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xBRL in Vietnam: Suggestions for the adoption process



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This paper firstly explained why Vietnam should adopt xBRL and then used the Technology Adoption Life Cycle and Chasm Model to analyze two case studies, Peru and Indonesia, to find out the problems as well as make some suggestions for Vietnam to overcome these issues and successfully implement xBRL into the national financial system.

**Ritsumeikan Asia Pacific
University**

**Graduate School of
Management**

**Professor Pardo Phillip
Dean**

Independent Final Report

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1. Introduction

1.1 About xBRL

xBRL (eXtensible Business Reporting Language) is the open international standard for digital business reporting (xBRL International, 2018). With the goal of “replacing older, paper-based reports with more useful, more effective and more accurate digital versions (xBRL International, 2018)”, xBRL is a language that can be used to define business reporting terms. It allows preparation, validation, publication, exchange, consumption and analysis of financial information for regulators, investors as well as companies and analysts in a much easier and more effective way. By transforming traditional paper-based reports into digital form, xBRL increases the accuracy and transparency of business information among all users of such information. After being released in 2003, xBRL has been widely adopted by more than 50 countries around the world. Some users of xBRL can be named such as: the US Securities and Exchange Commission (SEC), Companies House (the United Kingdom’s registrar of companies), Japan’s EDINET (Electronic Disclosure for Investors Network), etc... Not only developed countries, many developing countries, such as Peru, Brazil, Indonesia, Chile, Colombia, etc... have also become the users of xBRL.

1.2 About the paper

In Vietnam, with the goal of “standardizing the format of information and reports of the stock market”, the SSC (State Securities Commission of Vietnam) considered adopting xBRL as a necessary action to enhance the function of the stock market in the future (Trinh, 2016). Hence, *this paper would like to make some*

suggestions for Vietnam to adopt xBRL into the national financial system by using the “Technology Adoption Life Cycle and Chasm Model” (Moore, 1995) based on examining experiences of two other nations: Chile and Indonesia. First, the economic and political conditions of each nation will be examined based on the data from World Bank to identify the problems. Then, to be able to find a proper model, this paper will use the “Technology Adoption Life Cycle and Chasm Model” (Moore, 1995) to study the case of other countries, mainly focused on Indonesia and Chile, to learn some experiences and lessons from the adoption process that these countries went through. Finally, some suggestions will be made based on the experience extracted from both case studies and the specific conditions of Vietnam.

2. Literature review

2.1 xBRL and its role in the information supply chain

With the explosion of the Internet, information in the present world is far much different from itself half a century ago. 50 years ago, the main problem was: “the availability and obtainability of necessary information”. In the model world of today, the situation is much different, since a lot, or sometimes too much, information is available. The problem has changed to become “extracting relevant information from a collection of both relevant and irrelevant ones”. Even though it is possible for human beings to do it manually in some cases, in many other circumstances, such as financial information, the need of using software to collect, store and analyze the relevant information is inevitable. In business reporting, standardization of business and especially financial reporting has been an important subject for the capital markets, regulators, accounting standard setters, analysts and software companies since the late 1990s (Debreceeny, Felden, Ochocki, Piechocki, & Piechocki, 2009). It led to a project in 1998 by the American Institute of Certified Public Accountants (AICPA) to explore the use of xML-based language for tagging financial information and the formation of xBRL International Consortium. After that, xBRL International Consortium, or xBRL International Inc. (XII), owns and has the right to authorize the usage of xBRL all over the world. The main idea of xBRL is very similar to the bar code system, as xBRL gives each piece of financial information a name tag. The presence of such name tag will allow software, search engines to automatically process this information. xBRL tagged financial data can be used in many different ways. Such defined information makes it easier for regulators to collect information about the regulated institution, tax authorities to process and review companies’ corporate tax affairs. Furthermore, for companies, it

will smooth away the movement of information both inside and outside, lessen the difficulties of enterprise to not only managing internally, but also deliver the correct information to the right external users in the right time. In short, xBRL plays a significant role as an enabling technology throughout the supply chain, delivering significant benefits and value to each stakeholder (FFIEC, 2006). However, the accuracy of xBRL has always been questioned. According to a study in 2009 by North Carolina State University, xBRL filings showed a lot of errors in signage, amounts, labeling and classification (Bartley, Chen, & Zalkin, 2010). This research also pointed out that these are very dangerous errors, because users will be difficult to find these errors, especially when they used software to read these xBRL files (Bartley, Chen, & Zalkin, 2010). To reduce the effect of this limitation, xBRL International has developed many further versions of xBRL, ixBRL for instance, to both diminishing the number of possible errors and helping the users to be able to find the errors and fix them.

In any market, asymmetric information always appears to be a huge problem in the information supply chain. Asymmetric information, as the adjective indicates, refers to situations, in which some agent in a trade possesses information while other agents involved in the same trade do not (Ankelof, 1970). Asymmetry of information generates an imbalance in any transactions, and can result in market failures. Asymmetric information can lead to several different situations. First is adverse selection situation when traders with better private information about the quality of a product will selectively participate in trades which benefit them the most, at the expense of the other trader (Ankelof, 1970). Another bad outcome of information asymmetry is moral hazard, a case occurs when someone increases their exposure to risk when insured (Ankelof,

1970). In other words, if someone is not the bearer for the cost of the risk they take, they are more likely to willing to take such risky decision. In short, asymmetry of information is a serious problem that any market must be able to deal with to prevent market failures from happening and causing damages to all players in the market

In conclusion, xBRL is a new language for business reporting by giving each piece of business information a tag to define it. It plays an important role in the information supply chain of the modern world. It can serve as a tool for market to overcome asymmetric information, and keep market failures such as adverse selection effect or moral hazard from happening and harming the market.

2.2 Vietnamese economy

In Vietnam, Vietnam's stock market was established on July 28th 2000. In 2017, there were total 387 listings, including 344 stocks, 4 fund certificates and 39 bonds. The total listed volume was 60.36 billion and the market capitalization was approximately 27.2 USD (Ho Chi Minh Stock Exchange, 2017). Although has been working for almost 20 years, the problem of the asymmetric of information has always been a challenge (Trinh, 2016). In 2013, 86.7% of violation of security market's law was related to the lacking of information transparency. Although it was reduced to 60.7% in 2016, information asymmetry still remained to be a huge problem that has been tackling the development of the market (SSC, 2017). To reduce the effect of asymmetric of information, information transparency in the stock market is necessary and has become

an objective requirement to achieve an effective market in the long run (SSC, 2017). Moreover, with the goal of “standardizing the format of information and reports of the stock market”, the SSC (State Securities Commission of Vietnam) considered adopting xBRL as a necessary action to enhance the function of the stock market in the future (Trinh, 2016). Beside, according to the “Plan to develop Vietnamese Statistical Science in the period of 2011-2020” proposed by the Ministry of Finance, adoption of xBRL in Finance is also considered as an important goal (Ministry of Finance, Vietnam, 2014). With “the incompleteness of the financial information system, the shortage of a common format for financial reports, the absence of an international-accepted standardized financial criteria system” (Trinh, 2016), it is necessary to implement xBRL in Vietnam. However, the adoption process will not be an easy one, and will require many actors, both inside and outside of the market, to join hands to generate a successful outcome for the adoption of xBRL.

2.3 The adoption process - Technology Adoption Life Cycle and Chasm Model

2.3.1 Definition

To analyze the adoption process, this paper would like to use the Technology Adoption Life Cycle and Chasm proposed by George Moore in his books *Crossing the Chasm* (1991) and *Inside the Tornado* (1995). According to this model, the adoption of new technologies can be divided into 5 stages, as shown in **Figure 1** below:

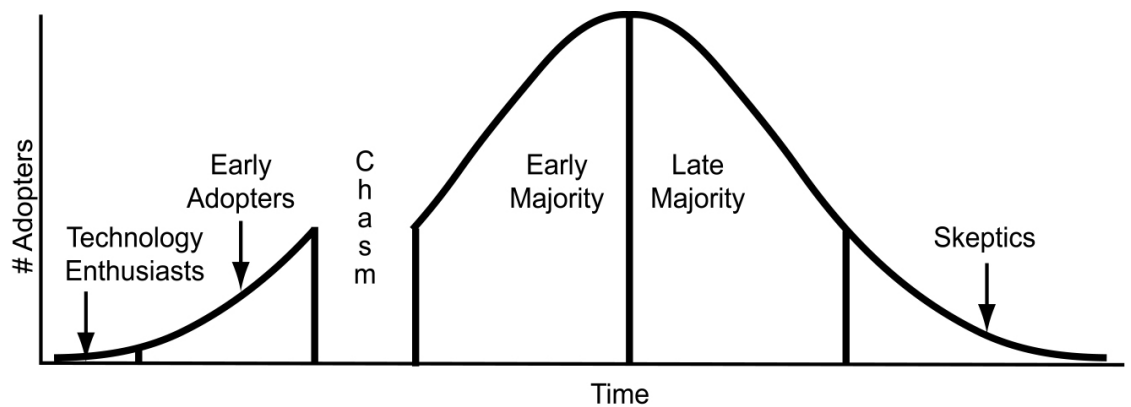


Figure 1

(Source: Todd Grimm, Accelerated Technologies Inc.)

The first stage of the process is the *awareness stage*. At this stage, few individuals become aware of the new idea. He knows about the existence of new idea, but he lacks details concerning it (Bohlen & Beal, 1957). If the individual wants to know more about the technology, it will lead to the next stage called the *interest stage*. At the interest stage an individual wants more information about the idea or product. He wants to know what it is, how it works and what its potentialities are (Bohlen & Beal, 1957). The third stage in this mental process is the *evaluation stage*. The individual makes a mental trial of the idea. He applies the information obtained in the previous stages to his own situation. In this stage, some considered questions are: Is this technology applicable? If it is adopted, what are the possible benefits? How much will be the benefit of adopting? Is this better than the current technology? The third stage of the process, as a result, is called the evaluation stage. After evaluating the technology, the *trial stage* will take place. In this stage, some trials will be made in a small-scale in a pre-determined segment under a controlled environment. The fourth stage of the adoption process helps individuals to collect real data and experience about the usage of new technology as well as the advantage and disadvantage of it. This process greatly

improves the knowledge of the adopter about the adopted technology and the result of this process will determine the final decision of whether the new technology will be implemented or not. If the answer for this question is “Yes”, then the final stage will appear, called the adoption stage. The final stage in this mental process is the *adoption stage*. According to (Bohlen & Beal, 1957), “This stage is characterized by large-scale, continued use of the idea, and most of all, by satisfaction with the idea. This does not mean that a person who has accepted an idea must use it constantly. It simply means that he has accepted the idea as good and that he intends to include it in his on-going program” (Bohlen & Beal, 1957).

2.3.2 Different users in each step of the model

As a certain technology moves on the Technology Adoption Life Cycle, it will be able to attract more and more users. The details about the users of each stage can be found in Figure 2 below:

Stages of adoption	Adopters personalities
Awareness	Technology enthusiasts (or Innovators)
Interest	Early buyers (or Fast-followers)
Evaluation	Early majority (or Pragmatists)
Trial	Late majority (or Conservatives)
Adoption	Non-adopters (or Laggards)

Figure 2

In the first stage, only users with high interest in this kind of technology will involve in. Their role is one of gatekeeper, providing access to the next segment of buyers (Wohlers Associates, 2002). One important feature of the innovators is that “They can afford to take some calculated risk” (Bohlen & Beal, 1957). Additionally, innovators can get their ideas directly from the colleges. They go directly to the research worker or the specialist (Bohlen & Beal, 1957). To be able to do so, innovators normally need a lot of power of influence in the community. Such power gives them the access to more information and allows them to be more capable of taking certain amount of risks. In the practical situation of xBRL, in most of the cases, government agencies will be the innovators. In the next stage, the early users, along with the innovators, will also take part in implementing the new technology. Relying on intuition and vision, these individuals appreciate the benefits of a new technology. They are driven to embrace the new technology to gain a competitive advantage. The early

adopters are willing to accept a solution that is not entirely complete, and they are prepared to commit the required resources and effort to make the technology work (Wohlers Associates, 2002). The below case of Deloitte in 2007 can be used as an example for early adopters of xBRL:

“Professional services firm Deloitte10 announced in September 2007 the launch of a production pilot of XBRL based solutions to prepare financial reports for a number of middle market clients. The CEO of Deloitte Digital, Peter Williams, said that XBRL based solutions now in development will bring huge cost savings for business, regulators and public administration by eliminating the redundancies when reporting the same information more than once. The Deloitte pilot is a practical demonstration of the type of improvements that will be possible from Standard Business Reporting, which was recently announced in Australia. Deloitte is using the standard and has developed a suite of applications that businesses can use in future to share business and financial related information with regulators, banks and other organizations.

Source: (Debreceeny, Felden, Ochocki, Piechocki, & Piechocki, 2009)

After the innovators and the fast followers have launched the new technology, some hard, proven data and facts will be produced based on their experience. As a result, the pragmatists, the users who strongly rely on proven data and facts will adopt the new technology in the third stage. The pragmatists will examine the experience of their previous, try to evaluate the effectiveness of the new technology. If they determine that it is good enough, they will adopt it, and in reverse, because “The decision to use new technology is made to make the company more effective” (Wohlers Associates, 2002),

rather than trying something they considered as unsafe. The late majority, almost similar to the early majority, will be likely to adopt the technology late. This group is quite similar to their previous, but they are more high-demand, price-sensitive as well as risk-averse than the early majority. These individuals adopt new technology so that they are not left behind (Wohlers Associates, 2002). They will do so only when almost everyone else around them is doing it, so they have to do the same thing to remain relevant. With implementing xBRL, most of the public listing company will become either early or late majority adopters, since xBRL will gradually become a requirement for such firms. Finally, when almost everyone has already been using the new technology that it cannot be considered as “new” anymore, the leftover is called “Non-adopters”. In some cases, non-adopters exist not because they do not want to adopt, but because they cannot meet the requirements for adoption, and/or do not have the need to do so. SMEs, as mentioned above, are most likely to become non-adopters of xBRL. The reasons may be because of the lack of resources (both human resources and capital resources) or simply because they are not required to do so, and/or it is completely unnecessary and ineffective for them to set up and use an xBRL-based system.

2.3.3 The chasm

It should be mentioned that each individual may spend different amount of time for each stage of the process because the practical situation of each individual is relatively different. These differences can be divided into 5 categories: changing in materials and equipment, changing in technique, the introduction of an innovation,

changing in enterprise and the cost. For instance, using a new technology may require the company to replace the machine that they are using. Such replacement forces the company to change the quantity and/or quality of input materials. Moreover, to be able to use the new machine, the workers have to be trained, or the companies must hire new workers with proper techniques. To make all of these changes, a lot of expenses will occur. Hence, as discussed above, “those practices which cost little seem to be adopted more rapidly than those which are more expensive. From another point of view, those practices which yield the greatest marginal returns per dollar invested, and in the shortest time, seem to be adopted most rapidly” (Bohlen & Beal, 1957). In the case of xBRL, most of the change will require the organizations to set up an xBRL-based reporting system and training accountants to deal with this new system. As stated above, many expenses will occur, and thus, not all companies will be able to adapt, especially the small-and-medium enterprises (SMEs).

If the adoption is a smooth process from stage to stage, it will be relatively easy to manage, and the curve will be a continuous one. However, there is an important part of the process that the continuous curve cannot mention: the chasm. The chasm appears somewhere between the second and the third stage. The name of this stage defines what it is, because at this part of the adoption life cycle, there is a lot of instability and chaos existing. It exists mainly because of the differences between the first two groups of users and the third one. While the previous can accept a non-complete solution and is willing to take the risk associated with it, the latter requires an almost-100%-perfect solution. They only believe in facts, and they do not want to take the risk, or in some cases, they are unable to take the risk because of their shortage of resources, both

human and capital. Until the chasm is successfully bridged, the pragmatists will not enter the market. And until the pragmatists enter the market, the mainstream market will not be captured (Wohlers Associates, 2002). If not properly bridged, a new technology can stall and possibly fall to the bottom of the chasm, never to be heard from again (Wohlers Associates, 2002). The key point for any technology to cross the chasm is its ability to convince the pragmatists to follow the innovators and the fast followers. If the technology failed to attract the pragmatists, it will disrupt the life cycle, and the technology will become a failure. Bridging the chasm requires a solution that minimizes the risk and impact of using a new technology. Basically, it must fit to the requirements of the pragmatists. The solution must be provided in a totally clear way that the anticipated benefits can be easily realized for the pragmatists, and the costs of the solution should be minimized by reducing the amount of required changed that the pragmatists have to make to adjust to the new technology. In other words, the solution has to be able to yield at least a positive outcome to be able to persuade the pragmatists to pay all of the expenses and change to new technology.

2.3.4 Section summary

So far, this section has brought a general overview about xBRL. It also showed some literatures on the present status of the Vietnamese financial market, and the need in conjunction with the desire of the Vietnamese government to adopt xBRL into the national financial system. In addition, it also explained the Technology Adoption Life Cycle model, which will be used as the based to analyze the case studies and

recommend solutions for Vietnam to implement xBRL. The next chapter will start analyzing the case studies and deeply discuss about the current situation of Vietnam as a base to make further suggestions for the specific adoption process in this developing country.

3. Case study analysis

This part of the paper would like to examine the xBRL adoption procedure of two developing countries: Chile and Indonesia. These nations are chosen mostly because of their similarities in economic conditions between them and Vietnam. Such similarities will be a good base for further suggestion to be made for the adoption process of Vietnam. In each part, first, the economic condition of the country will be briefly described. Then the adoption process will be discussed. Specifically, the challenges that each nation had to face and the solutions they used to cross the challenge will be mentioned. Finally, some lessons will be shown based on the discussed information.

3.1 The Chile case

3.1.1 Background information

Chile, short for the Republic of Chile, is a Latin America country. Until 2016, they have the population of 17.91 million. Chile is listed in the list of high income country by World Bank (World Bank, Country Profile - Chile, 2016), although they are just a developing country, according to International Monetary Funds (International Monetary Funds, World Economic Outlook, October,2017, 2017). It is considered as “one of South America’s most stable and prosperous nations (BBC, 2012). Some basic information about the economy of Chile will be shown in Figure 3 below:

GDP (current USD - billions)	247.03
Annual GDP growth (%)	1.6
Inflation (%)	3.8
Agriculture, value added (% of GDP)	4
Industry, value added (% of GDP)	31
Services, value added (% of GDP)	65

Figure 3

(Source: World Bank database, 2016)

3.1.2 xBRL in Chile

3.1.2.1 History of xBRL in Chile

In Chile, all of the public listed companies are managed by the The Supervision of Securities and Insurance, also known as Superintendencia de Valores y Seguros (SVS). SVS is the regulatory agency overseeing the securities and insurance segments of the Chilean financial services industry. The site contains a list of relevant legislation, presentations, stock and insurance market statistics, and recent news (Global Edges, 2018). Under the supervision of SVS, from 2009, all security issuers in Chile had to report financial statements under IFRS and xBRL (Sepúlveda, Flores, & Sakuma, 2012). In the course of several years, the adoption process was actually done step-by-step. At the beginning, only a small of group of firms, the ones with the largest market volume

in their shares, had to make the financial statements in xBRL. Furthermore, they also had to make only the main financial statements, including the Statement of Financial Position, Statement of Comprehensive Income, Statement of Cash Flows, Income Statement and Statements of Changes in Equity, in xBRL form. Year by year, more and more corporations were required to follow the procedure and it also gradually became mandatory for companies to report more and more financial data, such as Sub Classifications of Assets, Liabilities and Equities, Analysis of Income and Expense, Disclosure of Related Party, Disclosure of Investment in Associates and Subsidiaries, Interest in Joint Ventures, Disclosure of Share, Capital, Reserves and Other Equity Interest, Assets and Liabilities Financial, etc... in xBRL standard. From 2012, all Financial Statements and notes of listing companies in Chile had to be done in xBRL format. Moreover, Chilean's SVS has always tried to improve their xBRL system by continuously revising their system every year, and adding some requirements to the domestic rules.

3.1.2.2 Challenges and Achievements

In Chile, thanks to the fact that they are a high-income country with quite developing infrastructure for the financial system, the awareness of xBRL in the financial market had already existed before the adoption process even began. Moreover, Chilean's SVS, which is a government agency with plenty of both human and financial resources, was willing to take the role of the Innovator in the Technology Adoption Life Cycle. Hence, "the main challenge has been to cope with change" (Sepúlveda, Flores, &

Sakuma, 2012). They had to attract other companies to join the cycle, and play all other roles of the process. They had to work with both business and information technology experts to create a solid basis for the implementation of xBRL. They also needed to work with software vendors to set up software to read and generate xBRL files, and educate companies to put such software in use in their system.

To overcome all of the challenges, SVS took a step-by-step plan. First, they tried to establish the first-movers group. They convinced big companies, as mentioned above, to file only their main financial data in xBRL. This was a smart action, since such big companies would be the most likely to have business overseas in other countries, which may either require them to use xBRL (if they had business in US, UK, etc...) or may make them feel the need of using xBRL as a tool for better information sharing and management among different branches. They would also become good examples for other companies to follow, since smaller companies would observe and learn from them. Moreover, big companies were the ones with a hefty amount of financial resources that should be enough to cover all possible risks, as well as enough human resources to deal with the new technology. The fact that the companies only had to report their main financial statements in xBRL also greatly reduced the burden of changing the reporting system that participating corporation had to suffer. Second, after the success of the first-movers, SVS was also able to overcome the hardest part of the Technology Adoption Life Cycle: bridging the chasm. They did it by annually revising the xBRL system, improving it regularly so that they could create the most proper system for all adopters. Besides, the accomplishment in adopting xBRL of the first-movers also had great impact on the decision of the pragmatists to follow the trends. Finally, to complete the

cycle, SVS gradually increased the amount of required financial data that must be reported in xBRL format. This step could be considered as an action to complete the xBRL system and generate a way for all further companies to follow if they wanted to adopt xBRL into their reporting system.

Chile was not only success in launching xBRL in the security market, but also the insurance market. They started in 2011, also under the control of SVS. Until 2015, insurance companies in Chile under the supervision of SVS were required to make 8 forms of financial statements and 48 notes in xBRL format every year (Mora, 2015). With such successful adoption process, as a result, nowadays, Chile has an xBRL financial data bank of approximately 270 companies quarterly reported. The data is republished in SVS's website and available for all users around the world. It allows investors "to work with the files at the different corporations, which are readily available on the internet, and which can easily be interpreted with relevant software, allowing analysis both individually and by sector" (Sepúlveda, Flores, & Sakuma, 2012). For regulators and government agencies, xBRL provided them with a model of information for all of the financial statements and the notes made by listing companies and thus, helped the management process become easier. For firms, xBRL set up a model for financial statement consolidation so that every branch can follow and create the synchronization in reporting format from years to years.

3.1.3 Lessons for Vietnam

From the case of Chile, there are some important lessons for Vietnam to learn. First, *the appearance of an active first-mover is significant*. As described above, the role of SVS in the adoption process of Chile was enormous. They increased the sense of awareness about xBRL, they created the basic system, they convinced the big corporations to run the trials, and they made sure that the trials would be a success, not a burden for any participant. After that, they continuously improved the systems to create a complete solution to attract the pragmatists to follow, and thus, brought xBRL over the chasm. SVS was undeniably the key player in the adoption process of Chile. Second, *the first-mover must have enough resources and power to facilitate the process*. SVS, as the supervisor of all listing companies and insurance companies, was able to force some parts of the process by making xBRL as a requirement for certain firms to remain listed in the market. Such action was necessary, especially to push the late majority group, since this group may hesitate to take the new technology. Third, it should be noticed that *the xBRL system should be revised regularly to enhance the function of the system itself and to convince the pragmatists to follow the suits without resistance*. This point is important, because without regularly improvements, the system may eventually become irrelevant and could not become a persuasive tool for companies to use. Finally, *xBRL in Chile was required for only the listing companies and the insurance companies, not all companies*. It will actually limit the amount of companies that have to pay the expenses for the process, and help any firms that could not sustain the process, mostly SMEs, to avoid the unnecessary procedure.

3.2 The Indonesia case

3.2.1 Background information

The Republic of Indonesia, a lower-middle income level developing country in South East Asia, has the population of 261.12 million in 2016 (World Bank, Country Profile - Indonesia, 2016). A different point between Indonesia and other countries is that the banking system in Indonesia was divided into two categories: Conventional and Islamic banking industry. The conventional banking sector consist of 120 banks with 14,510 branches, 30 Islamic commercial banks or Islamic business units that have 600 branches, and 1,683 rural banks that have 4,122 branches. The Islamic banking sector consists of 130 Sharia business units, and 11 Islamic banks with 464 branches (Sugalih & Pahlisa, 2015). As a result, the management of banking system in Indonesia is not completely similar with other countries. Some other information about the economy of Indonesia is listed in Figure 4 below:

GDP (current USD - billions)	932.26
Annual GDP growth (%)	5.0
Inflation (%)	2.5
Agriculture, value added (% of GDP)	14
Industry, value added (% of GDP)	41
Services, value added (% of GDP)	45

Figure 4

(Source: World Bank database, 2016)

3.2.2 xBRL in Indonesia

3.2.2.1 History of xBRL in Indonesia

With the dividing of the banking system into two types as mentioned above, as well as several standards that all banks in the country must obey such as IFRS, BASEL, Islamic Principle, etc..., the reporting system in Indonesia became really complex. The situation became even more difficult “As banking supervisory functions were in the process of being shifted to a new regulatory agency called the Financial Services Authority (FSA-OJK) in 2014” (Sugalih & Pahlisa, 2015). The result was that BI eventually had to consider xBRL as a tool to increase the effectiveness of the function of their system. The idea of implementing xBRL started in 2010 by Bank Indonesia (BI), the one who had “monetary authority and supervisory authority for the banking system and payment system of Indonesia” (Sugalih & Pahlisa, 2015). BI started the adoption process by running a pilot plan in the Islamic sector of the banking industry. First, they hired a foreign consulting firm, Fujitsu from Japan (which is one of the leader of xBRL solution in the world), to provide training and evaluation about the current status of the Islamic banking system. The ultimate goal of this step was to reduce the reliance of BI on external resources by giving local IT and accounting experts some knowledge about xBRL through workshops and training courses with Fujitsu. Next, the trained engineers and accountants, with the consulting from Fujitsu, started to develop some prototypes based on the situation of the Islamic banking system. BI also researched the case of other countries, such as Norway and Poland, to learn the lesson about the adoption process and to make a more proper plan to the prototype. Finally, the first prototype was launched in 2011 in the Islamic Banking Monthly Reporting System (LBUS) as a pilot project. The prototype was successful, and became official in 2013 but due to the

technical difficulties, the real project, called LSMK project, could not be deployed until 2014. After that, because the banking supervisory in Indonesia had to fit with the standards of both BI and OJK, the xBRL National Jurisdiction in 2015 was hold as an effort to find out a proper solution for further implementation of the LSMK project. The outcome was since 2015, The Indonesian Stock exchange has officially launched its online XBRL reporting system for listed companies, and after the pilot period, the full implementation began in 2016.

3.2.2.2 Challenges and Achievements

Unlike Chile, where the awareness of xBRL had already existed, in Indonesia, *there was no such knowledge before BI actually started working on xBRL*. The unavailability of knowledge in not only Indonesia, but the whole South East Asian and the Islamic Banking, was the first challenge that BI had to face. Next, the lack of awareness led to *the absence of engineers and accountants that were able to participate in the prototype project*. Furthermore, with too many regulations and organizations that being put on the banking system, *the whole reporting system was too complex that it would generate a lot of technical issues, such as oversize of the report files, overload for the whole system, etc....* The appearance of OJK also *limited the power of BI* if they wanted to implement any actions to further enhance the adoption procedure. In short, if the only difficulty Chile had to solve was “to persuade everyone to make the change”, before solving that issue, Indonesia had another problem that they had to overcome first: to make everyone knows and agrees that the change is needed.

To overcome such huge challenges, first, before, during and after the prototype, BI also held a lot of meetings and conferences with the participants of not only stakeholders of the project, but also regulators and xBRL vendors from other countries to increase the awareness of the society about the existence of xBRL. For instance, in August 2015, the 2015 XBRL Asia Roundtable and Indonesian National XBRL Conference was held in Jakarta with participants from Brunei, India, Indonesia, Japan, Korea, Malaysia, the Philippines and Singapore (Nitchman, 2015). Moreover, as mentioned above, BI also provided training for many accountants and engineers with foreign consultant firms (Fujitsu) to improve the knowledge of the business community on this problem. Second, after creating the awareness about xBRL, BI started their pilot project. They actually chose to begin in the Islamic Banking Sector, which was the smaller one of the banking industry. By starting at a small scale, BI was able to pick out a manageable group with a proper amount of filers and business rule complexity. Third, and maybe the most important point, BI provided education programs for filers to encourage them to participate in the program, and provide them with opportunity to prepare for the requiring capital investment that they might need to begin using xBRL.

With many difficulties before beginning the adoption process, the achievement that Indonesia could get was admirable. Their pilot was successful, and at the present, LBUS has almost 600 reporting system users. “Not only capture the 4 main information in Financial Report (Financial Statement, Profit Lost Statement, Cash Flow, and the statement of changes equity), this report also capture the details data of Credits, securities, funds, and other important details” (GeeXBRL, 2016). The Indonesia Stock Exchange (IDX) also launched xBRL reporting system for one of its component, the

Financial Report sector in 2015. This implementation included 4 Forms in Financial Report and also the Company Profile Form (GeeXBRL, 2016). SKK Migas, the biggest energy company in Indonesia, also started to use xBRL in 2015. The most important was in 2016, as OJK implemented xBRL Integrated Reporting for Financing Company Reporting and Sharia Financing Company Reporting. As mentioned above, OJK was the supervisory office of all financial institution in Indonesia, the fact that they actually adopt xBRL signed a widespread of xBRL in a nationwide scale. With many accomplishments, Indonesia became the second countries in South East Asia (after Singapore, which started to implement xBRL in November 1st 2007 (ACRA Singapore, 2016)). They also strengthened the awareness of other countries in the region such as Vietnam, Thailand and Cambodia, about implementing xBRL into the national financial system.

3.2.3 Lessons for Vietnam

Indonesia showed to be a much closer case with Vietnam than Chile did. From the case of Indonesia, there are several lessons that Vietnam should learn. First, once again, *the role of the first-mover* is really important. BI from Indonesia, in spite of all power limitation and knowledge shortage, greatly fulfilled their roles as a first-mover, a leader for the adoption process of Indonesia. They increased the awareness of the business community. They also took brave but careful steps to build up a solid infrastructure for the development of xBRL. They provided training when it was needed, and they helped every company prepare for the challenge that they would soon have to

encounter. Second, as the adoption process in Vietnam will most likely have to start from zero, *it is important to make use of any possible resources and helps from the outsiders* such as xBRL vendors and xBRL community around the world. BI, without the consultant from Fujitsu and the help from xBRL community, could never do it from scratch. Finally, *for potential adopters of xBRL, it should be mentioned that they should make use of any available training offers by the government agencies to prepare both human resources and financial resources before undertaking any step into implementing xBRL into their own reporting system.*

3.3 Section summary

So far, from two discussed cases, some remarkable features of the adoption process can be extracted. First, the first-mover should be the government agencies with full control to the financial market. Such position will give them certain powers and resources to initiate any certain actions that may be required during the process. That is the key difference why SVS in Chile could set up a nationwide xBRL system much faster than Indonesia's BI did. Second, the first-mover's role in the whole process is significant. If the first-mover is inactive, the process will fail even before it could ever begin. If the first-mover cannot, by one way or another, to offer a complete solution for the implementation procedure as well as assisting the followers throughout the steps, there will never be a successful result. Lastly, the support from xBRL vendors and xBRL community is necessary to any countries. The support could be training, consulting, pilot designing, etc... As stated in the case of Indonesia, without external

assistants, the process will last very long and the result will be much less favorable. In conclusion, this section examines the case studies and acquires some lessons that can be used to make suggestions for the adoption process of Vietnam.

4. The case of Vietnam

In this section, Vietnam and its xBRL adoption process will be the main focus. First, the current economic condition of the country will be portrayed. Then, the current situation of the xBRL adoption process will be reviewed. Finally, some suggestions will be made based on both the previous case studies and the current situation of Vietnam.

4.1 Background Information

Vietnam, or the Socialist Republic of Vietnam, is the 46th largest economy in the world by GDP (International Monetary Funds, World Economic Outlook Database, 2018). Same as Indonesia and Chile, Vietnam is also a member of Asia-Pacific Economic Cooperation (APEC) (APEC, 2018). Moreover, both Vietnam and Indonesia are the important members of Association of South East Asia Nations (ASEAN) (ASEAN, 2018). Another similarity that Vietnam shares with Indonesia is that both countries are lower middle income countries, with a developing economy (World Bank, Country Profile - Vietnam, 2016). In the financial market, Vietnam's banking system is dominated by three state-owned banks: Vietinbank, BIDV and Vietcombank. However, these institutions are not fully owned by the state. For instance, 20% of Vietcombank is now owned by Bank of Tokyo Mitsubishi UFJ while 15% of Vietcombank is owned by Mizuho Bank Japan. Nonetheless, the dominant of state-owned banks and enterprises are very popular in any industry of the Vietnamese economy. Some details about Vietnamese economy can be found in Figure 5 below:

GDP (current USD - billions)	205.28
Annual GDP growth (%)	6.2
Inflation (%)	1.1
Agriculture, value added (% of GDP)	18
Industry, value added (% of GDP)	36
Services, value added (% of GDP)	46

Figure 5

(Source: World Bank database, 2016)

4.2 Current situation of the xBRL adoption process in Vietnam

In Vietnam, according to the “Plan to develop Vietnamese Statistical Science in the period of 2011-2020” proposed by Ministry of Finance, studying and adopting xBRL is considered as an important goal of the finance industry (Ministry of Finance, Vietnam, 2014). Ever since, there have been some journals and researches on the importance and necessity of adopting xBRL into the Vietnamese financial system. With the financial support from the World Bank, the State Bank of Vietnam (SBV) started a project called FSMIMS project. Cooperating with Willbe Solution from Korea, the SG4 contract, one part of the FSMIMS project, was launched by SBV in October 30th 2014 (B. An, 2014). After 25 months of researching, from January 1st 2017, the State Bank of Vietnam (SBV) started to deploy the new reporting system with xBRL standard. This

new system was applied to all of the Vietnamese banking system, including departments and branches of SBV, 123 financial institutions with 2362 branches of them and 1179 People's Credit Funds in Vietnam (SBV, 2017). The new system was called Data Submission 5 (DS5). DS5 provided external users with two options to submit the data: via the software called UDSS or via the data submission portal. External users were also given three forms of data that they could submit: excel files, xBRL files or directly input the data. With the internal users, the DS5 allowed them to check and manage the submitted data, create plans and schedules for submission and request the reports from specific external users. After 3 months of operation, DS5 was able to collect 107365 daily reports, 12488 periodical reports, 188029 monthly reports, 6613 quarterly report and 591 unexpected reports from all of the banks around Vietnam (SBV, 2017). This could be considered as a favorable beginning.

However, to further widespread the usage of xBRL into the whole national financial system, Vietnam still had a long journey ahead. There are still many problems that SBV needs to solve if they want to finish their ambitious plan of having a complete xBRL system in the industry of the whole countries. First, in spite of all efforts that SBV have made, the awareness of the accountant community in Vietnam about xBRL is still very low. There are almost no training class opened for engineers and accountants about xBRL. The amount of information about xBRL in Vietnamese is also limited. xBRL is not even mentioned in any accounting textbook that being used to train accountants in Vietnam at the present. Moreover, the country has no school or training courses for financial engineering. As a result, except some experts and some top accountants of the financial institutions, most of the accountants in Vietnam still have

no idea about xBRL. Moreover, the Vietnamese economy has not fully recovered yet from the economic crisis in 2008 and still showed many signs of instability. Specifically, the stock market had been showing dangerous signs. It should also be mentioned that most of the Vietnamese companies are small-size and super-small-size enterprises. According to a report by Vietnam Chamber of Commerce and Industry in 2015, only 3.89% of more than 400.000 of Vietnamese enterprises were middle and big size companies (Vietnamese Chamber of Commerce and Industry, 2015). It indicated that, most of the companies in Vietnam did not have enough resources as well as did not have any interest in adopting xBRL system. This might actually became a backlash to the adoption process, since it can greatly increase the resistance from the companies during the adoption process. Such issues require SBV to put great efforts to complete the xBRL adoption process.

4.3 Suggestions

In spite of all achievements, SBV has not been able to bridging the chasm yet. In other words, all they have done so far were just being the first-mover and running pilot with good results in a chosen object, which was the banking industry. To further implement xBRL into the national financial system, here are some suggestions that this paper would like to suggest. First, *the awareness of the community about xBRL must be greatly improved*. Training courses should be provided to accountants and financial engineers to help them know and understand about xBRL. Supports, both technically and financially, should be given to listing companies to encourage them to take part in

the process. Conferences, meetings, discussions should be hold with the participation of domestic accountants, financial engineers, Vietnamese xBRL experts, international xBRL vendors and XBRL community. Second, with all the power and resources given to SBV, they should *continuously work on improving the xBRL system*. DS5 was a good beginning, but further improvement should be made upon it to make it fit with not only the banking industry but also other parts of the economy. It should be revised at least annually, similar to what SVS has been doing in Chile, to make sure that the system fits with the current laws and status of the economy. Third, *the help from external factors* will also play a significant role. So far, SBV has received great financial support from World Bank, but they have not received any technical assistants from outsiders. It forced SBV to spend a lot of money on hiring consulting firms from Korea to join in the process. This limited the available money that could be used for training and other activities to develop the domestic infrastructure for xBRL. In short, SBV should be more active and open to the domestic accounting community, keep improving the current xBRL system, and make use of the help from external factors to facilitate the adopting process of xBRL into the national financial market and achieve positive outcomes.

5. Conclusion

Throughout previous sections, this paper has been showing a discussion on why and how Vietnam should adopt xBRL into the country's financial system. By using the Technology Adoption Life Cycle and Chasm Model, the discussion about two cases, Peru and Indonesia, shed the light on some problems that Vietnam may have to face, as well as suggesting some solutions based on the actions took by each country to deal with these problems. The suggestions are: (1) *improving awareness of the community about xBRL*, (2) *continuously improving the current using xBRL system in the banking system to make it fit better with other financial institutions and* (3) *make the best out of any possible external helps and resources.*

The paper started by taking a look on some literatures about xBRL, its importance and the role it played in the financial market. In addition, previous papers and researches about problems of the financial market and how xBRL can help countries to overcome such problem were also presented. After that, to help understanding on how Vietnam should launch the adoption process, two case studies of other countries, Peru and Indonesia, were described. . Then, the paper examined the situation of Vietnam's effort to imitate xBRL. In reference to the previous case study, the paper eventually made some suggestions for Vietnamese's government, specifically SBV, to further widespread xBRL into the country's economy.

After all discussions, this paper still had some inevitable weakness. First, it could not show any specific data on exactly how xBRL could improve the effectiveness

of information sharing and reduce information asymmetry in the financial market. Second, the paper was unable to make any detail suggestions or plans for the Vietnamese's SBV to put into action. And finally, an exactly model was failed to be proposed, because there was no pattern or model could be found based on previous researches and papers. Such weaknesses are implication for further research to work on and try to find out a model for not only Vietnam, but also other developing countries to adopt xBRL into their national system.

Bibliography

- ACRA Singapore. (2016, November 16). *Revised XBRL filing requirements*. Retrieved 2018, from ACRA - Accounting and Corporate Regulatory Authority: <https://www.acra.gov.sg/components/wireframes/howToGuidesChaptersDetails.aspx?pageid=810&contentid=818>
- Ankelof, G. (1970). The market for lemons: Quality uncertainty and the market. *The Quarterly Journal of Economics*, 488-500.
- APEC. (2018). *APEC member economies*. Retrieved 2018, from APEC - Asia-Pacific Economic Cooperation: <https://www.apec.org/about-us/about-apec/member-economies.aspx>
- ASEAN. (2018). *ASEAN Member States*. Retrieved 2018, from ASEAN - Association of South East Asia Nations: <http://asean.org/asean/asean-member-states/>
- B. An. (2014, October 31). *To create a State Bank Databank*. Retrieved 2018, from Vietnamnet: <http://vietnamnet.vn/vn/kinh-doanh/xay-dung-kho-du-lieu-ngan-hang-nha-nuoc-204905.html>
- Bartley, J., Chen, Y., & Zalkin, E. (2010). *A Comparison of XBRL Filings to Corporate 10-Ks — Evidence from the Voluntary Filing Program*.
- BBC. (2012, August 14). *Chile country profile*. Retrieved 2018, from BBC World News: http://news.bbc.co.uk/2/hi/americas/country_profiles/1222764.stm
- Bohlen, J., & Beal, G. (1957). *Special Report No. 18. Agriculture Extension Service*. Iowa State College.
- Debreceeny, R., Felden, C., Ochocki, B., Piechocki, M., & Piechocki, M. (2009). *XBRL for Interactive Data: Engineering the Information Value Chain*. Springer.
- Du, H., Vasarhelyi, M., & Zheng, X. (2013). XBRL Mandate: Thousands of Filing Errors and So What? *Journal of Information Systems*, 61-78.
- Dung, N. A., & Tu, P. Q. (2014). To implement xBRL to improve the efficiency of information announcement in the stock market. *Journal of Economics and Development*, 42-49.
- FFIEC. (2006). *Improved Business Process Through XBRL: A Use Case for Business Reporting*.
- Garbellotto, G., Simões, B. D., & Nascimento, L. D. (2015). *DRIVING EFFICIENCY AND TRANSPARENCY IN GOVERNMENT REPORTING WITH XBRL GLOBAL LEDGER The Experience of the National Treasury in Brazil*. Brazil.

- GeeXBRL. (2016, January 20). *2016 XBRL Forecast in Indonesia*. Retrieved 2018, from GeeXBRL - XBRL-Indonesia Community Site:
<https://geexbrl.wordpress.com/2016/01/20/2016-xbrl-forecast-in-indonesia/>
- Global Edges. (2018). *Chile: Supervision of Securities and Insurance (SVS)*. Retrieved 2018, from Global Edges: Your source for global business knowledge:
<https://globaledge.msu.edu/global-resources/resource/10626>
- Ho Chi Minh Stock Exchange. (2017). *Annual report*.
- International Monetary Funds. (2017). *World Economic Outlook, October, 2017*.
- International Monetary Funds. (2018). *World Economic Outlook Database*.
- Ministry of Finance, Vietnam. (2014, November 27). Plan to develop Vietnamese Statistical Science in the period of 2011-2020. *3036/QĐ-BTC*.
- Moore, G. (1995). *Inside the Tornado*. HarperCollins.
- Mora, J. (2015). *Lessons learned implementing IFRS with XBRL in Latinamerica*.
- Nitchman, D. (2015, August 21). *Indonesia hosts regional XBRL conference*. Retrieved 2018, from xBRL International: <https://www.xbrl.org/indonesia-hosts-regional-xbrl-conference/>
- SBV. (2017, April 4). *Announcements of SBV about implementing SBV's new reporting system*. Retrieved 2018, from State Bank of Vietnam:
<https://www.sbv.gov.vn/webcenter/ShowProperty?nodeId=/UCMServer/SBV290772/idcPrimaryFile&revision=latestreleased>
- Sepúlveda, A., Flores, D., & Sakuma, I. (2012). *XBRL In Latin America*.
- SSC. (2017). Information transparency of publicly listed companies and some problems. *Journal of Securities*.
- Sugalih, Y. M., & Pahlisa, P. (2015). *CASE STUDY: XBRL IMPLEMENTATION FOR INDONESIA'S ISLAMIC BANKING REGULATORY REPORTING SYSTEM The Experience of the Central Bank of Indonesia*. Indonesia.
- Trinh, H. H. (2016). To complete the information system of Vietnamese stock market.
- Vietnamese Chamber of Commerce and Industry. (2015). *Annual report about Vietnamese Enterprises 2015*. Ha Noi: Information and Communication publishing house of Vietnam.
- Vietstock. (2018). *Vietstock - Technical Analyst*. Retrieved 2018, from Vietstock.vn:
<http://ptkt.vietstock.vn/>

Wohlers Associates. (2002). *Rapid Prototyping & Tooling State of the Industry*.
WOHLERS ASSOCIATES, INC.

World Bank. (2016). *Country Profile - Chile*. Retrieved 2018, from World Bank
Database:
http://databank.worldbank.org/data/views/reports/reportwidget.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=CHL

World Bank. (2016). *Country Profile - Indonesia*. Retrieved 2018, from World Bank
Database.

World Bank. (2016). *Country Profile - Vietnam*. Retrieved 2018, from World Bank
Database:
http://databank.worldbank.org/data/views/reports/reportwidget.aspx?Report_Name=CountryProfile&Id=b450fd57&tbar=y&dd=y&inf=n&zm=n&country=VNM

xBRL International. (2018). *An Introduction to xBRL*. Retrieved 2018, from xBRL
International: <https://www.xbrl.org/the-standard/what/an-introduction-to-xbrl/>