2. EY	Internal Tax Senior, Advisory Services Experienced Staff, Machine Learning Engineer, International Tax Manager, Financial Service Manager & more
3. Hilton	Director of Event & Catering, Security Officer, Hotel Manager, Night Auditor & more
4. Apple	Apple Specialist, Apple Technical Support, Demand Planner, Education Development Executive, Full Stack Engineer & more
5. Starbucks	Baristas, Store Managers, Brand Manager, Shift Supervisors, Marketing Manager of Innovation & more
6. IBM	Data Scientist, Privacy Analyst, Research Staff Member, Product Manager, Managing Consultant & more

Source: Companies That No Longer Require a Degree, Glassdoor Team (2020)

From operation to management positions the companies offered to people with non-traditional education clearly, it shows the opportunity of a new market in Thailand education that is linked to the disruptive business model from disruptive innovation theory. Although the digital disruption can improve education in Thailand and enable firms to develop business model using technology to gain profit from new market, but with people who are new in using technology in education it can lead to a conflict between both education providers and learners. There are many parties who are involved in technology disruption including teachers or instructors, administrators, principals, and educational service areas as they resist to change to use technology. The term 'resist to change' is not something new in education that it has happened long time ago since the famous Greek philosopher, Plato, resisted writing because Greek philosophers believed that writing was deviant and untrustworthy (Shaban, 2016). Hence, the way people resist to change can be from their attitudes towards using technology in education, lack of preparation, technical knowledge, sticking with the same method of teaching.

Shaban (2016) suggested that to overcome this barrier, schools or institutions need to set up continually training where focuses on the areas related to educational technology in professional development; otherwise, teachers may use the same traditional teaching methods and fail to teach the 21st century skills to students. Also, school principals should give the opportunity to teachers to apply technological knowledge to their classrooms and gradually introduce technology to teachers. According to suggestion from Mano (2019), government sectors and educational providers, especially, teachers have to adjust the way of teaching from lecture to collaborative teaching and use technology for searching and create discussion in classroom.

As mentioned about the importance of training, Thailand Ministry of Education is aware of the rapid changes to using digital education platform, so the training has been organized to train teachers in every school under the Office of the Basic Education Commission for directors from educational service areas, and then the training will expand to school administrators and teachers with two aspects of training: training for how to use Digital Education Excellence Platform (DEEP) and how to teach online (DEEP, 2020). Moreover, there are many international online learning platforms providing courses in learning to teach online, such as Coursera. This online learning platform provider provides the course offered by The University of New South Wales (UNSW Sydney) (COURSERA, 2020). The course is about how to teach online using Massive Open Online Course (MOOC). The course gives the idea of online learning, technological knowledge, planning to teach online, learning activities, online assessment strategies, and strategies to engage, motivate and evaluate students. This Learning to Teach Online course has about 91,000 students enrolling and with more than one million course viewers, so it can prove the quality of contents from UNSW Sydney and popularity of online learning. This can be the opportunity to Thai education content providers to design content related to learning to teach online and developers to develop online learning platform for new customers in Thailand market.

Apart from making online learning content and developing online learning platform, education providers should be reminded of technology ecosystem in consideration of their investment towards profit and opportunity.

Darko (2019) stated, “technology ecosystem can be defined as an interconnected and independent network of diverse entities coming together to spur innovation in the tech environment pertaining to products and services in sustainable manner”. Darko also demonstrated the elements of technology ecosystem which consists of these followings.

1. Strong developer community: gather useful resources for developer and support learning where everyone can engage in this community.

2. Engagement and connection: promote collaboration and learning among developers and to provide support system for growth and sustainability.

3. Established businesses and companies: technology companies are act as a center point of a community where developers meet up with each other, exchange knowledge as well as invest on Research and Development (R&D) to push new innovation.

4. Accelerator & Tech Hubs: early stage startups need support from accelerator through education, mentorship, and financing for growth-driven while tech hubs perform physical support to startup business to build communities, share ideas and resources.

5. Universities and Schools: the education institutions supply human capital to the market and giving environment for students and researchers to develop new ideas of technology innovations.

As COVID-19 pandemic rockets the demand for technology in education, giving the opportunity for startup business to develop learning platforms and contents fed to Thai education market. This circumstance can be described by two cases that have triggered the demand for technology: teachers and students need technology to continue teaching and learning during the spreading of the virus and another case comes from panic buying.

Global lockdown caused by COVID-19 has affected education institutions where they has suspended learning and cancelled assessments, but they has given opportunities for the growth of the e-learning segment. This lockdown upswings the demand for digital learning platforms leading to the growth in the market, and the demand might move downward after cancellation of lockdown, specifically, in K-12 and higher education end-users; however, there is a significant growth in e-learning market forecasted between 2020-2025 (Research and Markets, 2020).

Moreover, the significant growth of e-learning platforms during global lockdown in education institutions might be related to panic buying. Chen (2019) explained that panic buying behavior can raise purchase volume (create high demand but reduces supply). The precise example can be seen from the supply shortage of face masks and tremendous demand from Thai citizens where the factory cannot handle numbers of order from customers, and at the same time customers cannot find face masks in stores. Another example comes from Digital Education Excellence Platform that millions of students need to access the platform for distance learning during the lockdown. Inside the platform, students can find e-learning that relates to lessons and subjects in classroom, but there was

insufficient access to supplement contents of those subjects. Hence, this can be the chances of companies to create e-learning contents in DEEP.

As mentioned in this study, there are many factors that create opportunities to the firms to get into education market in Thailand. The factors started from a struggle of teachers to use online teaching tools with limited time to get familiar with technology because of COVID-19 pandemic as well as the attitude that creates the obstacle in teachers who resist the change from traditional classroom teaching to using digital platform in daily teaching. On the other side, panic buying creates a sudden spike in e-learning demand that companies could gain more profits and build up the ecosystem for sustainable growing.

4. Conclusion

Digital disruption creates new opportunity and growth in education business, especially, during COVID-19 pandemic that has driven online learning into a compulsory matter in Thai education. However, firms and educational institutions need to be aware of various factors that could affect strategic planning in developing and implementing technology for Thai teachers and students. Training is an essential part to break the boundary of the resistant to change, and it is the initial step to build up the ecosystem when users feel familiar with educational digital platform which generates new normal in education. Additionally, to prolong the profitability, it is a challenge for digital providers to plan, design, support their products that can magnet users to try and to be impressed and to return to use, so when users get used to the platform and satisfied with education contents, they hardly change to use products from their competitors.

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