

Localization in educational mobile games:

**Multiple case studies of educational mobile games in the emerging market,
Vietnam**

Master's thesis

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Abstract

The thesis studies the localization/globalization of educational mobile games in emerging markets, particularly Vietnam. In detail, the thesis investigates how an educational mobile game company balances their localization strategy in the pressure of Global Integration-Local Responsiveness (GI-LR), the drivers behind the localization choice and level, and how players react to the strategy.

The study reviews and summarizes literature review related to GI-LR for MNEs and localization strategy for born-globals and suggests a framework for educational mobile game companies. The literature review indicated that while born-globals try to standardize their products, due to external and internal drivers, they have to adapt to local responsiveness on some levels. The suggested framework indicated that there are three levels of localization for educational game companies: simple, complex, and blending; besides standardization strategy. The thesis focuses on external drivers such as cultural differences and customer demands and studies how this affects the localization level of each game company.

The thesis employs multiple case studies to compare different educational game companies that have different localization levels and serve different customer demands. The data collected from both America and Vietnam reviews similarities and differences in how users of each region perceive the games, react to the localization level of the games and suggest game improvements. The study figured out that cultural differences, especially language, and customer demands can change the level of localization of educational game companies. The level of localization can extend to one or several elements of the game. Users from Vietnam noticed some limitations of local language courses and suggested having their local language to be able to understand some games. In the context of emerging markets which have diverse culture and demands, educational game companies should do intense market research in advance to check whether they need to alter the localization level, reducing or raising the total cost of expanding to emerging markets.

Keywords GI-LR, born-globals, localization, emerging markets, educational game companies

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1. INTRODUCTION

The game market has never lost heat in the entertainment business. By 2019, the game market is estimated to generate 152 billion, with 45% coming from the mobile gaming sector. Besides, the game market attracts approximately one-third of the population in the world with 2.4 billion people playing mobile games (Kaplan, 2019). Of all game types, the educational mobile game market has an impressive growth rate of 37.1% annual growth rate and is estimated to reach 17 billion by 2023 (Valentine, 2019). The heat from the mobile game market has attracted many participants in the game market such as game publishers, game developers, and digital distribution platforms to join and take advantage of the opportunities.

With the advancement of technology, many game companies can sell their digital products globally right from inception. These companies are called born-globals. Born-globals are newly established companies that lack knowledge and resources. As a result, they try to develop standardized products to sell globally, reduce cost and maximize profits. However, they also face another challenge: local responsiveness. The difference in customer taste and cultural differences lead to many failed products of many game titles when entering other locations, such as Asian locations. Addressing national differences, including customer tastes and cultural differences, consequently, balancing localization/globalization strategies are more and more important to mobile game companies.

1.1. Research background

Asia is the most prosperous mobile game market in the world. In 2015, Asia surpassed all other regions and contributed more than half of mobile game revenue with 56%. Asia also provides more than half of the mobile game audience to the whole world market. Mentioning the Asian market, investors usually pay attention to the big three game markets, including China, Japan, and Korea. The three markets account for nearly 90% of the revenue from the mobile game market. However, recently, the growth rate of the mobile game market in these big three has been slowing down due to the saturation of the mobile phone market (Superdata, 2016). Of all regions in Asia, Southeast Asia (SEA) is the fastest-growing market in the world with more and more people having access to at least one smartphone (Valentine, 2019). Emerging markets in

Southeast Asia include Vietnam, Singapore, Thailand, Philippines, Malaysia, and Indonesia. The mobile game market of this region has a growth rate of 17.4% year over year. It contributes 2.6 billion in revenue, 2019, creating opportunities for mobile game developers locally and globally to enter and take advantages. Of all platforms, mobile games are surpassing PC and console, becoming the most profitable platform in the SEA market. Mobile game revenue accounts for the majority of total game revenue in the region. Besides, the growing population in emerging markets also creates more prospect opportunities for game publishers. Besides opportunities, global markets need to face challenges when entering the SEA market. Firstly, the SEA market is highly dominated by local game publishers. They understand audience preference and taste far more than any foreign companies. Secondly, big game companies from the big three, China, Japan, and Korea are heavily invested in the SEA market. Compared to Western countries, these big three have more similarity in culture to offer suited game titles. Thirdly, the game industry is highly regulated in the SEA market, which makes or breaks the deal of many different game companies. This thesis aims to address only cultural differences and customer tastes in emerging markets, particularly in Vietnam mobile game market, so that foreign game publishers can understand more of the challenges when entering Vietnam and how they can balance the globalization/standardization strategy.

The demographic background of Vietnam is favourable to the mobile game market. Vietnam has a total population of 93 million, in which 49 million are active Internet users. In 2016, the rate of smartphone penetration in Vietnam was 72%. Of all sectors, the gaming sector is attracting the most daily use and more extended engagement with 67% daily active players (Appota Group, 2017). Sharing the same trait as the SEA market, since 2015, the mobile game market in Vietnam surpassed PC and console. In Vietnam, there are more than 30 million gamers, ranked 2nd in game download and ranked 1st in game revenue which is expected to grow by 25% in 2019 (Nguyen, 2019). Besides the opportunities of demographic background, Vietnam also attracts investors by the high demand in education mobile games. As stated by the Deputy Ministry of Education, “playing games is a reasonable demand for students. Producing and publishing educational mobile games are encouraging and promising... Educational games should be entertaining, gentle, and a platform for knowledge and skill improvement” (Translation from a national newspaper - Enternews.vn, 2013).

A collection of literature related to globalization/localization strategies and born-globals reviews several research gaps that this thesis aims to cover. Firstly, Global Integration - Local Responsiveness (GI-LR) is a well-known framework used by international business scholars to explain the difference of globalization/localization strategies in multinational companies (Barlett, 1985; Porter, 1985; Bartlett & Ghoshal, 2008; Hill, 2013). This thesis also used GI-LR as a framework but in the setting of born-globals, the new phenomenon of international business recently, contributing to the richness of born-global literature in the topic of globalization/localization strategy. The thesis tries to investigate deeper to explain how born-globals balance the globalization/localization strategy in the background of cultural differences and consumer tastes, and how customers react to the strategy. Secondly, the majority of game studies choose the big three countries, China, Japan, and Korea, for their research; however, studying emerging markets can contribute another perspective to those who want to enter new markets. The thesis contributes to the game study of the Vietnam market, one of the fastest-growing markets in the mobile game industry in the world. There is little research in the mobile game studies covering emerging markets and suggest strategies for mobile game companies to address national differences among markets. Finally, among the born-global company sector, the thesis conducts an empirical study on educational game companies. Since education has a strong relationship with culture, understanding how cultural differences and diverse customer tastes affect globalization/localization strategy can benefit hugely educational mobile game companies which want to balance their global strategy.

1.2. Research questions and objectives of the study

The objective of the thesis is to contribute a framework of globalization/localization strategy for educational game companies in the emerging market, Vietnam; investigate how cultural differences and customer tastes can affect the way educational companies balance their global strategies and understand how customers react to the localization/globalization decisions of the companies. To achieve the objectives; firstly, I would like to analyze existing literature review related to globalization/localization strategies and born-globals to propose a framework of balancing the strategies for born-globals. Secondly, I would investigate the drivers behind the

localization/globalization decisions and focus more on cultural differences and customer tastes. Thirdly, I would conduct an empirical study on foreign educational game companies that launch their games in the Vietnam market to identify the cultural differences and customer tastes in Vietnam, localization/globalization of the educational mobile games when releasing the games in Vietnam, and how Vietnamese players react to the strategies. Finally, I would propose implications to educational game companies who want to enter emerging markets, especially Vietnam. To assist the study, I need to address these research questions:

1. How do educational game companies address GI-LR in global expansion?
 - a. How do firms balance the localization/globalization strategy?
 - b. What are the drivers behind the localization/globalization decisions?
2. How do customers react to the localization/globalization decision of educational game companies?

2. LITERATURE REVIEW

2.1. Born-globals and MNCs

Back in 1971, the definition of small firms was first discussed by The Botton Committee. It gained the consensus in the committee that criteria defining a small firm were not limited to one single principle and not applicable to the whole economy. That said, each industry in a market requires different definitions of small firms. The purpose of defining a small firm is to make clear the differences between small firms and larger entities. The committee presented a list of criteria along with each industry for a small-firm definition. The list includes the market share of the firm, organizational structure as to whether it is managed in a personalized way or formalized structure, and the power of deciding whether the firm belongs to a larger entity where a higher rank authority partly influences its operation. The Botton committee compared the statistical definition of small firms in nine industries consisting of Manufacturing and Retailing (less than 200 employees with revenue less than £50,000 p.a.); Wholesale trades (less than £200,000 revenue p.a.); Construction and Mining & Quarrying (less than 25 employees); Motor Trades (less than £100,000 revenue p.a.); Miscellaneous services (less than £50,000 revenue p.a.); Road Transport (less than five vehicles); Catering (All but multiples and brewery managed public houses). Unfortunately, the Botton Committee only discussed the definition of a small firm which limits to nine industries in the whole economy. Other than the Botton Committee, European Commission tried to define the small and medium companies. However, their definition also limited to several statistics and was applied to a whole economy. According to the European Commission, an SME employs less than 250 staff and gains up to fifty million euro; or has a balance sheet of no more forty-three million euro (Commission Recommendation of 6 May 2003). Enterprises further are classified mainly based on the number of employees. There are micro-enterprises (less than ten employees); small enterprises (10-49 employees); medium-sized companies (50 - 249 employees); small and medium-sized enterprises (SME, 1-249 employees); large enterprises (more than 250 employees). Although MNEs are considered the backbone of many countries, especially European (European Commission), they receive little attention from the public than their larger counterparts; because there are many of them and diversification in their activities and strategies (The Botton Committee, 1971). SMEs are the source of potential jobs, economic growth, and in the current state, innovation, and

technology. Besides all large enterprises started small. There is an increasing demand for building framework and theories for SMEs' strategy and operation.

Of all SMEs, born-global companies are born thanks to the development in technology and knowledge economy, which quickly draws attention from business scholars. Some scholars, such as Oviatt and Dougall, argued that the born-global phenomenon is not new. They tried to find a way to fit the born-global companies' international strategy into multinational enterprises' existing theories; others believe that the term is rather new, creating a debate in the current literature (Chetty and Campbell-Hunt, 2004).

In the late 1990s and early 2000s, many internationalization researchers witness the rapid expansion of small and medium-sized (SMEs) that have different global strategies compared to their larger counterparts (Rennie, 1993; Knight & Cavusgil, 2004; Etemad, 2013; Laanti, Gabrielsson, & Gabrielsson, 2007; Bell, McNaughton, & Young, 2001). The born-global phenomenon is reported to appear worldwide. Despite the scarcity of resources, born-global firms managed to expand globally shortly after or near their inception (Knight and Cavusgil, 2004).

Born-globals is a newly emerging term that dates back to Welch and Luostarinen (1988) which have been cited by numerous born-globals scholars without original contribution (Bader & Mazzarol, 2009). Welch and Luostarinen explained that the difference in international strategies among small and medium-size companies are strongly influenced by the owner/ managers that operate these companies. Their mindsets are global at the outset. "One person's (or company's) evolution often appears as a revolution to others" - Welch and Luostarinen (1988). Since this discovery, many researchers made attempts to build definitions around born-globals, popularly, by Rennie (1993), Oviatt and McDougall (1994), and Knight & Cavusgil (1996).

Required Characteristic	Definition By:		
	Rennie 1993	Oviatt & McDougall 1994	Knight & Cavusgil 1996
There is a firm?	Yes	Yes	Yes
Is the Firm a Small Firm?	No	No	Yes
International Sales?	Yes	Yes	Yes
Number of Products?	Not Defined	Not Defined	'One or Several'
Minimum Sales Ratio?	75%	No	25%
Required time to Export?	Two Years	From 'Inception'	From 'Earliest Days'
Minimum Foreign Market Requirement?	At Least One Country	Multiple Countries'	Multiple Countries'
Minimum Financial Value?	\$AUD12m	No	No
Business is Technology-Oriented?	No	No	Yes
Technology is 'Cutting Edge'?	No	No	Yes
Management by Entrepreneurs?	No	No	Yes
Firm Should Control Assets?	Not Applicable	Yes	Yes
Assets are Knowledge Based?	Not Applicable	Yes	Yes
Domestic Operations Unprofitable?	Not Applicable	Yes	Yes
Initial Resources are Scarce?	Not Applicable	Yes	Yes

Figure 1: Comparison of different born-global definitions (Rennie, 1993)

Even though there are disagreements in the born-global definitions from famous scholars, there is a universal consensus that defines a born-global firm. They manage to go internationally shortly after their founding. The 'shortly' timeline is two years from inception proposed by Rennie (1993), from the beginning (Oviatt & McDougall, 1994), and the earliest days (Knight & Cavusgil, 1996). Other than the timeline of international expansion, researchers defined born-globals by a company's size, global sales, and its ratio, product type and quantity, export time, international markets, financial values, assets and resources states. According to Rennie (1993), a born-global company is a firm that exports at least a three-quarter ratio of their total sales within two years from inception. It expands to at least one new country and gains a revenue of approximately twelve million AUD. The born-global definitions of Oviatt & McDougall and Knight & Cavusgil add more characteristics into the debate. They proposed that a born-global company should control knowledge-based assets. They seek to expand internationally to exploit the resources at other markets because of unprofitable domestic operation and resource scarcity. In a combination of abundant definitions, Bader & Mazzarol, 2009 proposed a born-global definition:

"A Born Global Firm is a new firm that makes at least one international sale to any new market within two years of formation."

Based on this definition, we can understand that a born-global firm:

1. A newly established enterprise
2. Wish to expand internationally (because of difficulties and competitive disadvantages in the domestic market)
3. Into any new market (to exploit the resources, knowledge in this new market)

4. Within two years of inception.

Traditional internationalization theories described the global expansion of MNEs as incremental steps towards new markets depending on psychic distance and knowledge achievement during the process. However, the global game has changed thanks to the advanced technology and new knowledge economy. Small and medium firms are not necessarily involved in the process of penetrating gradually while building a strong network and know-how (Bell, McNaughton, & Young, 2001). In the research of contemporary literature review on SMEs, Coviello and McAuley (1999) found a combination of many internationalization strategies. Empirical studies from researchers figured out that there are SMEs who expand globally according to incremental steps, some challenge the traditional views in which SMEs quickly obtain success when going international. Therefore, empirical research recently finds it hard to conclude born-globals have one singular strategy to go global speedily or incrementally. Bell (1995) and Lindqvist (1997) claimed that based on the network relationship with clients and suppliers and partners, born-globals decide the international strategy. However, these researches focus on software products.

Software products are different from traditional products because they can be electronically distributed, which affects the market selection and entry mode. Other born-global researchers that advocate network framework in born-global literature are Gabrielsson et al. (2008). They divided the born-global development stages into three phases: introductory phase; growth and resource allocation; break-out and required strategies. In the first phase, a newly born firm is in lack of resources and network. Founders play an essential role in the success of the firm in this phase, whether they have the entrepreneurial skills to choose the right network channel to boost sales. After building a network of partners and clients, the second phase requires a born-global to have innovative and unique products/ services to survive. If a born-global can survive two stages, they would accumulate a significant knowledge in the network of partners and key clients to build suitable strategies and partially or fully independent in the network.

After analyzing multiple frameworks in the field, Rialp et al. (2005) found out the similarity shared between the born global literature. The development of the born-global phenomenon was because of new market conditions; technological advancement in terms of communication,

transportation, and production; international network enhancement; and entrepreneurial skills of the founding teams (organizational skills). As a result, a founding team with a global mindset takes advantage of niche markets that have a low, competitive barrier from MNEs. At the beginning of establishment, even though the founding team encounters resource scarcity such as human resources and financial resources. They can deal with the difficulties thanks to the technological advancement in communication, transportation, and production. Software companies are one of MNEs that can become born-global from inception. Thanks to the appearance of the world wide web in 1989 which opens a whole new market for software companies. From the introduction of hardware companies such as IBM, Intel, HP to the launch of software companies such as Microsoft, Google, Facebook, Zoom, Gmail, Yahoo to the appearance of browsers such as Internet Explorer, Chrome, Firefox, Safari; communication between companies and customers became more accessible than ever. Back in the day communication was processed by mail which delayed the transaction process, thus, increasing the transaction cost, with the help of technological advancement, one transaction could be made within a matter of seconds.

Advancement in technology and the knowledge economy also opens new opportunities for small and medium companies to enter a foreign market (Doz et al. 2001). While technology reduces transaction cost (Knight and Cavusgil, 2004), makes transactions going faster, the knowledge economy poses challenges for MNEs. According to Doz et al. (2001), knowledge is a new competitive advantage; knowledge is scattered around the world and easily accessible thanks to technological development. Companies that take advantage of expertise create their competitive advantages and high barriers in a new market. In the global economy, innovation is a core to the success of a company (Doz et al., 2001; Rialp et al., 2005; Knight and Cavusgil, 2004). Change is created by assessing, analyzing, taking advantage of knowledge (Doz, 2001). Technology makes human life easier which also creates new demand from customers. Before the Internet, communication among humans was supposed to be more difficult, more time-consuming, and costly. Information and knowledge used to be stored by paper. Working and calculating cost more human resources. Thanks to technology development, communication is processed by phone, online call, and email; data storage devices, now cloud store information; computers perform many hard works for humans including calculation, creating and sending documents,

storing files, and so on. A born-global, as a result, finds it easy to search for information about a new market over the Internet. With the innovation of digital distribution channels such as Google Play, Apple Store, Amazon AppStore, Microsoft Store, software products can reach users immediately. Since knowledge is more comfortable to access, born-globals have more understanding of new markets which make them prepare in advance and make an international move based on experience.

Knight and Cavusgil (2004) argued that the born-global phenomenon was challenging traditional theories and offered a new framework. They used the organizational capability to explain the development of born-globals internationalization strategies. They indicated that the most critical attributes in corporate culture are international entrepreneurial orientation and international marketing orientation. Entrepreneurial skills refer to the capabilities of founders and key personnel in making operation strategies, having a global mindset, choosing the market, and selecting the entry mode. It also refers to the abilities of business entrepreneurs to form alliances and partnerships with suppliers, distributors, foreign governments, and customers. Other than entrepreneurial skills, to achieve success in the international markets, entrepreneurs also need to prepare a global marketing mindset including introducing their products/ services to customers, persuading the value of using the products/ services, and retaining customers for the long term. Thanks to both entrepreneurial skills and marketing skills, born-globals can exploit technological advancement to create unique and high-quality products and leverage foreign distributors to gain useful business results. Even though Knight and Cavusgil (2004) claimed that born-globals should have their field of research, they still refer to the network framework in their research. They mentioned one of the essential attributes to the performance of born-globals in the foreign market is leveraging international distributors. Besides entrepreneurial skills, one characteristic mentioned by Knight and Cavusgil (2004) is marketing orientation. This attribute is studied by many traditional researchers, one of whom is Hill (2013). Hill explained why marketing is vital in competing in a global market and raised the importance of varying attributes of a product for different markets. In the marketing field, the most popular argument of going global is whether to localize or to standardize products. This argument becomes the centre of many international business scholars.

2.2. Localization/ Globalization strategies of born-globals

The failure of Uber in the Asia market, Bestbuy in European and China, Google and Facebook in China have proved that even big corporations can make big mistakes when operating in foreign countries. The reasons for failure can vary based on location, entry mode, enterprise structure and international experience. Before globalization, your competitors might locate in the same city, same country, or share similar advantages as you (Spulber, 2007). However, in the global market, companies need to compete with other rivals from different countries or local companies who enjoy local advantages.

Thanks to the assistance of technology, educational digital game companies can enjoy globalization earlier than most MNCs. In the definition of global-born companies, most of them go global within three years of inception. They can offer products to customers in foreign countries even when they do not have an entity in those countries. Customers can get access to the products via distribution systems such as Apple Store, Google Play, Amazon, and Microsoft store. Even though digital game companies can achieve globalization sooner, as Spulber mentioned, globalization is not a destination, but a journey to overcome four barriers: transactional costs, tariff, transportation costs, and time costs. Learning how educational game companies can balance between globalization and localization is the central theme of this thesis.

It is widely recognized that international business deals with differences in terms of politics, economics, culture, regulation, and monetary system which can raise or reduce the cost of doing business (Hill, 2013). Globalization is a journey of continuous learning and adapting to the differences and changes in the host countries. Apart from risk, globalization offers opportunities for companies to exploit new markets, serve new customers, increase profit while reducing cost. There are many ways to calculate profit; the popular approach was to calculate how much return on invested capital. A company can increase profit by increasing price, sales, or reduce cost. Expanding globally can help the company to achieve higher profit by either exploiting cheap wage and resources to reduce cost; or to sell more products. To pursue profitability and growth, managers should build a global strategy of their own. Based on the high demand of new frameworks for global strategies, many global competitive frameworks were born to assist the decision making of MNCs (Ghoshal, 1987) in which the most popular framework was Global

Integration - Local Responsiveness, advocated by Barlett (1985), Ghoshal (2008), Porter (1985), and Hill (2013).

2.2.1. The balance between global integration and local responsiveness (GI-LR)

Ghoshal (1987) refers to a company as a system of input-output; therefore, to achieve efficiency, the company needs to maximize output and minimize input to gain more profit, calculated as the difference of output-minus-input equation. Inputs are elements used to build a product and sustain the business while outputs are monetary gain. MNCs can have both fixed and variable inputs such as machinery, property, factories, labour, material while outputs can be revenue. GI-LR was the efficiency-focused framework.

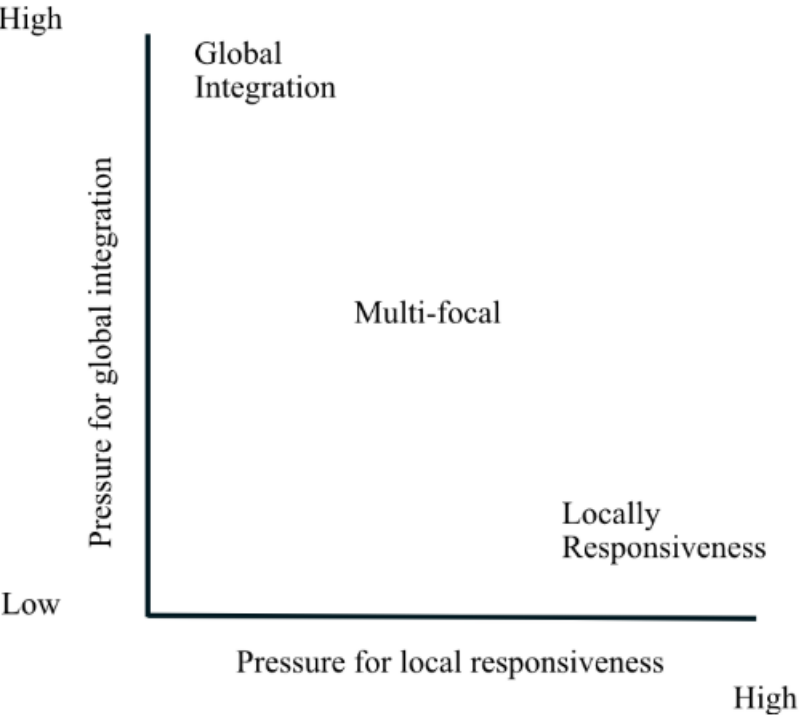


Figure 2: GI-LR framework Prahalad & Doz (1987)

A company typically faces two pressures when expanding to a new country: pressure for reducing cost and pressure for increasing sales. To reduce cost, companies can standardize their products to achieve economies of scale by spreading the fixed price over a large number of products. Economies of scale refer to cost reduction when a company increases production. In the beginning, a company establishes its business by purchasing factories, machinery, land, and

property. The higher products they make, the less cost divided by each product. For example, a company needs to spend a million euro in machinery and properties, if they produce 1000 products, the cost per product is 1000 euro; however, if they make 1 million products, the cost per product is just one euro. Expanding globally is a way for the company to achieve its mass production; however, different taste and preference in host countries can hinder their effort in reducing cost, sometimes, increase more cost for the company. Customer taste and preference are essential in doing business. There is a Japanese proverb saying: 'Customer is God'. Customers are paying for the products they use. A company wants to survive; they need to acquire and attract as many customers as they can. In global business, the competition is harsh with local and international companies; customers are easy to swift among your competitors. Acquiring a customer is difficult; retaining the customer is even harder. Companies usually come up with loyalty programs, promotion to keep the customer in the paying loop to sustain the business. Therefore, understanding customer taste and preference is a priority task before mass production. Once the product is launched to the market, it is costly if targeted customers do not want to buy the products. Researching national differences is more critical in the digital age of social media such as Facebook, Instagram, and LinkedIn. Customers can easily complain about the company's products on social media channels and create a negative viral campaign against the company. The research found out that negative reviews are attracting more attention than positive ones. Thus, to increase sales in a local market, the company needs to deal with different preferences of target customers, consequently, differentiate products based on local responsiveness.

The GI-LR framework is not only applicable to a whole company but can also extend to an industry that a company is operating within or narrow down to a department or a task that needs integration or differentiation. Not all companies face the same pressure as the others. For example, the automobile industry feels less pressure on local responsiveness than the packaging industry. The R & D department aims for product standardization while the customer support department is more locally responsive. Not all countries can understand English well and refer to it as a communication language. Some companies who deal with high pressure for differentiation from the local market can even outsource several tasks such as sales, marketing, or customer support for local companies until the former are ready to take over the duties.

However, the GI-LR framework has limitations as pointed out by Roth and Morrison (1990). The indicated that the major limitation of the framework was the classification problem in which the framework fails to narrow down clusters ‘regarding the interaction of particular industry forces and system states’. Besides, the framework has little empirical evidence to support its credibility. Finally, the framework lacks strategic guidance that is corresponding to each cluster or each level of pressure that exists in different industries and regions.

In addition to Bartlett's GI-LR, Hill (2013) provides a framework of four strategies that a company can take when facing various pressures from industry and the local market. Depending on the pressure for cost reductions or local responsiveness, a company can either take Global Standardization Strategy, or Transnational Strategy, or International Strategy, or Localization Strategy. The most understandable strategies are Global Standardization and Localization Strategies when a company receives the highest pressure of cost reduction and local responsiveness, respectively. Global Standardization Strategy is exploited when the company wants to achieve profitability by economies of scale and standardization products. The company makes an effort in building similar products that can be used to a mass audience. Some industries and companies are enjoying the advantages of building comparable products such as detergent, chemistry, pharmaceutical, beverage industries, and software products. For example, Coca-cola is a popular drink worldwide. The Coca-cola company does not need to change their drink recipe by regions and can sell products to many age ranges. Another example is the pharmaceutical company, Bayer, that sells identical medicine and medical devices to many countries. Localization Strategy is the opposite of Global Standardization Strategy in which a company needs to differentiate their products to match customer preference in various regions (Hill, 2013). The localization strategy only works if one, the company can exchange customized products for a higher price to offset the cost of customization, or two, the company can achieve economies of scale inside the local market to reduce product costs in the future. Some industries and companies require localization strategies. The packaging industry, automobile in left-hand-traffic countries, food industry in countries that prohibit a specific ingredient such as pork and beef, are some of the sectors that need to change their products to pursue customer preference or region customs. Transnational Strategy, as mentioned by Hill (2013), is more critical in the intensely competitive global market in which a company faces similar pressures from both cost

reductions and local responsiveness. A company needs to lower its cost by taking advantage of economies of scale and pay attention to customer preferences to achieve profitability, which is not an easy strategy, as indicated by Hill. Because the company has to balance the cost of building varieties of products and building standardized products, in other words, the company will localize some departments, some product elements and features, or some tasks. Last but not least, International Strategy is the least painful Strategy for managers of such a company that faces less competition and high customer demand. Companies exploiting International Strategy are able to sell limited products for high prices while still not needing to customize their products locally. Some companies in high-end fashion are examples of this Strategy. For instance, Louis Vuitton products are made by hand and in a limited edition that needed reserving in advance. They define the fashion style instead of following customer preference in certain regions. Louis Vuitton does not pursue the economies of scale because the surplus in supply can reduce the value of each product.

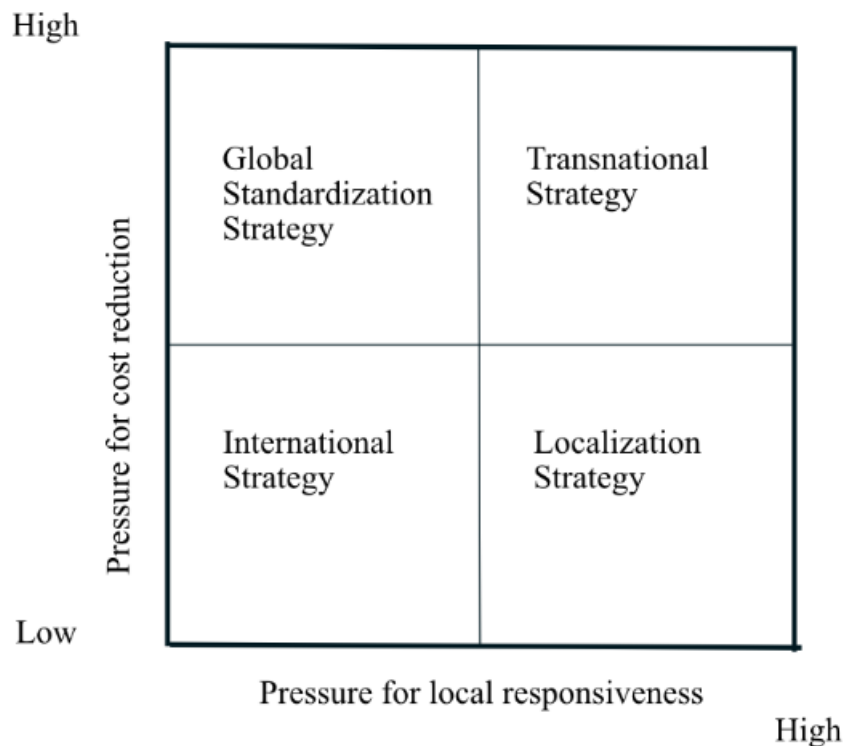


Figure 3: Four strategies based on GI-LR (Hill 2013)

Of four strategies, standardization and localization strategies are the most popular strategies discussed in the global strategy research. Many researchers tried to compare the two approaches for decades. The main disadvantage of localization is the incurred cost that a company has to spend on R&D, building tailored products, customized channels, distributions, and marketing (Petison and Johri, 2008). Localization/globalization strategies address the tension between economic concentration (cost reduced) and political concentration (local responsiveness). Any combination of localization and standardization strategies is grouped into configuration/coordination in which companies can compromise to standardize some activities and tailor other activities. Many scholars favour the configuration/coordination because neither localization nor globalization strategy captures the richness of international strategy choices (Porter, 1986; Zou and Cavusgil, 2002; Fan et al., 2008). A company's global Strategy is influenced by balancing configuration/coordination through the value chain. To find the right combination of configuration/coordination strategy, addressing drivers behind localization/standardization is vital.

2.2.2. Localization of born-global

Born-global, as in the definition, strives to go global within three years of inception. Unlike some traditional MNEs who have enough resources to localize some or all activities of a business, born-globals aim to standardize their products as much as possible (Rasmussen & Madsen, 2002). Born-globals are similar to MNEs in achieving efficiency by maximizing outputs and minimizing inputs. Product standardization can help born-globals to make economies of scale, reduce cost, expand to more markets thanks to the advanced technology. However, not all born-globals can achieve their success in building a similar product that is accepted worldwide. There are still many stories of digital products, such as video games, failing to go international because of cultural and societal differences. For example, Japan and Western countries have different viewpoints in game design. Firstly, born to a culture of anime and manga, Japanese prefer to have abstract and lighter visual style while the Western-like realistic and dark themes. Secondly, while the Western regard their game heroes as someone fully-grown, strong and muscular looking; Japanese usually take the role of teenagers who are growing. Thirdly, since the past war still haunts Japanese, World War II, they do not prefer to have war theme games such as Call of Duty as in Western countries (Gamedesigning, 2019). As

a result, many games such as Call of Duty, Fallout, The Witcher can not compete with Mario, Final Fantasy, and Pokemon in Japan.

Indeed, born-globals still need localization at some levels to adapt to a new culture and society. Localization, according to Fry and Lommel (2007), is the process for a technical company to achieve globalization. In other words, localization is a necessary process for a company to do business in another country. It facilitates globalization by "addressing linguistic and cultural barriers". Schäler (2007) indicated that localization is "linguistic and cultural adaptation to the requirements and locale of the targeted market". Therefore, instead of seeing localization as an opposition term of globalization, one should consider the former as a facilitating step for a global vision. With more and more digital contents come to life, text translation is highly vital in globalization. Translation is the process of transferring text into a targeted language (Anastasiou and Schäler, 2010). Anastasiou and Schäler discussed the difference between localization, globalization, and internationalization of digital contents. They suggested that localization cannot happen without internationalization which creates products or services feasibly to localize. If a digital product or service is not internationalized in the development phase, it is costly to localize it afterwards. Therefore, born-globals typically have an international mindset in building a prototype before launching to the public.

Internationalization	Localization	Globalization
The process of developing and designing a product or service	The process of adapting digital products or services to a linguistic-cultural market. This involves the translation of text and tailoring user interface	The process of bringing modified products or services to the targeted markets. This includes sales and marketing

Table 1: Three processes in localization strategy (Anastasiou and Schäler, 2010)

Research on the localization of digital games, Thayer and Kolko (2004) suggested that there are three types of localization level: Basic localization, Complex localization, and Blending. Basic

localization happens when the developers only translate the text, keep graphical user interface (GUI) and icons remained. Complex localization occurs when the developers change all the GUI, symbols, and text. Blending is the most time-consuming and costly when even the storyline has to be rewritten; game graphics have to be changed based on local tastes whether a digital game company can standardize its product or has to change partly or completely the whole game elements based on the local responsiveness of the target country. Translation of text or shifting symbols are usually easier than changing storyline, or rules of games, or technology - the backbone of the game. For example, Call of Duty, World War II, is famous in the Western country, but if it wants to win in the Japanese market, the game needs to change the storyline or create another version fitted to the market. Digital games, similar to MNEs, need to learn how to balance NI-LR or adaptation and localization and carefully choose the right combination of configuration/coordination strategy. To do so, understanding the drivers behind the combination is necessary.

2.3. Drivers of localization/standardization strategies

The main disadvantage of localization is the incurred cost that a company has to spend on R&D, building tailored products, customized channels, distributions, and marketing. Localization occurs in intense competition, a high level of local responsiveness, diverse culture, and various customer demands. In contrast, the main advantage of standardization strategy is to reduce cost by economies of scale. How to balance and choose the right approach is essential for companies to maximize profit and minimize incurred costs. Most of the localization/globalization research pointed out that there are two main determinants behind the two global strategies: external and internal forces (Petison and Johri, 2008). External forces include factors that exist outside of a company; and hardly can it control the external factors such as government characteristics, market characteristics, industry characteristics. Internal forces are factors that a company can control and transfer it to other subsidiaries across nations. In more details, Terpstra and Sarathy (1994) figured out a list of determinants to localization/globalization strategies as product types, consumer needs, technology, income levels, cultural differences, national resources, government rules and regulators, and competitive intensity. Luo (2001) divided drivers into three categories: environmental, structural, and organizational characteristics. Petison and Johri

(2008) defined localization/globalization drivers as characteristics of (1) host country: nature of economy, environmental complexity, government policy, cultural difference, language; (2) industry: competition level, supplier; (3) market: customer demand and preference; (4) company: company philosophy, international experience, internal resources.

The similarity among these above researches undermined the importance of cultural differences as well as customer demands are external factors that influence a company's decision of localization/globalization. Though the global market has reduced the importance of some drivers such as natural resources and cheap labour wage (Porter, 2001), cultural differences and customer demands are still regarded as primary drivers to localization/globalization decisions, especially for educational mobile games. The development team behind a game usually uses technology to build a standardized game fitted to a large pool of players. The challenges to launch in a targeted market are the differences in culture and customer demands in each country which can make or break the game for the game companies.

2.3.1. Cultural differences

The culture was long defined by Taylor (Soares et al., 2007): “the complex whole which includes knowledge, belief, art, morals, custom and any other capabilities and habits acquired by man as a member of society”. A famous cross-cultural scholar, Hofstede then defined the culture. He mentioned that understanding a human being includes understanding his/her background, from which present and future behaviour of that person can be predicted. He indicated that human nature belongs to a group of people who represent the same value, mindset, and behaviour. It is a ‘collective programming of the mind which distinguishes the members of one category of people from another’ - Hofstede (1994, p.1). He also argued that a national culture is different from an organizational culture in which the latter is easy to change and adjust than the former. Hill (1993) also agreed with Hofstede in defining culture as a system of values and norms that tie people into a group called society. By values, Hill believes it to be an abstract idea that defines some notions is good or bad. By norms, he considers it to be rules and guidelines that shape a person's behaviour. From these definitions, we can see culture as:

1. A group of human beings
2. Shared the same ideas of values

3. Be shaped by these values and norms.

Culture can be seen as a top-down, bottom-up process (Leung et al., 2005). The top-down process can be seen more obviously with commercial treaties and global standards. For example, when a country joins a community, a union, it needs to follow the rules and regulations of that community or association. This global trait can change the way a nation reacts to and adapts its regulations and rules, consequences, changes the way an individual behaves in some circumstances. In contrast, individuals of many diverse groups of the same characteristics can create a distinct national culture, constituting a different global culture. Leung et al. indicated that changes at one level could affect other levels, either top-down or bottom-up.

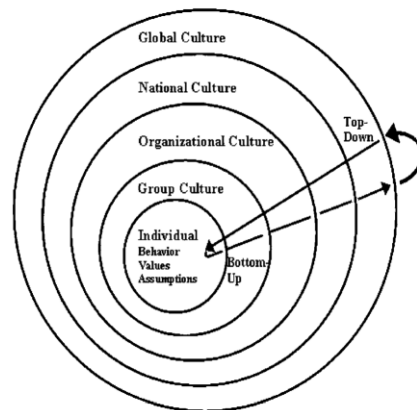


Figure 4: Top-down, bottom up process of culture changes, Leung et al. 2005

Hill (1993) also offered another framework for cultural components. He indicated that culture did not fully form from inception. It takes a while for a national culture, to respond to many factors, including religion, politics, economics, education, language, and social structure.

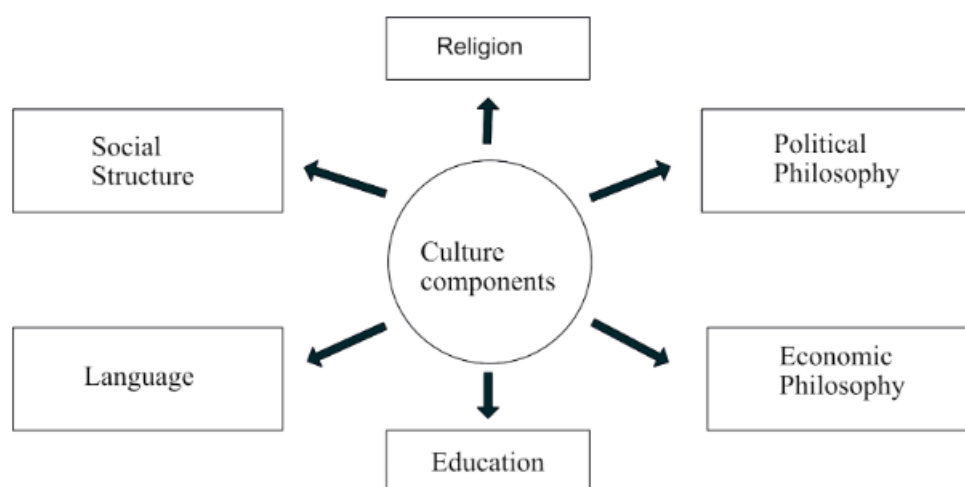


Figure 5: Culture components, Hill (1993)

Social structure, according to Hill, includes individualism and group structure. Many Western societies emphasize the importance of individualism; while many Eastern countries promote group structure. This social structure observation is similar to one of Hofstede's culture attributes, individualism versus collectivism. Individualism vs socialism refers to a loosely or tightly knit group that a person belongs. Individualism society promotes each person to take care of themselves and their nuclear family. In contrast, collective society promotes each person to take care of the whole group as a sign of loyalty. Hill adds one more term to the social structure, social strata, that categorize a person into classes based on family background, occupation, and income. He claimed that some social levels have more access to knowledge and education than the others. As regards religion, Hills differentiate religion practices (beliefs and rituals sharing among religion followers) and ethic systems (values and principles shape a behaviour). Most ethical systems are based on religious beliefs and rituals. The world religion includes but not limits to Christianity, Islam, Hinduism, Buddhism. Some actions and behaviours are acceptable in one faith but prohibited in another. For example, the consumption of pigs is forbidden in Islam rules but allowed in another religion. Another element of culture is education which shapes the future of one country. Education also takes part in a nation's competitive advantages to compete in a global market. Education is the way society prepares for its future. It can be a long-term orientation or short-term orientation (Hofstede). Whether education respects traditions and norms (short-term orientation) or challenges old literature and promotes

changes (long-term orientation). Other elements of culture Hill mentioned are political and economic philosophy in a country. Hill listed possible political structures such as collectivism versus individualism (the idea of emphasizing collective goals or individual goals), democracy versus totalitarianism (the government is built by the people and makes the decision by people representatives versus the government has absolute control over all matters nationally). All possible economic systems include market economy (all enterprises are owned by private entities), command economy (goods and product manufacturers are owned by the government), and mixed economy (some sectors are owned by the government, some by private enterprises). Finally, one of the most noticeable differences among countries is language. Language is an “evident manifestation” of culture - a cultural symbol (Luna, Peracchio, and Juan, 2002). This thesis will focus only on this manifestation of culture.

According to the Ethnologue website, there are approximately 7,111 languages in the world. Language is essential not only in communication among people but also in shaping a person’s perception of the world (Hill, 1993). Because languages have different sounds, vocabulary, and structures, they also form the way we think - Cognitive scientist Lera Boroditsky. For instance, in some languages, people do not perceive direction as turning left, right. They think of direction as going south or north. Languages include not only spoken languages but also unspoken languages such as signs and non-verbal actions. For some languages, shaking the head does not mean they disagree with you. Educational mobile games aim for standardized products; however, some games are more cultural related than the other, leading to a more localized level of game development. For example, educational mobile games that improve language skills of players involve text translation, vocabulary learning, input typing in local languages. These games need to tailor language lessons to the local language of players. Besides, a game company has not only a game platform but also customer support channels, marketing tasks that sometimes require tailored content.

2.3.2. Customer demand and satisfaction

Customer demands and customer satisfaction are closely linked and essential to a business. For a company to increase sales and survive, companies need to understand who are their customers, why they purchase the products, and how to satisfy those needs (Andersson and Mossberg,

2004). Customer needs can be various based on their demographics, living location, and purposes. For example, people in non-speaking countries need to learn English to take the English test certification. They can use the certification to apply for a better job or go abroad and study. Some Asian countries need eating rice more than many Western countries who prefer to have bread. Customer needs in educational mobile games can be divided into three primary needs: skill learning, brain training, and entertaining. Some customers prefer learning more than entertaining, while others play the educational mobile game just for entertainment. Customers who want to improve their language skills or instrument playing skills can find games that are made specifically for the purposes. Customers who wish to enhance their cognitive abilities can seek brain training games. Other customers who want to relax are into quiz, puzzles, and sudoku type games. Understanding the needs of customers can help the educational mobile game to do marketing or tailor products to targeted customers. In the end, customer satisfaction is regarded as one of the performance indicators of individual firms (Okigubo et al., 2009).

Both customer needs and customer satisfaction can be collected and analyzed through the interview and survey. Recently, thanks to the rise of technology, another method is used to collect customer feedback and satisfaction (Mudambi and Schuff, 2010). Online review is regarded as “peer-generated product evaluations”. A company can have its review platform, or the third party can operate a cross-product review for all customers. A typical online review system usually uses a 1-5 star rating with an open-ended description of the score. From there, customers can dialogue with the company about the product features, experience, and price. Reversely, companies can control the brand, understand customer viewpoints, and tailor products if necessary. There are two types of a product review: search review and experience review (Mudambi and Schuff, 2010; Okigubo et al., 2009). Search review is the type of review when customers have not yet used and interacted with the products; while, experience reviews are the type of review written after product usage.

Educational mobile games use Google Play and Apple Store to release their products worldwide. These platforms also offer peer-generated review for the sake of both potential customers and the game companies. Potential leads can read the review and decide whether to give a product

a try; while, the game companies can manage the review, react to negative reviews, and update features and attributes to satisfy customers.

Focusing on the unique and exceptional products is not enough if there is no demand from customers. The profitability of a company depends on customer demands and satisfaction. Analyzing online reviews of educational mobile game companies to identify customer needs as well as interpret customer satisfaction.

2.4. Summary of the literature review

Companies usually face two pressures: cost reduction and local responsiveness. Towards MNEs, they have four strategies to expand globally: Globalization Standardization, Localization, Transnational, and International based on the level of pressures from both economies of scale and local responsiveness. Unlike MNEs, born-globals face cost pressure right from the beginning. The differences between born-globals and MNEs can be summarized in the below table:

Attributes	Born-globals	MNEs
Years of going global	From inception	Gradually
Number of employees	Under 250 employees	Equal or larger than 250 employees
Internationalization strategy	Within 2 years of inception	Incremental steps towards new market
Take advantage of advanced technology	Yes	Some
Products	Mostly digital product and services	Mostly physical products and services
Required international experience of founders	Yes	NA

Table 2: MNEs and Born-globals comparison

Traditional localization/globalization theories suggest an MNEs, due to the pressures from both cost reduction and local responsiveness, have to choose one of the four strategies: Globalization, Localization, Transnational, and International. Born-globals, however, do not have enough knowledge and resources to follow localization or international strategy, they aim to develop a standardized product to release digitally; or localize some internal activities such as research & development, marketing, customer support, or sales; or coordinate with local firms to perform one or several activities. As regards digital games, they make an effort of releasing a homogeneous product to the global audience or make either a basic localization, complex localization, or blending to fit the local responsiveness of the target country. They can also standardize or localize several elements in games: story, mechanics, aesthetics, or technology. Based on traditional localization theories of MNEs and new localization framework of born-global, especially digital games, I would suggest the localization/globalization framework for educational digital games as follows:

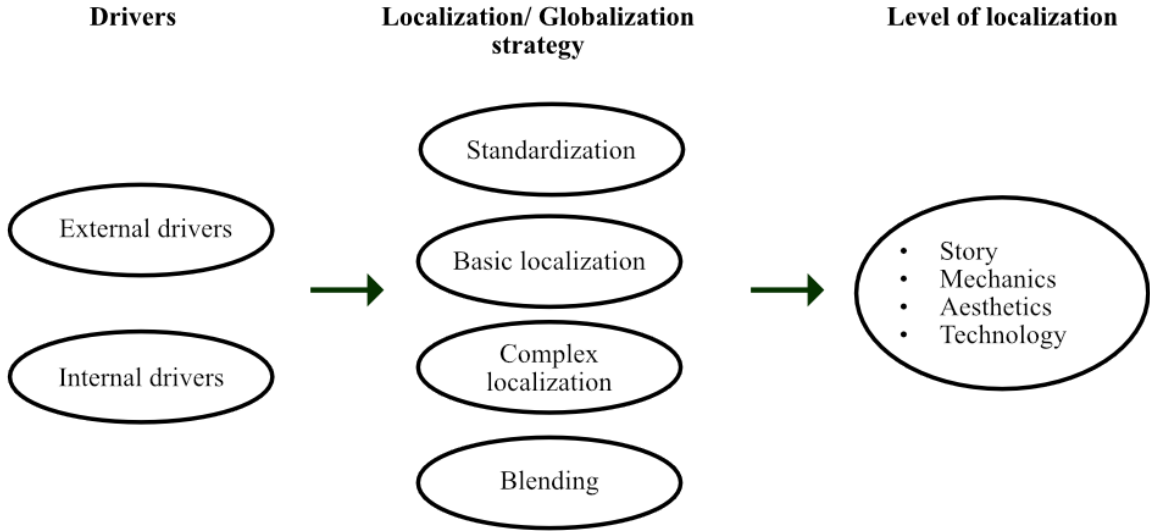


Figure 6: Localization framework for educational mobile game companies

The localization/globalization decisions vary based on external and internal drivers. External drivers are factors that exist out of a company’s control, such as government characteristics, industry characteristics, and market characteristics. Internal drivers exist inside a firm so that it can control the drivers such as product characteristics, organizational characteristics. Below is the summary of drivers from multiple localization/globalization types of research.

Petison and Johri, 2008	Ramarapu et al. (1999)	Luo (2001)
(1) host country: nature of economy, environmental complexity, government policy, cultural difference, language; (2) industry: competition level, supplier; (3) market: customer demand and preference; (4) company: company philosophy, international experience, internal resources.	(1) Place: economy, partners, competition; (2): People: Tastes, Sophistication, Segments; (3): Products: Classification, Technology, Culture-Bound, Reputation, Product perception.	environmental, structural, and organizational characteristics

Table 3: Drivers of localization/ globalization strategies, Petison and Johri, 2008

Among drivers, the thesis focuses on cultural differences and customer taste drivers. Towards educational mobile games, customer needs vary from skill improvement and learning, brain training, entertainment, or a combination of these needs. Language is the most evident manifestation of culture. Different countries develop their language system. Although English is a global language, some countries prefer to have their language translated in the user interface. Digital mobile game companies aim to develop a standardized product to launch globally; they can choose to localize some game elements which are closely related to cultural differences such as story development, mechanics, or aesthetics and standardize technology behind the game. They can also choose to standardize all game elements to maximize efficiency. In the research and development process, there are three processes that game companies employ to develop a product. Development team tries to come up with a standardized product that can launch globally in the Internationalization Process. After that, they can localize text, symbol, or other cultural elements in the Localization process. The globalization process is the sales and marketing process in which companies sell standardized or partly-localized products. Strategies, drivers, and game elements of educational mobile games are presented below:

1. Localization/globalization strategy			
Standardization	Basic localization	Complex localization	Blending
2. Customer needs			
Skill improvement and learning	Brain training	Entertainment	
3. Cultural difference			
Language	Religion	Education	Economics, social, and political factors
4. Game elements			
Story	Mechanics	Aesthetics	Technology

Table 4: Summary of framework for educational mobile games

3. METHODOLOGY AND DATA COLLECTION

In this part, I will discuss the methodology and methods used in this research, how I approach the research questions, data collection, analysis techniques, and data limitations. I also discuss the ethics of conducting this research.

3.1. Methodology and methods

As mentioned in the research background, this thesis aims to propose a framework of how born-globals, especially game companies, balance their globalization/localization strategy in the pressure of GI-LR and the drivers behind the balance. The thesis also aims to conduct empirical research based on localization choice of each game element and customer feedback to figure out how cultural difference and customer taste change the localization strategy of game companies and how customers react to the strategy. Due to the limited globalization/localization of game companies in the pressure of GI-LR, I analyze a large amount of literature related to GI-LR for MNEs and globalization/localization strategy for born-globals separately, then combining them for a framework. I also analyzed literature reviews for drivers behind globalization/localization strategy for MNEs and suggested the drivers for game companies. To figure out how some drivers change localization strategy of game companies and how customers feedback to the strategy, I use the qualitative method as the qualitative method is a suitable method in solving questions related to “experience, meaning, and perspective” (Hammarberg, Kirkman, and Lacey, 2016).

As regards research philosophy, ontology, epistemology, and methodology together build a paradigm that defines values, beliefs of researchers. Each researcher is a philosopher in their world with abstract principles (Denzin, Lincoln, 2011). Along with a long history of studying research, it was figured out that research can no longer be conducted from an objective mind since each researcher wears with them the glass of class, social entity, ethics, gender, and background (Denzin and Lincoln, 2011). Therefore, many researchers attempt to use mixed methods with an open mind to do research (Johnson, Onwuegbuzie, and Turner, 2007). For instance, to do studies on creativity, R. E. Mayer suggested six approaches such as psychometric, psychological, biographical, biological, computational, and contextual and three paradigms such as describe, compare, and relate (Mayer, 1999). Each approach and paradigm

regards creativity as different objects. To fill the knowledge gap, I conducted the research, based on qualitative research and beliefs that knowledge can be accumulated based on my own observations and experience shared by objects.

The case study is used in this research because it meets the requirements of the research technique choice suggested by Yin (2003). A case study technique should be chosen when: (1) the research answers questions “how” and “why”; (2) the behaviour of the researched cannot be manipulated; (3) you want to uncover the phenomenon behind a contextual conditions (4) the boundaries are not clear for the phenomenon and context. I use case studies to find the messages that customers want to deliver to the game companies. As Hammarberg, Kirkman, and Lacey (2016) noticed, the meaning and messages are culturally determined and context-based. I then place the messages in the context of the localization level of the game offered to a group of users and their culture and demand to see how the messages mean in the chosen setting. As the thesis wants to find out how cultural differences and diverse customer demands change the localization of game elements and how users feedback to the strategy, multiple case study techniques are used. Multiple case studies are meant to compare different cases and contexts, while the single case only allows researchers to analyze the phenomenon in a unique setting.

3.2. Game company background

When researching educational mobile games, the definition of game should be defined. Salen and Zimmerman (2003), Adam (2014), and Schell (2008) claimed that the game is a system of Story, Mechanics, Aesthetics, and Technology. Games are divided into two categories: digital games and conventional games (Adams, 2014). Digital games attach the word “digital” which indicates all electronic devices, either online or stand-alone, such as a computer, game consoles, handheld devices, or interactive television (Whitton, 2010; Osman and Lay, 2008; Ilomaki and Kankaanraanta, 2009; Karasavvidis, 2018). Based on four main elements of games: Story, mechanics, aesthetics, and technology, digital games might be distinguished from conventional games such as board games, card games, or paper and pencil games. Educational mobile games or edutainment games are digital games; as a result, have characteristics of digital games. Stories of educational games are generally coherent and straightforward. They are all designed to train players and improve a wide range of aspects such as math, language, memory, and speed

reading. Most educational games are linear narratives in which contents are pre-written. Educational game developers generally design short levels of stages so that players do not need to spend plenty of time playing educational games. As regards training mobile games, aesthetic rules focus on smoothness and speed. These games usually have time to challenge players to think and solve a problem in a short time; while entertaining mobile games are more relaxing and designed with the proper combination of colour and spatial relationship. Examples of educational mobile games are Duolingo, Elevate, and Peak. Although they are the combination of training and entertaining; Duolingo is in favour of training while Elevate and Peak have a more entertaining side. Therefore, educational games should be categorized into subclasses including professional game-based learning that is used in training, educating students and employees; and entertainment game-based learning that emphasizes the ‘entertainment’ part but still supports the learning process.

I have chosen three educational games that are released in Vietnamese Appstore and Google Play: Duolingo, Elevate, and Peak. They serve different customer demands. Duolingo helps users who want to learn a new language, the noticeable manifestation of culture. This would also lead to diverse customer demand because users from different countries want to learn different languages. Elevate serves users who wish to improve communication skills and math. This game relates to English, and leads to varying reviews from different regions. Finally, Peak offers cognitive skills improvement, which is not connected to culture or diverse customer demand.

3.2.1. Duolingo

Duolingo is an application providing a language learning platform for over 200 million learners. It currently offers multiple courses in 23 languages (Agomuoh, 2018). Duolingo is a learned based game that includes both education and fun factors to encourage learning languages. As a result, Duolingo is entertainment game-based learning (in difference from serious game-based learning that includes simulators and education). Duolingo, in the beginning, was just an academic project created by Luis Von Ahn and his PhD student, Serevin Hacker at Carnegie Mellon. They realized the dilemma in the learning community at the time. Learners who want to learn languages, especially English, to land in a good job; however, not many people afford

to go to classes or have access to abundant materials. While language teachers consider languages as a job so that they hardly teach them for free. Luis Von Ahn and Serevin Hacker have created software that provides more than 200 millions people access to free language education. To use the app, users are asked to choose the language they want to learn and how committed they are daily to learn. There are pros and cons of using Duolingo. As for advantages, the app is accessible to almost every user who can surf the Internet; therefore, users can learn no matter what time and where. Secondly, it is economical for people who do not afford to learn in language centres. Thirdly, even though Duolingo emphasizes the education factor, designing the app as a game with rewarding points increases users' excitement and relaxation. Duolingo has certainly several drawbacks. Since the game's target customers are people who would like to look for a good job, the number of languages available in the system is limited to popular languages. Besides, although Duolingo provides plenty of research proving the correlation between Duolingo English test and academic English (Settles, 2016; Settles, 2018; Markant, 2015), research is narrowed to only English. As a result, it could be understood that English teaching from Duolingo has several positive impacts on users' academic English; however, other languages remain uncertified. As for several comments on the Duolingo community, Duolingo does not provide enough materials and lessons for a user to become fluent speakers; as a result, they need to learn from other sources.

3.2.2. Elevate

Elevate was launched in May 2014. Since then, the game was designed to develop and improve communication and analytical skills for players. It has been downloaded more than 25 million times from both App Store and Google Play (Elevate - About). It is chosen as the app of the year in the App Store. The game has two price options: free but limited content and upgraded version with unlimited content and games. The game was built based on the controversial hypothesis that cognitive skills can be improved by taking regular and relevant "brain" exercises (Simons et al., 2016; Soveri et al., 2017; Jaeggi et al., 2008). Elevate, besides, provides also limited research on the positive impacts of the games toward users' cognitive development. Elevate's study conducted by Nakano (2015) concluded that there is a significant difference between the treatment group who practised Elevate and the control group who did not. This research meets several limitations. The pre-test and post-test were designed by Elevate and

correlate with each other. As a result, the treatment group who have practised the same materials and repeat every day have more advantages than the control group. However, this research has proved one hypothesis that brain game training brings benefits to closely related tasks rather than to distantly related tasks and daily cognitive performance (Simons et al., Soveri et al., and Jaeggi et al.)

3.2.3. Peak

Peak (formerly called Brainbow) was created with the mission of combining technology, science, education, and gaming to keep track and train human cognitive skills. Peak claimed to help students and professionals to improve their cognitive skills with fun and challenging games. Experts found Peak from Amazon, Google, neuroscience advisors from Yale and Princeton Universities (Peak website). It was the best app in 2014 and was downloaded in 24 countries. It has 40 games which were developed and improved by neuroscientists and game experts. Its rating is 4.4 out of 5, which is a good rating. Similar to Elevate, Peak has run several types of research to prove that brain game training such as Peak is useful in treating cognitive decline and dementia in aged people (Bonnechere et al., 2016). Peak claimed to challenge users with their cognitive skills such as memory, attention, problem-solving but supports little documents to back up the theory.

3.3. Data collection and limitations

There are various ways to collect data for analyzing and answering research questions: traditional ways (questionnaire and interview) and Internet-based approaches (non-reactive methods, web survey, tests and experiments via the Internet - Reips, 2006). Internet-based methods gradually receive growing attention from researchers (Reips, 2002, 2006, 2011). Compared with traditional methods, Internet-based methods are regarded as an effective substitute, more cost efficiency, and decreasing selection error (Miller et al., 2002). Internet-based approaches are possibly classified by non-reactive method (in other word: unobtrusive method) and reactive method. Reactive approaches use individual or group interviews, or online questionnaires to collect information from the research. This method collects data “simply by asking” respondents; thus, the result is possible to form by the relationship between researchers and participants or assumption of respondents towards researchers’ intention. This phenomenon

is called the Hawthorne effect, stating that human behaviour changes when they are observed (Marreli, 2007). In contrast to the reactive method, the non-reactive or unobtrusive method was firstly introduced by Webb et al. (1966). This method aims to collect data without the awareness of participants. There are several approaches to collect data based on unobtrusive methods such as traces, non-participant observation, and documentary sources or archives (Lee, 2000; Marreli, 2007). The unobtrusive method was built to supplement for the weakness of reactive methods such as interview and questionnaires which constrains the number of participants by location and financial resources and creates selection bias and experimenter bias (Webb et al., 1966). Interviews even face more significant problems than questionnaires from respondents in misreporting their behaviour because their identities usually reveal themselves in most interviews. A questionnaire can hinder this problem by asking respondents via the Internet to anonymously fill in the forms, facing the difficulties of finding an adequate number of respondents. Besides advantages such as the enormous amount of data, cutback on respondents' biases; unobtrusive methods face two serious issues. Firstly, possibly there are bugs in methods of collecting data, leading to inaccurate data. However, this can be minimized by debugging and testing (Webb et al., 2000). Secondly, a more serious problem is indirect data which leads to meaningless research. In detail, unobtrusive methods may not be likely to direct respondents to answer and focus on specific research questions resulting in little or no findings after analyzing data.

Of three approaches, including traces, non-participant observation, and documentary resources; archive or documentary resources are used in this thesis. An app called AppFollow is used to gather data directly from all app stores and google play, ensuring data accuracy. As regards meaningfulness, archival data is considered to be more suitable for research purposes than the other methods of unobtrusive methods (Fritsche and Linneweber, 2004). People leave their traces physically and digitally with or without intention. It requires researchers to filter all behaviours, delete unrelated acts to achieve essential data. While, with archival data collected by AppFollow, requirements are set up in advance to collect only related information. For instance, to receive feedback from players who use mobile educational apps, AppFollow collects only reviews posted on the App Store where games are published. As a result, data in text form was collected for analysis, reducing the risk of indirect data. Because the thesis studies

mobile games, using an Internet-based method brings two noticeable benefits. Firstly, players posted their feedback willingly and anonymously for their own sake. Improving game quality is one of the intentions for providing feedback from players. As a result, their opinions tend to be more trustworthy. Secondly, this method allows researchers to have access to more players regardless of regions with little financial resources. A huge pile of reviews collected also helps to provide more reliable results. Because the thesis background is emerging markets, I collected reviews from both Vietnamese and American regions. America is the host country where the three games operated in while Vietnamese country is the emerging market of the mobile game industry. The generality of the research constraints only to the three games selected and the two regions chosen for the research.

3.4. Data analysis

First, I observe the localization of game elements offered by each game company. This can be done by investigating the global version and Vietnamese version downloaded from AppleStore and Google Play. There are some questions to determine the localization level of a game: (1) Does the game offer tailored content to a group of users?; (2) Is customer demand diverged in a region? (3) Does the game offer content related to culture?; (4) Which game elements are localized?; (5) Which game elements are standardized?; (6) Which platform does the game support?; (7) What language supported; (8) Is the website of the game translated?; (9) Do customer request to have their language?; (10) Noticeable reviews from users.

As Yin (2003) mentioned, multiple case studies can be used to predict different results for predictable reasons. I then use cross-case analysis to compare the findings across three case games: Duolingo, Elevate, and Peak to figure out the localization of game elements of each game, the cultural difference and customer demands that affect the localization level of each game, and the difference in reviews and requests from users.

3.5. Research ethics

Research ethics are issues related to the process of data collection, sound scientific practice, and any misconduct in research practice. Data collection phase of my thesis refers to the collection of user reviews from App Store and Google Play. The data was collected by a third-party app

which specializes in collecting feedback from game distribution platforms such as App Store and Google Play. The reviews are public and available for public use. There are many types of research conducted studies using online reviews (Chatterjee, 2001; Duan et al., 2008). In the literature review, I have cited all the works of other researchers and quote their findings. I tried to be transparent as much as possible in every phase of conducting the thesis: from literature review I have read to data that I have collected, and findings that I have figured out by analyzing the data.

Even though the data is public and the reviewer nickname appears in the review platform, I still keep the review anonymous by referring to a user from Vietnam or a user from America so that no identity can be identified in the research. This makes sure none can find the corresponding identification of the quoted reviews.

4. DATA ANALYSIS

4.1. Cultural difference and customer demands

To see the cultural differences of Vietnamese audiences, I compare the host country of the three-game companies, USA, to the target country, Vietnam, to point out the differences in culture and customer needs in both countries. I would review first, the language of the USA and Vietnam and demands from both audiences.

Of all cultural manifestations, language is the obvious cultural one that differentiates the USA and Vietnam. Although the USA is a country of migrants, the dominant language used is American English. English was spoken, written, read, and heard in schools, office, legislation, and business. American English was the result of British colonization of the Americas. However, due to the massive area along with the big waves of immigrants, American English started to show many varieties in pronunciation, vocabulary, and grammar compared to the original British English, or even to the different regions of America. While American English is a dominant language in America; Vietnamese is the official language of Vietnam. Vietnam is spoken by 76 million people and ranked the 16th largest language of the world. Since American English was based on the Roman script from the beginning when the British introduced this language to America; Vietnamese was transformed three times to the current modern script. The first time, Vietnamese was based on Chinese script since the ruling of China on Vietnam. The second time, Vietnamese was transformed into “chữ nôm” which has a similar script as Chinese script. The modern Vietnamese national script was created by European Catholic missionaries who would like to translate the Bible and communicate with Vietnamese. As a result, Vietnamese gradually changes and shares similar scripts to American English. However, there are many difficulties when designing a Vietnamese language course. Firstly, the dialects in Vietnam combine in three categories: Northern, Central, and Southern. Each dialect can contain distinct vocabulary and pronunciation. Secondly, the Vietnamese language does not have stress and combines six tones. Although Vietnamese does not have stress, it does have a tone of voice at the end of each sentence, which can change the meaning of the sentence. For example, raising the voice of a statement shows the scepticism. Combining six tones sometimes confuse learners who try to pronounce the two same writing but different sounds (Ga - station, Gà - chicken).

Thirdly, regarding grammar, while English uses the verb to show different tense, Vietnamese uses tense marker. The tense marker is a singular word or words to show the past, present, and the future. Vietnamese verbs do not need to change based on tense (Ngo, 2001). There are many other differences between English and Vietnamese, so that when designing a Vietnamese lesson, one should consult the native speakers. Finally, many Vietnamese words have many synonyms. For example, he can be translated into “anh ta”, “anh ấy” in Vietnamese.

Besides language, the demands of learning a language of American and Vietnamese are also different. One researcher studied which country learns which language was done by Duolingo. The most learned language in America is Spanish while in Vietnamese is English (Pajak, 2016). The high demand for learning English in Vietnam is because English becomes one of the subjects in the high school final exam and the college/university entrance exam. The notion of communicating in English can help a Vietnamese have a better job with a higher salary also pushes Vietnamese to learn English in many English learning centres. There is also a debate on turning English into the second official language in Vietnam, facing a considerable number of responses from both sides (Sen, 2018). The second most languages in America is English, and in Vietnam, it is French. The reason why many people want to learn English in America while English is the dominant language there is that many immigrants who barely know English try to learn English for communication and a better job. Vietnam was once ruled by French, so there are some schools, French is taught alongside English. Apparently, language and demands are the apparent drivers for Duolingo, Elevate, and Peak choose different localization levels in their games. I will investigate the localization level of each game in the next part.

4.2. Localization level of educational mobile games


4.2.1. Duolingo

Story	Blending
Aesthetics	Standardization
Mechanics	Standardization
Technology	Standardization

Table 5: Localization of Duolingo

Duolingo regards it as a language learning application that mimics the video game so that learners are motivated. Duolingo serves the demand for learning a new language and improving the communication skills of learners. Since Duolingo helps users to study a language, its stories are language lessons. As indicated by Duolingo, currently, they have over 30 languages for learners including English, Spanish, French, German, Italian, Chinese, Japanese, Korean, Portuguese, Russian, Irish, Dutch, Danish, Swedish, Turkish, Norwegian, Polish, Hebrew, Esperanto, Vietnamese, Ukrainian, Welsh, Greek, Hungarian, Romanian, and Swahili. Each language needs to have individual lessons, vocabulary, grammar, and sentence structure. Extending into a new market or offering a new language requires Duolingo to have a blending strategy for its language lesson development. A language course development usually serves two different audiences. Take Vietnamese as an example; a Vietnamese can learn English by English lessons or an American can learn Vietnamese by Vietnamese lessons. Thus, developing a new language can help Duolingo to double its lessons by translating English-Vietnamese and Vietnamese-English. Not only Duolingo's lessons are blended into different languages, but its website is also translated into twenty-three languages. The content on the web is the same but is translated based on user preference. For the Vietnamese audience, besides the website, Duolingo created a help centre (FAQ) and forum for Vietnamese to discuss and exchange information.


Duolingo uses a blending strategy for its story development and standardization strategy for the three other game elements: mechanics, aesthetics, and technology. For mechanics, Duolingo is based on the methodology of repetition learning to help learners improve vocabulary and



Cách tốt nhất để học một ngôn ngữ

Học cùng Duolingo, bạn sẽ thấy rất vui và cuốn hút. Đánh nhiều điểm từ các câu trả lời đúng, trả lời nhanh trước khi hết thời gian hay sẵn cấp. Những bài học nhỏ-gọn của chúng tôi rất hiệu quả, và đã có một [ghiên cứu chứng minh điều này](#).

▶ [CÙNG XEM CÁCH CHỌNG TỐI THỰC HIỆN NÀY](#)



The best new way to learn a language.

Learning with Duolingo is fun and addictive. Earn points for correct answers, race against the clock, and level up. Our bite-sized lessons are effective, and we have [proof that it works](#).

▶ [SEE HOW WE DO IT](#)


Mỗi bài học đều được trò chơi hoá.

Cá nhân hoá bài học

Các bài học tại Duolingo tự động được điều chỉnh để phù hợp với trình độ của bạn. Các bài tập được thiết kế để giao bạn học và ôn tập một cách hiệu quả.

Được chấm điểm ngay lập tức

Ngay khi bạn biết được câu trả lời nào bạn làm đúng khi bạn trả lời một thử thách, chúng tôi sẽ nhanh chóng chỉ cho bạn cách cải thiện.



Nhiệm phần thưởng ảo khích lệ việc học

Nếu khi bạn học được từ vựng mới hoặc từ cấp, bạn sẽ nhận được tiền tệ ảo dùng để mua vật phẩm.

Cải thiện trình độ một cách nhanh chóng

Một nghiên cứu đã chỉ thấy là giờ học trên Duolingo tương đương với một học kỳ tại các trường học.


Gamification poured into every lesson.

Personalized learning

Duolingo lessons adapt to your learning style. Exercises are tailored to help you learn and review vocabulary effectively.

Receive immediate grading

Instantly see which answers you get correct. When you miss a challenge, we'll quickly show you how to improve.



Stay motivated with rewards


Earn virtual coins, unlock new levels, and watch your fluency score rise as you master new words, phrases, and grammar.

Improve quickly


Duolingo works. A study has shown that 34 hours of Duolingo are equal to 1 university semester of language courses.

grammar by practising Listening, Reading, Speaking and Writing (Duolingo). Below is an example of identical aesthetics and mechanics used for both French and Vietnamese:


Which one of these is "bread"?



bánh mì 1




người đàn ông 2




quả táo 3


Which one of these is "the woman"?



de jongen 1



de vrouw 2



de man 3

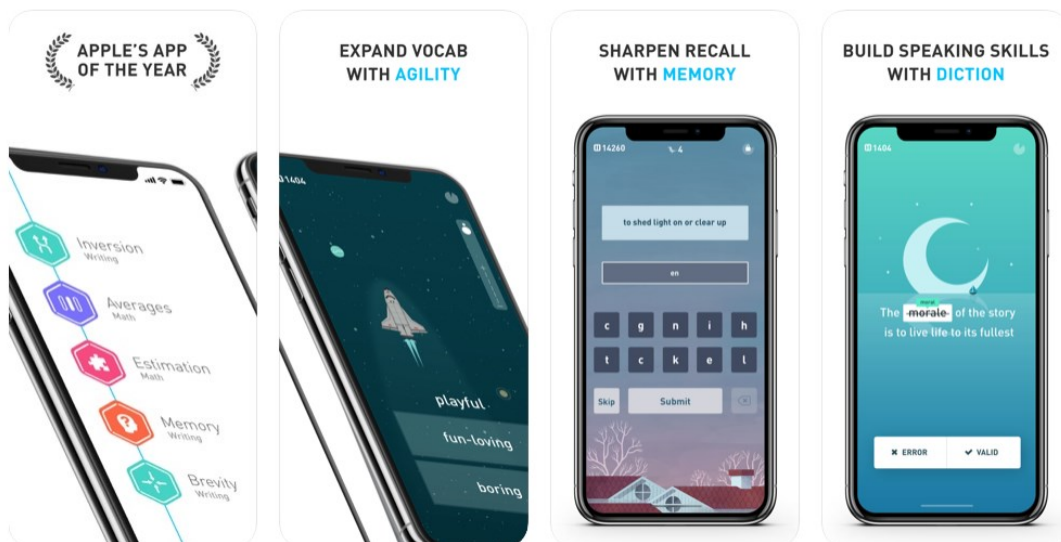
4.2.2. Elevate

Story	Standardization
Aesthetics	Standardization
Mechanics	Standardization
Technology	Standardization

Table 6: Localization of Elevate

Different from Duolingo, Elevate uses standardization strategy for all its game elements. Elevate regards it as a game application to improve communication and math skills. They claimed to create 35+ games to boost players skills such as math, reading, listening, speaking, and writing. The communication skills Elevate refers to are English skills. Elevate has one advantage over

Duolingo. The demand for Elevate audiences is more convergent. While Duolingo serves diverse language learning demands, Elevate serves those who want to improve English skills and math skills. Therefore they tend to standardize all elements in the game. As for the story, Elevate claims to develop cognitive training contents to improve communication and math skills of the audience. The application that is released in Vietnam has no local language support. The primary language used in the game is English (Google Play and Apple Store). Elevate only supports English and Spanish. The elevate website (<https://www.elevateapp.com/about>) also supports only English. Although Elevate game contents are related to language, a manifestation of culture, it focuses only on the global language, English. Therefore, thanks to the convergence in customer demand, Elevate does not change or localize any elements in aesthetics, rules of playing the games in mechanics, and the technology behind the games. Below is an example of Elevate that was launched globally:



4.2.3. Peak

Story	Standardization
Aesthetics	Standardization
Mechanics	Standardization
Technology	Standardization

Table 7: Localization of Peak

Similar to Elevate, Peak uses standardization strategy for all its game elements. However, Peak serves a slightly different audience than Elevate. While Elevate audience wants to improve English skills and math skills, Peak audience intends to train and improve their cognitive skills such as Focus, Memory, Problem Solving, and Mental agility. The stories of Peak are 40 unique games that are claimed to be developed by neuroscientists and game experts to help the audience to improve their cognitive skills. The primary language used in the game is English due to the convergent demand in cognitive improvement. The website, icons, rules of play, and technology of Peak, similar to Elevate, are identical in the games released worldwide.

Duolingo, Elevate, and Peak are all educational game companies who are born-globals. As suggested for most born-globals, they try to standardize their game as much as possible. However, their level of localization is not the same. Duolingo offers a game that is more related to language differences and diverse customer demand. Therefore, the company has to use a blending strategy in its story development while trying to standardize the rest elements of the game. Elevate also offers a game that is related to language but focuses only on English, the global market; therefore, it serves a more convergent customer demand than Duolingo. Similar to Elevate, Peak also deals with a convergent need of an audience who wants to improve their cognitive skills. Thus, both Elevate and Peak use a standardization strategy for all of their game elements. In the next part, we will discover how audiences of all three games, Duolingo, Elevate, and Peak, react to their strategies. The reviews are extracted from both iOS and Android platforms. I use reviews from Vietnam and compare them with the reviews of the USA audience to see the difference between the two audiences.

4.3. User feedback

4.3.1. Duolingo

It is undeniable that the majority of both American and Vietnamese users stated that Duolingo is a brilliant app to learn languages. This is not only represented by its highly rated score but also from users' feedback. As for its story element, Duolingo has built resourceful materials and effective methods of learning with "hundreds of lessons, thousands of words/ phrases, for a ton

of languages". A criticism of Duolingo's story is that Duolingo offers only basic language skills. If they want to learn a language thoroughly, they need to add more materials and use more methods such as flashcards and real conversations. A Vietnamese user comments "a good app to improve language skills... Need more difficult exercises for advanced students". An American user adds up to "The app's okay for elementary school phrases if you want to learn things like "The man and the woman" or "An apple" instead of "where's the bathroom?" Or "What's for dinner?". It teaches phrases that are frankly, quite strange, and to be honest; I don't think anyone would ever say them in real conversation." The backbones of one language are vocabulary and grammar. Users agreed that vocabulary is taught well and easily to be memorised using Duolingo lessons. Thanks to mini-lessons, exercises, tests, and review features, learners get used to unfamiliar words and repeat them continuously. However, for some languages such as Korean, Japanese, Korean, and Vietnamese, users meet challenges of guessing vocabulary without hints or not being introduced to them earlier. Besides, many users claimed that vocabulary word lists are too simple and not relevant for their needs, for example travel purposes. For plenty of times, words are introduced without context or grammar explanation to use in the sentence causing learners confusion. In addition, due to limitation of time and resource, Duolingo is not able to provide all languages needed by users, leading to complaints from them. Furthermore, Duolingo has mini and short lessons which not only fit into a busy schedule but also make it easy to remember. "It is easy to remember lessons with repetition of pronunciation, spelling, visual clues, and immediate confirmation/ correction". Besides, one research by Duolingo confirmed that reviewing secure learning processes (Settles and Meeder, 2016). All Duolingo lessons are well connected to a topic and require users to review lessons by each topic. Many users complained that their answers are right but marked wrong. There were even some bugs with the mobile application that sometimes cannot recognise the correct answer, causing users to lose all hearts and need either money or time to re-earn their full heart. Another noticed bug was that lessons and tests are not matched. Users often have to guess vocabulary which is not taught in the lessons and lose a heart if they guess wrong: "Yes. This app's helpful. I learned Spanish. I wished you don't run out of hearts so that if you are dedicated to learning the language, you don't have to find a new app while you wait. And plus I know you want to make us learn but, you give us a sentence before teaching us anything. So we guess, run out of hearts, and that brings us down."

As regards mechanics, Duolingo offers an excellent method of learning languages such as "repeat words, visually pick, translate/ spell in the native language, spell/translate into the language you are learning, multiple choice" and group learning to practice with friends and family. Although there is little evidence on the benefit of brain training games to cognitive abilities of humans (Boot et al. 2014), many users assured that this app prevents them from "brain deterioration illness such as Alzheimer's and arteriosclerosis." This app helps players to practise it every day, reviewing mistakes and providing suggestions, which are approved by Duolingo's research to improve their learning progress (Hagiwara and Settles, 2016). This app is a substitute for traditional methods of learning with textbooks and dictionaries. Indeed, many players stated that learning with Duolingo is more effective than learning in classrooms: "I'm learning Spanish faster than I ever did in a classroom and with no stress or pressure." Another user claimed Duolingo "reminds me of the English skills in the last 12 years at school even though I hated learning English at the time" (Nó giúp tôi khơi dậy lại những kiến thức đã được học trong suốt 12 năm học mặc dù lúc còn đi học tôi rất ghét môn Tiếng Anh.) One great benefit added by users is that learning Duolingo is convenient for busy people. Duolingo provides mini-lessons which fit into tight schedules. They are even able to learn multiple languages at once. Finally, Duolingo allows users to learn in groups, compete with each other which emphasises the entertainment element of educational games, encouraging even small children to join the learning progress. Besides compliments, both American and Vietnamese users complain about one of the mechanics designed by Duolingo called "heart". Each user has 5 hearts in a turn which they lose each of heart if they made a wrong answer. A heart can be regarded as a turn of playing. Users can gain a heart if they watch an ad or wait for 6 hours. However, users claim that the grading system of Duolingo is sometimes inaccurate, making them lose hearts and forcing them to stop learning. In contrast to users' claim, Duolingo provides research stating that users should make a short move on learning or take a short break (6 hours) for better learning results (Settles and Meeder, 2016). Secondly, Duolingo just shows the right answer without explaining why the previous answers are wrong such as "I've been learning Japanese on Duolingo for about 5/6 months now, and practically using it every day. While this does help with memorising the characters of the language (Hiragana, Katakana, and some Kanji), it does not provide correct grammar structure or explanation to the particles used in sentences, such as は and と. It also

doesn't explain the differences between different ways of saying "yes" (はい vs ええ vs うん) or the concept of formal words in the language and gendered words. Because of this I have to use multiple other resources in order to get the full learning experience. If Duolingo were to provide more instruction to grammar particles, how the grammar works, formal words and informal words, addressing someone or yourself based off of gender, and more, then I believe Duolingo would be the perfect learning resource. Other languages are easier to learn in Duolingo, the main one being Spanish because of how similar it is to English. If the app were to take more care and add more instruction to more complex languages, then it really would be amazing."

As for aesthetics, many users agreed that Duolingo is a friendly and beautiful design with gamification features that encourage users to learn more. "Duolingo design is cute"; "Good visual design"; and "The graphics and designs keep the learner interested while working" are compliments from American users; while not many Vietnamese users gave feedback on aesthetics of the game. As regards technology, Duolingo offers bot conversations instead of texting which improve speaking and listening skills. Thanks to technology that Duolingo used such as mobile version via mobile phone, users could play Duolingo anytime and anywhere they want: on a bus, a train, between breaks. Many users even claimed they have used their time more efficiently with Duolingo. Instead of browsing social media, they spend around 10 to 20 minutes in their idle time to learn a new language. In a short time, they were able to learn "new words, phrases, and sentences" However, those users who usually travel are not fond of Duolingo. They stated that it was difficult for them to download Duolingo and used it offline as well as offline data were not saved correctly in their progress: "I really enjoy the apps but I hope they can improve the offline section because I rarely have free time at home and I always learn or review lessons on the bus or at the cafeteria where wifi isn't accessible."

Besides the similarities shared in the feedback of American and Vietnamese reviews, there is different feedback related to the cultural difference and customer demands. As for language, while American users usually talk about whether it is free and its method of teaching of a variety of languages; Vietnamese users perceived Duolingo as an English teaching application. More than 75% of Vietnamese using Duolingo learn English. Therefore, most of the user feedback

from Vietnamese refer to English. Designing English lessons in Vietnamese is a considerable challenge for Duolingo since Vietnamese uses an enormous amount of synonyms. As a result, users criticise that their answers are marked wrong while they use different accurate words. For example, it is popular in English to use "a piece of bread". When translated into Vietnamese, "a piece of bread" might be turned into three ways including "một mẩu bánh mì", "một lát bánh mì", or "một miếng bánh mì". Since the number of hearts in Duolingo are limited to 5 hearts, creating several mistakes can take users a long time to refill and return to the lesson. Users also argued that English lessons are translated rigidly and out of context into Vietnamese. Users complained "Duolingo uses inaccurate words when translating Vietnamese" (Dùng từ không đúng khi dịch một số câu sang tiếng Việt.) or "Duolingo should have used the Northern vocabularies" instead of other regions because the Northern dialect is the standard dialect in Vietnam (Phần tiếng Việt cần sử dụng từ ngữ chuẩn Hà Nội và miền Bắc sẽ chuẩn hơn. Ví dụ: bố mẹ chứ không phải ba mẹ, đất tiền chứ không phải mắc tiền, bát chứ không phải chén, thìa chứ không phải muỗng, xưng hô ông/bà với cháu, không phải ông/bà với con) or "I have answered correctly and tried five, six times, every time, it said that I was wrong, but I was not" (Vì mình nghĩ là mình đã trả lời đúng, sau check lại là đúng thật, nhưng vẫn bảo mình sai, thử lại 5 6 lần vẫn vậy, nên là mình k lên cấp được). Vietnamese words are composed harmoniously based on context and regions. South Vietnamese regions and North Vietnamese regions sometimes have different words to describe certain things. Another issue is that Duolingo offers limited languages learning in Vietnamese. Vietnam ranks 41th out of 88 non-English speaker countries with moderate proficiency rated by English proficiency index (according to the EF English Proficiency English). Therefore, learning English is a challenge to Vietnamese not even counting learning other languages in English. Yet, only English language is taught in Vietnamese. Vietnamese users expect to have more languages taught in Vietnamese. Currently, there is only English taught in Vietnamese. They wonder "why the app only offers English courses for Vietnamese but not other languages" (Tại sao dành cho người nói tiếng việt chỉ có tiếng anh mà không có thêm những thứ tiếng khác ?); "this application does not offer Korean courses for Vietnamese speakers" (Ứng dụng không có danh mục người việt học tiếng hàn à); "I do not know English so it is hard for me to learn Japanese in Vietnamese. I wanted to change the interface into Vietnamese but failed to do" (Em không biết tiếng Anh nên khi học tiếng Nhật rất khó ạ. Em muốn chỉnh giao diện tiếng Việt nhưng không được huhu.).

4.3.2. Elevate

If Duolingo is perceived as an "app about language" then Elevate is regarded as an "app about games". As for game story, both American and Vietnamese users agreed that these games have positive impacts on their cognitive skills. Elevate players emphasised the increase of math, reading, listening, writing, memory, focus, and thinking skills. Some American users claimed: "I play this all the time. The more you play the more you get stuck on this. It keeps my brain sharp. My vocabulary and math have dramatically increased" or "I really care about improving my reading, writing, speaking and reasoning skills. This app has helped me improve a lot!". Vietnamese users also complimented Elevate: "One of the interesting games for a healthy brain" or "A wonderful application to train your brain and improve English" (Ứng dụng rất là tuyệt để rèn luyện trí óc cũng như tiếng Anh). Players highly appreciate Elevate for quick tips and reviews to improve weakness areas, the incremental degree of difficulties, and possibility to play sessions repeatedly until one achieves perfection. Besides the positive effect on some human's skills, both American and Vietnamese users claimed they used time more effectively with Elevate. "Time spends on this app will make you feel good and not feel guilty of using the phone for pushing your time" or "I really enjoy playing this game, both fun and educational. Best time to spend my screen time" are some reviews from American users. A Vietnamese user said that "You don't need to take so much time to use this awesome app everyday, but the result of improving English you could get by using day by day it may be very considerable! I love this app". They instead spent 10 to 15 minutes per day playing the games than using social media. Elevate has mini-games that are fun and educational as well as challenging for users. Many players feel more "intelligent" after playing the games. Even though there are a few evidence supporting the significant positive impact of brain games to human's cognitive development (Simons and et al., 2016; Soveri and et al., 2017; Jaeggi and et al., 2008), many users claimed that Elevate help them to cope with various brain diseases such as "brain affection due to injury, early stage of dementia, brain bacteria infection, brain surgery, brain deterioration. Due to aging, and attention deficit hyperactivity disorder (ADHD) diseases". Educational games are similar to supplements that provide placebo effects to patients. Other than dealing with brain disease, players agreed that educational games such as Elevate boost up their "foggy brain" in the morning, similar to morning coffee, or "mobile gym" for the "brain muscle". Elevate players

claimed that Elevate content is relatively practical in daily lives. "Elevate is not juvenile games, no frustrating exercises". "It improves skills that we use daily". Elevate trains players in "memory, math, language, vocabulary, and listening". Elevate focuses more on math problems and English skills, including all four skills: Reading, Writing, Speaking and Listening. Elevate players solve math problems such as measuring, estimation, discounting, and percentage; and language skills such as grammar and vocabulary.

As for aesthetics, designs of Elevate are evaluated to be professional. Users compliment Elevate for its practical and professional contents, extraordinarily designing quality and appealing user experience. "Excellent app! Neat and pretty graphics, pictures."; "Beautiful design and sophisticated features which help a lot."; "This app is elegantly designed, fluid accessibility, and aesthetically pleasing."; "The UX and visual design are reasons enough to try Elevate. The app is a visual treat with engaging interactions that motivate and move you through each experience."

American users and Vietnamese users agreed on how effective Elevate helps them to train their brain. Besides brain-training function, while American emphasised the positive outcome of playing Elevate on math, vocabulary, fast thinking, reading, focus and memory, GRE score, and overall writing skills; Vietnamese users emphasise Elevate as an excellent linguistic application for non-English speaking countries. "I'm using 14-day trial, it's been 4 days since I started using this app. 4 days is enough for me to expand my vocabulary. Now I comprehend many words which I've never seen before - the best way to master english"; "It helps me improve my English skills"; "It's so useful app to learn English everyday." Vietnam is a non-English speaking country with a moderate level of English fluency; as a result, Vietnamese users take advantage of Elevate as an "app" to improve their English skills including vocabulary, speed reading and listening. They even mentioned Elevate as an additional material to prepare for IELTS and TOEFL tests. Users admitted that daily exercises on Elevate deliver considerable results of improving English fluency and feeling smarter. However, because Vietnamese are non-English speakers, the content offered by Elevate sometimes too difficult for some Vietnamese players: "I'm not a native speaker, so it's pretty difficult for me to catch up with the speed of the games."; "a little bit too hard for me but cool". Therefore, they requested Elevate to update Vietnamese translation

into the interface so that Vietnamese users can understand what the game asks them to do. "Please translate into Vietnamese, I do not understand at all" (làm ơn dịch tiếng anh đi ko hiểu gì cả); "It's a pity that Vietnamese is not supported" (Tiếc là không có tiếng việt!); "Need intermediate level of English to play these games" (Cần có trình độ tiếng Anh khá để có thể chơi các game này.)

4.3.3. Peak

As for the story, both American and Vietnamese users highly value Peak for the game's impact on various cognitive skills such as focus, memory, coordination, problem-solving, and thinking. One of Peak users even said that Peak game contents are similar to psychological tests that he encounters in typical psychology class. "I began using Peak a year ago after trying many different methods to help with vision and cognitive issues from a car accident. This has been one of the most beneficial things I do" or "One of the great apps for practising your brain". However, some American users of Peak are more aware of the false advertisement that brain training games bring to them than Vietnamese users. "BusinessInsider.com advertised this thing so I decided to try it. Typical combination of word puzzles and pattern matchers. They throw in some "science" and a spider webby looking graph thingy. If you lack focus and it's an issue in your life, see a qualified behavioral health practitioner. This piece of scammy isn't even fun." or "The games are pretty straightforward, but some are completely useless at measuring anything. You cannot measure emotions by playing a game finding people who are smiling. In fact, most games belong in memory, language, or puzzles if we're being honest... The scam is that they are making the claim that if you are good at these games then you are smarter or more keen. The issue is that you will get better at any game by continuing to play it." As for aesthetics, Vietnamese and American users spend compliments on beautiful designs and user interface. "I like the overall idea and training. Intuitive UI and engaging effective design."; "Love the game-beautiful design".

However, reviews from American players and Vietnamese users are different in terms of language. American users complain about the different usage of words in British or Australian or American way of speaking English: "The language games are very off - many words missing and strange words, including racial slurs, allowed. Very British English-centric but even so, just

inarguably wrong in some places, such as Word Pairs. This is really bad as it's training people inaccurately." or "Please update permitted word usage in language games to include English (UK) and English (Australia). I'm an Aussie living in the US and I keep on getting a foul when I enter some derivative spellings or occasional usage words." In contrast, Vietnamese users complain about the lack of Vietnamese translation in user interface. "Love this game but hate the limitations. And hate all language sections. I'm not good at english..." or "Great! But it should support multi-language. Vietnamese for example."

4.4. Summary of findings

Although English has become the global language, local languages spoken in non-English speaking countries can push educational game companies to localise some of their game elements. In Vietnam, the official language is Vietnamese, which is spoken by nearly 80% of the total population of Vietnam. Thanks to Roman scripted in Vietnamese; game developers can use the Roman alphabet to design lessons in Vietnam. However, Vietnamese poses many other challenges to those who wish to teach Vietnamese. Firstly, the dialects are different in various regions of Vietnam, Northern, Southern, and Central. Each region develops a new range of vocabulary, pronunciation, and slang. Consulting Vietnamese advisors should be carefully considered. Secondly, Vietnamese includes six tones which can confuse learners. They are "level" (ngang), "acute-angry" (sắc), "grave-lowering" (huyền), "smooth-rising" (hỏi), "chesty-raised" (ngã), and "chesty-heavy" (nặng). Two same words with different tones can have different meanings and pronunciations. Thirdly, Vietnamese does not transform a verb based on various tenses but has tense markers. They can show the audience the context of time to identify. Finally, a Vietnamese word can have many synonyms which are used equally in daily lives. Users sometimes prefer to speak this word rather than others, requiring educational games to be mindful of all popular vocabulary for a word when designing Vietnamese lessons. Besides language, customer demands are also different in America and Vietnam. Since Vietnam is a non-speaking country, the demand for learning English in Vietnam is relatively higher than any other foreign languages. More than 75% of Duolingo users in Vietnam learn English. The fact that English fluency can help Vietnamese get a better job or earn a higher salary contributes to

the high demands of learning English in Vietnam. Therefore, Vietnam perceives educational mobile games such as Duolingo and Elevate as English learning applications.

When releasing the games in Vietnam, Duolingo, Elevate and Peak have different localisation strategies. While Duolingo uses the blending strategy for its story element and keeps standardisation for the rest elements, Elevate and Peak choose standardisation strategy for the whole games. The blending strategy allows Duolingo to design new lessons that are suitable for Vietnamese people's language and demands. To please users, Duolingo offers a website that supports Vietnamese, opens a forum and help centre also in Vietnamese. Other than tailored lessons, translated website, and local forum and help centre, Duolingo keeps aesthetics, mechanics, and technology standardised for all global users. In contrast to Duolingo, Elevate and Peak pursuit standardisation strategy for all game elements. They offer the same games to all users. The primary language used in the two games is English. While Elevate promotes the games to improve brain-training and communication, Peak helps the games to improve cognitive skills. These different strategies lead to diverse reviews in users from America and Vietnam

Reviews from Vietnam and America show both similarities and differences for Duolingo, Elevate, and Peak. Towards Duolingo, both users complimented Duolingo as an excellent language learning application. They can spend time effectively with Duolingo and feel like playing games, making the lessons more enjoyable than classrooms. Besides compliments, they also complained that Duolingo contents are too basic to master a language and in lack of more practical contexts. As for mechanics, American and Vietnamese users both agreed that the way Duolingo teaches the audience is efficient, fun, and challenging. However, they criticised the heart system, which hinders the learning progress, especially with the inaccurate scoring system of Duolingo. As for aesthetics, they thought that Duolingo had a brilliant game design and visual elements. American and Vietnamese users also highly evaluate the multiple platforms of using Duolingo in which they can sync and play Duolingo on many devices. The differences in American and Vietnamese reviews lie in cultural differences and customer demands. Vietnamese users complain that in some situations, Vietnamese lessons are inaccurate in using Vietnamese words or rigidly translated from English into Vietnamese. As a result, users are annoyed when they fill in the right answer, which is not recognised by Duolingo. A Vietnamese

user recommends Duolingo to use the Northern dialect instead of Southern dialect because the former is more standard in Vietnamese. Furthermore, Vietnamese users highlight the demands of having more language courses in Vietnamese because there are only English - Vietnamese courses at the moment. Towards Elevate and Peak, American and Vietnamese users seem to have more convergent opinions. Even though Elevate involves language learning, it limits the language to English. Both American and Vietnamese users acknowledge Elevate for improving their brain and English communication and Peak for enhancing cognitive skills. Elevate, and Peak have designed a good game story with great visual design to hook users. The only difference in American and Vietnamese user reviews is that Vietnamese users requested to have Vietnamese translation in the user interface because either the contents are too difficult for them or they do not speak English at all. The fact that Elevate and Peak support only English can hinder many Vietnamese who want to play but do not understand English well.

Table 8: Summary of the findings:

Attributes	Duolingo	Elevate	Peak
1. Tailored content to users from different regions	Yes	No	No
2. Customer demand	Learning a new language, practising communication skills	<i>American users:</i> communication skills and brain training <i>Vietnamese users:</i> English learning and brain training	Cognitive skills improvement
3. Does the game offer content related to culture?	Yes, language learning course	No, communication skills in English and math	No, cognitive skills such as memory, focus, problem-solving
4. Game elements localized (which strategy)	Story (blending strategy)	None	None
5. Game elements standardized	Aesthetics, mechanics,	Story, Aesthetics, mechanics,	Story, Aesthetics, mechanics,

	technology	technology	technology
6. Platform (technology) supported	Appstore: iPhone, iPad, iMessage	Appstore: iPhone, iPad, iMessage, Apple Watch	Applestore: iPhone, iPad, iMessage, Apple Watch
7. Language supported	English, Arabic, Czech, Dutch, French, German, Greek, Hindi, Hungarian, Indonesian, Italian, Japanese, Korean, Polish, Portuguese, Romanian, Russian, Simplified Chinese, Spanish, Thai, Traditional Chinese, Turkish, Ukrainian, Vietnamese	English, Spanish	English, Danish, Dutch, French, German, Italian, Japanese, Korean, Norwegian Bokmål, Portuguese, Simplified Chinese, Spanish, Swedish, Traditional Chinese
8. Is the game website translated?	Yes. Arabic, Germany, English, French, Hungarian, Italian, Korean, Indonesian, Romanian, Thai, Ukrainian, Chinese, Czech, Greek, Spanish, Hindi, Indonesian, Japanese, Dutch, Portuguese, Russian, Turkish, and Vietnamese	No. English only	No. English only
9. Do customers request to have their own language in their review?	No	Yes	Yes
10. Noticeable reviews from users	There are only English-Vietnamese lessons. They wish to have more languages in Vietnamese. Some Vietnamese lessons are inaccurate	Elevate is an English learning application. This game requires an intermediate level for Vietnamese to play. Users wish Vietnamese to be	Peak is a brain training game. American users complained about differences between British English, American English,

	towards the locals due to the complexity of Vietnamese. The contents of language courses are elementary and out of the context.	supported.	and Australian English. Vietnamese users wish Vietnamese to be supported.
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5. DISCUSSIONS AND IMPLICATIONS

5.1. The balance of localization/globalization of educational game companies

Most born-globals, such as educational game companies, are going global within three years of inception. With limited budget and resources, they are more pressured by National Integration. This means they would need to standardize their products as much as possible to gain economies of scale, reduce fixed costs, and earn a profit. While many MNEs choose either Localization, Globalization, Transnational, or International strategies to balance the equation of NI-LR, educational game companies are restrained to Standardization, Simple Localization, Complex Localization, and Blending. As standardization is the priority, based on the level of local responsiveness from each region, an educational mobile game companies can choose either simple, complex, or blending localization strategy for some of their game elements including story, aesthetics, mechanics, and technology. This means that an educational game company can standardize one or several game elements; while localizing the rest. Of all the elements, story and aesthetics appear to the audience in the user interface, which needs more localization levels than mechanics and technology, which are the backbones of the game. The higher level of localization or the more elements a game needs changing, the higher cost the game has to pay in advance. Towards games that are more related to culture and diverse customer demands such as Duolingo, the higher level of localization strategy it needs to make. Duolingo is a language-learning, game-based application; thus, it relates to language. To expand to a new country, Duolingo has to come up with a new story, new language courses in the local language. For example, Duolingo targeted Vietnamese users by offering them English-Vietnamese courses and vice versa. Since more than 75% of Vietnamese learn English, this can benefit the audience in Vietnam to learn English more accessible and funnier. Besides the story element having to be changed, Duolingo also offers a website, forum, and help centre translated into Vietnamese. This is the localization strategy for Duolingo to gain Vietnamese customers. Other than lessons tailored to Vietnamese, Duolingo tries to keep other elements standardized to lower the costs. Besides Duolingo, Elevate and Peak also released their games in Vietnam. However, they only pursue the standardization strategy in which they offer the same game to not only Vietnamese but any other regions. This decision can help them to roll out quickly to a new market but limit

user pools who are not English speakers and do not understand English. This will cost them user satisfaction.

User reviews can show whether users are satisfied with the game and willing to spend more time playing it. Due to the difference in language and demands, users from Southeast Asian can have some different reviews compared to users from the Western. The first difference is customer demand. Not all audiences share the same demand. An educational game can include both entertainment and education elements so that some audience prefers education to entertainment and vice versa. For example, Elevate positions itself as the game to improve communication skills and brain training. When Vietnamese users play the game, they perceive Elevate as an English learning application and math. Different regions can view the game and treat them differently based on their main demands. Vietnamese are non-English speakers so that they use many educational games for learning English. Most of the Vietnamese users who use Duolingo learn English. This information can be beneficial for educational game companies who prepare market research in advance. As a result, they can understand user demand, tailor the game to the audience's needs and promote the game as user perception. The second difference is language-related. Different localization strategies can have mixed reviews from users. Towards games that have only standardization strategy, users, such as the Vietnamese audience, prefer to have their local language translated in the user interface. However, due to the standardization strategy, many games offer only the global language, English. Many Vietnamese users, when playing Elevate and Peak, requested to have Vietnamese translation because they do not understand the game and feel that the game would be better if it supports their language. This type of comments does not happen in Duolingo review because they have a blending strategy which tailors language lessons into the local languages. Towards educational game companies such as Duolingo - the type of game that has a deeper level of cultural attachment, designing language courses in a local language is a considerable challenge. Users who master in their language can recognize the limitations and inaccuracy if the games are not designed well in their local language. For example, Vietnamese users realized there are many times they fill in the accurate answer but are marked wrong because Duolingo does not know all the synonyms to be a precise answer. They also realize that English is rigidly translated into Vietnamese. Besides the difference in reviews, users from Vietnam and America share many

similarities in all four elements of the games. Many reviews mention the great story, attractive visual design, and proper mechanics; however, less say technology. The visual exposure to the audience can explain this. The audience is more likely to recognize the storyline, aesthetics, and mechanics because they are interacting with these elements. The technology behind the game usually is hidden from the audience.

5.2. Opportunities and threats when expanding to emerging markets

Due to the high interest in the game industry, many researchers study how to do business in the industry and choose China, Japan, and Korea as their main backgrounds. It is understandable since these markets are still dominating the Asian market and account for more than half of game revenue in the world. However, the demographics of Southeast Asia has created an enormous opportunity for game designers, especially mobile game designers. There are more and more citizens who own at least one mobile phone that is connected to the Internet. Most of the population in the area are in the age of playing games as they are young and not hesitate to try new games and applications. Besides entertainment games, educational games have been on the rise, especially the high demand for learning English as a foreign language in these emerging markets. As many Southeast Asian countries are non-English speaking countries, English learning courses become a demand for a better job or a higher salary. Learning used to be limited in classrooms. However, thanks to advanced technology such as digital distribution platforms, mobile phones, laptop, and cloud services, learning can happen anywhere there is a device and the Internet. Educational mobile games, as a result, attract more audiences from emerging markets because of the combination of entertainment and education. The audience can still learn but not feel bored when playing game-like lessons. Now learning is just as simple as browsing the Apple Store or Google Android to find suitable educational games. It depends on the demand of each audience, such as learning a new language or brain training, they can download the correspondent games such as Duolingo or Elevate.

Besides the opportunity that the emerging market brings, there are challenges for different educational mobile games who want to conquer the new market. The local government highly regulates the game industry, consequently, educational game companies will have to do intense market research on the requirements of the government. For example, in Vietnam, a different

game company needs to acquire certification before releasing the Vietnamese market. Since 2017, 142 games are removed from Facebook, Google, and Apple because these companies have not complied to some regulations of the Vietnamese government. Some violations of online game companies are the contents of games related to gambling, violence, and falsely cite Vietnamese history. Different game companies can obtain a license in Vietnam by either cooperating with a local Vietnamese company or registering an agency/ branch in Vietnam (Nhat Minh, 2019). This is an example from the Vietnam market. There are other possibly different regulations made by other governments in Southeast Asia. Besides law, the Southeast Asian market of digital games is dominated by big local game companies. Entering this market requires different game companies to offer some significant differences to the audience who want to try new games. Furthermore, the difference in culture and customer taste poses another threat to the success of foreign educational game companies. One of the most apparent manifestations of culture is language. Each country in Southeast Asia has its language system. If educational game companies want to design lessons in local languages or support regional languages, they should consult a local advisor. Take Vietnam as an example, Vietnamese uses Roman scripted that is similar to English, the global language. However, six tones are going along with the Roman alphabet to separate different words. Same Roman alphabet but different tones can create a certain number of distinct words. Inside Vietnam, there are three regions which use different dialects. Each dialect uses many unique vocabulary and pronunciation. Vietnamese does not transform a verb to indicate tenses, quantity. It has word markers which show the quantity “những” (many/much), “nhiều” (many/much), “ít” (few/little), or tense “hôm qua” (yesterday), “hôm trước” (yesterday), “ngày mai” (tomorrow), “ngày kia” (tomorrow). Therefore, before entering any of the emerging markets, educational game companies should have known the culture and customer demands well to satisfy the audience.

6. CONCLUSIONS

6.1. Thesis summary

The research analyzed the literature review of GI-LR for MNEs, localization/globalization strategy for born-globals and identified some similarities and differences between MNEs and born-globals. They both faced pressure from cost reduction and local responsiveness. The level of responsiveness born-globals meets typically lower than MNEs because the former try to create similar products and serve convergent customer demands. Most born-globals make an attempt to pursue standardization strategy; however, some companies are operating in the diverse customer demands and face cultural differences when expanding to another market, leading to the different levels of localization in some games. There are three levels of localization: basic, complex, and blending. Basic and complex localization is more cost-saving than blending strategy in which game developers need only to translate text (basic) or text and graphics (complex). Blending requires game developers to adjust one or several elements of a game to satisfy the audience. They can change the whole storyline, mechanics, or aesthetics to suit customers from some countries. There are external drivers and internal drivers that affect the way a game localizes their elements. External drivers are the factors that game companies can not control, such as market conditions (e.g. customer demand) and country characteristics (e.g. cultural differences). Internal drivers are factors that a company can change and control, such as management experience, international experience, and company structure. The thesis focuses only on external drivers, particularly cultural differences and customer demands in emerging markets - Vietnam, to be the context country.

The thesis uses multiple case studies to compare the game companies that release games in the Vietnamese market. To answer the second research question, I have collected user reviews of three games: Duolingo, Elevate, and Peak to see how users react to the game elements and localization level of each element. The research found out that some elements interacted with users and appeared in the user interface. As a result, users can identify and write reviews about the elements such as storyline, mechanics, and aesthetics. The technology is the backbone of the game and hidden from the user interface so hardly any comment is made on technology elements. The thesis also found out that customers are quite sensitive to cultural differences and

customer demands. Towards Duolingo that offers tailored content to Vietnamese users, they are quite satisfied with the content. However, there are still limitations in the way Vietnamese is designed. Because Vietnamese is a complex language, users identify many issues that Duolingo can address to be able to teach the local language. Besides, Vietnamese users requested to have more language courses in Vietnamese so they can learn other languages than English only. Compared to Elevate, an English and math learning application, Vietnamese users of Peak game highly request Vietnamese translation. Currently, Peak offers more language translation than Elevate but still does not offer Vietnamese translation. Thanks to the nature of the game, Elevate improves communication in English and math for players. Vietnamese users commented that the content of Elevate is difficult for them sometimes. The fact that whether a game company should localize or not based on the nature of the product that the company offers. Duolingo offers language courses. When they extend to a new market and offer language courses for locals, they have to change their storyline and design language courses for the local. Local languages such as Vietnamese require different language structures, pronunciation, writing, and vocabulary. Elevate, and Peak are not localizing any game elements to Vietnamese even though Peak translated their content to more than fourteen languages. Elevate translated their content only into Spanish since their product nature is English and maths learning. Although users still download the two games, users from both games requested the game companies to translate the content into their language so they can understand the game and how to play.

Localization level should be taken into consideration carefully before any expansion decision. Based on the nature of some products, localization level can be blending, which requires game companies to change or tailor content or storyline for a target country. Cultural differences, especially language, and customer demand should also be investigated thoroughly in the market research. Many games that offer a homogeneous product and serve convergent customer demands can satisfy more audiences by directly translating to their local language. Simple translating text is simple localization in which users can understand the game better in their local language.

Understanding cultural differences and customer taste can also help educational game companies to localize or adjust other departments or activities such as marketing, customer

support, or sales. Users from some countries might perceive the game differently than the other countries so that marketing campaigns and sales can score better if they understand what users need.

Emerging markets both create opportunities and threats to educational mobile game companies. With the demographics of the emerging markets, game investors, publishers, and developers are more paying attention to these new regions. However, different game companies are heavily competed by local game companies, regulated by local government, and sometimes sensitive to cultural differences and customer tastes. Therefore, creating something unique, and the difference can impress the local audiences who want to try new things.

6.2. Framework contribution

Firstly, the thesis suggests a deeper layer of localization level to the framework of GI-LR for born-globals. Instead of localization/globalization strategies, born-globals, especially educational game companies should consider standardization/basic/complex/blending configuration in their strategy of entering new markets. In order to reduce cost, many educational games aim to release a standardized product to global audiences. When facing local pressure from the target market, they can also take advantage of basic/complex/blending strategy to serve the locals. They can only translate the text (basic), change the text and graphics (complex), or rewrite another story (blending). Educational game companies can localize some elements while standardizing others. Elements in educational games include story, aesthetics, mechanics, and technology. Secondly, the thesis suggests the configuration of the strategy should be based on the nature of their products and the divergence of culture and consumer taste of the target markets. Not all companies should follow the same standardization/localization strategies. They would need to research the target market's needs and demands as well as local culture such as language, religion to develop the ultimate standardization/localization strategy.

Data analysis supports the standardization/basic/complex/blending configuration framework. When extending to different locations, each educational company has their own strategy to cope with localization pressure. Duolingo, offering language courses to the locals, needs to have a

deeper level of localization than the other companies in the same industry. It uses a blending strategy to write courses that are suitable to the Vietnamese while leaving aesthetics, mechanics, and technology standardized. In contrast, Elevate and Peak use standardized strategy. They use standardized products to release globally. Even though Vietnamese consider Elevate a language learning app, the language Elevate offers is English. As a result, Elevate can release English versions there. Similarly, Peak leans more on cognitive skill improvement, thus, the product is also easy to launch in English. Due to different localization levels, feedback from customers are diverse. Users write intensive feedback related to language for Duolingo rather than Elevate and Peak. Duolingo users want to have more languages taught in Vietnamese, suggest Vietnamese lesson improvement for Duolingo. Regarding Elevate and Peak, users request the companies to translate the instructions from English to Vietnamese, in other words implementing simple localization strategy, so that they can understand how to play.

6.3. Thesis limitation and further research

The thesis has many limitations that I need to address. Firstly, the thesis background generality limited to the three game companies in the cross-study analysis. The research tries to uncover the localization level of each game company and how users react to the strategy rather than generalize the results to all educational game companies. Secondly, the thesis context is Vietnam which is my home country. This creates the opportunity for me to understand and analyze Vietnamese quickly but also makes me biased in the analysis. The translation from Vietnamese to English in this research is also limited because I am not a native English speaker. Thirdly, the thesis focused only on cultural differences, particularly language, and customer demands in the external drivers but did not cover all drivers' impact on how a game company balances their localization strategy. Finally, analyzing text is conducted mainly manual, which possibly contains subjective experience from the author.

The thesis focused only on the localization side of localization/globalization strategy. In which, the thesis studies how two external drivers, cultural differences and customer demands are changing the localization level of educational game companies and how users react to the strategies. Further research can investigate drivers behind the standardization strategy, which

makes educational mobile games to stick to their standardization strategy. The thesis context is Vietnamese, one of the fast-growing mobile game markets in the world. Other research can conduct studies in different regions to see how a game company balances localization/globalization in other contexts in the same Southeast Asian. Furthermore, the empirical research studies customer viewpoints in the context of the localization level of a game. Further studies can review the manager viewpoints in the balance of localization/globalization strategy under the pressure of GI-LR. Another approach in this matter is how a localization level of a game can benefit a game company economically.

REFERENCES

- Abt, C. C. (1987). *Serious games*. Lanham, MD: University Press of America.
- Adams, E., & Dormans, J. (2012). *Game mechanics: Advanced game design*. S.I.: New Riders.
- Adams, E. (2014). *Fundamentals of game design*. Berkeley, CA: New Riders.
- Agomuoh, F. (2018, January). I've been learning French on the Duolingo app for over a year now — here's what it's like to use the app. Retrieved December 2019, from <https://www.businessinsider.com/duolingo-review-guide-learning-language-2018-1?r=US&IR=T>
- Anastasiou, D., & Schäler, R. (2010). Translating Vital Information: Localisation, Internationalisation, and Globalisation. *Localisation Research Centre*. Retrieved from <http://www.d-anastasiou.com/Publications/Syntheses.pdf>
- Andersson, T. D., & Mossberg, L. (2004). The dining experience: do restaurants satisfy customer needs? *Food Service Technology*, 4(4), 171–177. doi: 10.1111/j.1471-5740.2004.00105.x
- Appota Group. (2017, April 21). Vietnam Mobile Report 2017. Retrieved December 2019, from <https://www.slideshare.net/appota/vietnam-mobile-report-2017-75272740>.
- Arey, E. D. (2008). The Art Of Games. Retrieved from https://www.gamasutra.com/view/feature/3559/the_art_of_g%20ames.php
- Bader, T., & Mazzarol, T. (2009). Defining the Born Global Firm. *ANZAM*. Retrieved from https://www.anzam.org/wp-content/uploads/pdf-manager/901_ANZAM2009-025.PDF
- Barlett, C. A. (1985). *Global Competition and Mns managers*. Harvard Business School.
- Bartlett, C. A., & Ghoshal, S. (2008). *Managing across borders: the transnational solution*. Boston, MA: Harvard Business School Press.
- Bell, J., McNaughton, R., & Young, S. (2001). ‘Born-again global’ firms: An extension to the ‘born global’ phenomenon. *Journal of International Management*, 7(3), 173–189. Retrieved from <https://www.sciencedirect.com/science/article/abs/pii/S1075425301000436>
- Bell, J. (1995). The internationalization of small computer software firms. *European Journal of Marketing*, 29(8), 60–75. doi: 10.1108/03090569510097556
- Bonnechère, B., Fabris, C., Bier, J., Jan, S. V. S., Feipel, V., & Jansen, B. (2016). Evaluation of cognitive functions of aged patients using video games. *Proceedings of the 4th Workshop on ICTs for Improving Patients Rehabilitation Research Techniques - REHAB 16*. doi: 10.1145/3051488.3051491
- Chatterjee, P. (2001). Online Reviews: Do Consumers Use Them?. *Association for Consumer Research*, 28, 129-133.
- Chetty, S., & Campbell-Hunt, C. (2004). A Strategic Approach to Internationalization: A Traditional versus a “Born-Global” Approach. *Journal of International Marketing*, 12(1), 57–81. doi: 10.1509/jimk.12.1.57.25651
- Coviello, N. E., & McAuley, A. (1999). Internationalisation and the smaller firm: a review of contemporary empirical research. *Management International Review*, 39, 223–256. Retrieved from https://www.researchgate.net/profile/Nicole_Coviello/publication/275098447_Internati

[onalisation and the Smaller Firm A Review of Contemporary Empirical Research/links/553270580cf2f2a588aef6f1.pdf](https://books.google.it/books?hl=en&lr=&id=AIRpMHgBYqIC&oi=fnd&pg=PP1&dq=handbook+of+qualitative+research+pdf&ots=koHPvHdtma&sig=tkVJAOhjUJE6oKZjCesiPH5KRPM#v=onepage&q=handbook%20of%20qualitative%20research%20pdf&f=false)

- Denzin, N. K., & Lincoln, Y. S. (2011). *The SAGE Handbook of Qualitative Research*, 4th edition. London: Sage Publications. Retrieved from <https://books.google.it/books?hl=en&lr=&id=AIRpMHgBYqIC&oi=fnd&pg=PP1&dq=handbook+of+qualitative+research+pdf&ots=koHPvHdtma&sig=tkVJAOhjUJE6oKZjCesiPH5KRPM#v=onepage&q=handbook%20of%20qualitative%20research%20pdf&f=false>
- Doz, Y. L., Santos José, & Williamson, P. J. (2001). *The Metanational Advantage. From global to metanational: how companies win in the knowledge economy*, 1-28. Boston, MA: Harvard Business School Press.
- Duan, W., Gu, B., & Whinston, A. B. (2008). Do online reviews matter? — An empirical investigation of panel data. *Decision Support Systems*, 45(4), 1007–1016. doi: 10.1016/j.dss.2008.04.001
- Duolingo, <https://www.duolingo.com/>
- Elevate, <https://www.elevateapp.com/>
- Enternews.vn. (2013). Hy vọng mới cho thị trường game giáo dục: CÔNG NGHỆ MỚI. Retrieved December 2019, from <https://enternews.vn/hy-vong-moi-cho-thi-truong-game-giao-duc-26626.html>.
- Etemad, H. (2013). *The process of internationalization in emerging SMEs and emerging economies*. Cheltenham: Edward Elgar Pub. Ltd.
- Ethnologue, <https://www.ethnologue.com/>
- European Commission. (n.d.). SMALL AND MEDIUM-SIZED ENTERPRISES (SMES). Retrieved December 2019, from <https://ec.europa.eu/eurostat/web/structural-business-statistics/structural-business-statistics/sme>
- Fan, D., Nyland, C., & Zhu, C. J. (2008). Strategic implications of global integration and local responsiveness for Chinese multinationals. *Management Research News*, 31(12), 922–940. doi: 10.1108/01409170810920639
- Fritsche, I., & Linneweber, V. (2004). *Nonreactive (unobtrusive) methods*. In M. Eid & E. Diener (Eds.), *Handbook of Psychological Measurement - A Multimethod Perspective (Theoretical Foundations, Methodological Approaches, Methods, Applications)*. Washington, D.C.: American Psychological Association.
- Fry, D., & Lommel, A. (2007). *The Localization Industry Primer - 2nd edition. LISA*.
- Gabrielsson, M., Kirpalani, V. M., Dimitratos, P., Solberg, C. A., & Zucchella, A. (2008). Born globals: Propositions to help advance the theory. *International Business Review*, 17(4), 385–401. doi: 10.1016/j.ibusrev.2008.02.015
- Gamedesigning. (2019, October 26). Different Game Design Styles: East vs West. Retrieved December 2019, from <https://www.gamedesigning.org/gaming/game-design-styles-japan-vs-west/>
- Ghoshal, S. (1987). Global strategy: An organizing framework. *Strategic Management Journal*, 8(5), 425–440. doi: 10.1002/smj.4250080503
- Hammarberg, K., Kirkman, M., & Lacey, S. D. (2016). Qualitative research methods: when to use them and how to judge them. *Human Reproduction*, 31(3), 498–501. doi: 10.1093/humrep/dev334

- Hill, C. W. L. (2013). *International business: competing in the global marketplace* [9th]. Retrieved from <https://www.belstu.by/Portals/0/Charles-Hill-International-Business.pdf>
- Hofstede, G. (1994). The business of international business is culture. *International Business Review*, 3(1), 1–14. doi: 10.1016/0969-5931(94)90011-6
- Iloäki, L., & Kankaanranta, M. (2009). The Information and Communication Technology (ICT) Competence of the Young. *Handbook of Research on New Media Literacy at the K-12 Level*, 101-118. doi:10.4018/978-1-60566-120-9.ch007
- Jaeggi, S., Buschkuhl, M., Jonides, J., & Perrig, W. J. (2008). Improving Fluid Intelligence With Training on Working Memory: A Meta-Analysis. *PNAS*, 105(19), 6829–6833. doi: <https://doi.org/10.1073/pnas.0801268105>
- Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a Definition of Mixed Methods Research. *Journal of Mixed Methods Research*, 1(2), 112–133. doi: 10.1177/1558689806298224
- Kaplan, O. (2019, August 22). Mobile gaming is a \$68.5 billion global business, and investors are buying in. Retrieved December 2019, from <https://techcrunch.com/2019/08/22/mobile-gaming-mints-money/>
- Karasavvidis, I. (2018). Educational Serious Games Design. *Encyclopedia of Information Science and Technology, Fourth Edition*, 3287-3295. doi:10.4018/978-1-5225-2255-3.ch286
- Knight, G. A., & Cavusgil, S. T. (1996). The Born Global Firm: A Challenge to Traditional Internationalization Theory. *Advances in International Marketing*, 8, 11–27.
- Knight, G. A., & Cavusgil, S. T. (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies*, 35(2), 124–141. doi: 10.1057/palgrave.jibs.8400071
- Laanti, R., Gabrielsson, M., & Gabrielsson, P. (2007). The globalization strategies of business-to-business born global firms in the wireless technology industry. *Industrial Marketing Management*, 36(8), 1104–1117. doi: 10.1016/j.indmarman.2006.10.003
- LeBlanc, M. (2000). *Formal Design Tools: Emergent Complexity, Emergent Narrative*. Retrieved from <http://algorithmancy.8kindsoffun.com/>
- Lee, R. M. (2000). *Unobtrusive methods in social research*. Philadelphia: Open University Press.
- Leung, K., Bhagat, R. S., Buchan, N. R., Erez, M., & Gibson, C. B. (2005). Culture and international business: recent advances and their implications for future research. *Journal of International Business Studies*, 36(4), 357–378. doi: 10.1057/palgrave.jibs.8400150
- Lindqvist, M. (1997). Infant Multinationals: Internationalisation of Small Technology-Based Firms. *Technology, Innovation and Enterprise*, 303–324. doi: 10.1007/978-1-349-25770-6_10
- Luna, D., Peracchio, L. A., & Juan, M. D. D. (2002). Cross-Cultural and Cognitive Aspects of Web Site Navigation. *Journal of the Academy of Marketing Science*, 30(4), 397–410. doi: 10.1177/009207002236913
- Luo, Y. (2001). Determinants of local responsiveness: perspectives from foreign subsidiaries in an emerging market. *Journal of Management*, 27(4), 451–477. doi: 10.1177/014920630102700404

- Markant, D. B., Settles, B., & Gureckis, T. M. (2015). Self-Directed Learning Favors Local, Rather Than Global, Uncertainty. *Cognitive Science*, 40(1), 100–120. doi: 10.1111/cogs.12220
- Marrelli, A. F. (2007). Unobtrusive measures. *Performance Improvement*, 46(9), 43–47. doi: 10.1002/pfi.164
- Mayer, R. (1999). *Handbook of creativity*, 1st edition. Cambridge: Cambridge University Press, pp.449-460.
- Miller, E. T., Neal, D. J., Roberts, L. J., Baer, J. S., Cressler, S. O., Metrik, J., & Marlatt, G. A. (2002). Test-retest reliability of alcohol measures: Is there a difference between Internet-based assessment and traditional methods? *Psychology of Addictive Behaviors*, 16(1), 56–63. doi:10.1037/0893-164x.16.1.56
- Mudambi, S. M., & Schuff, D. (2010). Research Note: What Makes a Helpful Online Review? A Study of Customer Reviews on Amazon.com. *MIS Quarterly*, 34(1), 185–200. doi: 10.2307/20721420
- Nakano, D. (2015). Elevate Effectiveness Study. Retrieved from https://www.elevateapp.com/assets/docs/elevate_effectiveness_october2015.pdf
- Ngo, B. N. (2001). The Vietnamese Language Learning Framework: Part One: Linguistics . Retrieved from [http://www.seasite.niu.edu/jsealt/past issues/volume 10/VN LLF Part I.pdf](http://www.seasite.niu.edu/jsealt/past%20issues/volume%2010/VN%20LLF%20Part%20I.pdf)
- Nguyen, Q. M. (2019, July 5). Vietnam mobile game market in review 2018 and h1 2019. Retrieved December 2019, from <https://www.slideshare.net/yukidaro/vietnam-mobile-game-market-in-review-2018-and-h1-2019-153708032>.
- Nhat Minh. (2019, July). Gỡ bỏ mọi game xuyên biên giới chưa cấp phép, vi phạm quy định. Retrieved December 2019, from <https://news.zing.vn/go-bo-moi-game-xuyen-bien-gioi-chua-cap-phep-vi-pham-quy-dinh-post967596.html>
- Niedenthal, S. (2009). What We Talk About When We Talk About Game Aesthetics. *Digital Games Research Association 2009 Conference*. Retrieved from https://www.researchgate.net/publication/235963478_What_We_Talk_About_When_We_Talk_About_Game_Aesthetics
- Ogikubo, M. J., Schvaneveldt, S. J., & Enkawa, T. J. (2009). An empirical study on antecedents of aggregate customer satisfaction: Cross-country findings. *Total Quality Management & Business Excellence*, 20(1), 23–37. doi: 10.1080/14783360802614273
- Osman, K., & Lay, A. (2018). Chemistry Learning Through Designing Digital Games. *Encyclopedia of Information Science and Technology, Fourth Edition*, 3248-3259. doi:10.4018/978-1-5225-2255-3.ch283
- Oviatt, B. M., & Mcdougall, P. P. (1994). Toward a theory of international new ventures. *Journal of International Business Studies*, 25(1), 45–64.
- Pajak, B. (2016, May). Which countries study which languages, and what can we learn from it? Retrieved from <https://blog.duolingo.com/which-countries-study-which-languages-and-what-can-we-learn-from-it/>
- Peak, <https://www.peak.net/>

- Petison, P., & Johri, L. M. (2008). Localization drivers in an emerging market: case studies from Thailand. *Management Decision*, 46(9), 1399–1412. doi: 10.1108/00251740810912019
- Porter, M. E. (1985). *Competitive advantage: creating and sustaining superior performance: with a new introduction*. New York: Free Press.
- Porter, M. E. (1986). Changing patterns of international competition. *The International Executive*, 28(2), 13–14. doi: 10.1002/tie.5060280205
- Prahalad, C., & Doz, Y. (1987). *The Multinational Mission: Balancing Local Demands and Global Vision*. New York: The Free Press.
- Rasmussen, E. S., & Madsen, T. K. (2002). The Born Global concept: Paper for the EIBA conference. *EIBA Conference*. Retrieved from https://www.biblioteca.fundacionicbc.edu.ar/images/c/c5/Estrategia_internacionalizaci_on_1.pdf
- Reips, U.-D., & Birnbaum, M. (2011). Behavioral Research and Data Collection via the Internet. *Human Factors and Ergonomics Handbook of Human Factors in Web Design, Second Edition*, 563–585. doi: 10.1201/b10855-37
- Reips, U.-D. (2002). Standards for Internet-Based Experimenting. *Experimental Psychology*, 49(4), 243–256. doi: 10.1026/1618-3169.49.4.243
- Reips, U.-D. (2006). Web-Based Methods. *Handbook of Multimethod Measurement in Psychology*, 73–85. doi: 10.1037/11383-006
- Rennie, M. W. (1993). Born Global. *The McKinsey Quarterly*, p. 45
- Rialp, A., Rialp, J., Urbano, D., & Vaillant, Y. (2005). The Born-Global Phenomenon: A Comparative Case Study Research. *Journal of International Entrepreneurship*, 3(2), 133–171. doi: 10.1007/s10843-005-4202-7
- Roth, K., & Morrison, A. J. (1990). An Empirical Analysis of the Integration-Responsiveness Framework in Global Industries. *Journal of International Business Studies*, 21(4), 541–564. doi: 10.1057/palgrave.jibs.8490341
- Rouse, R., & Ogden, S. (2005). *Game Design: Theory and Practice*. Place of publication not identified: Wordware Publishing Incorporated.
- Salen, K., & Zimmerman, E. (2006). *Rules of play: Game design fundamentals*. Massachusetts: MIT Press.
- Schäler, R. (2007). Localization. *Encyclopedia of Translation Studies*, 157–161.
- Schell, J. (2008). *The art of game design: A book of lenses*. CRC Press.
- Sen. (2018, December). English as an official language in Vietnam: would it work? Retrieved from <https://e.vnexpress.net/news/news/english-as-an-official-language-in-vietnam-would-it-work-3852677.html>
- Settles, B., & Meeder, B. (2016). A Trainable Spaced Repetition Model for Language Learning. *Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics (Volume 1: Long Papers)*. doi: 10.18653/v1/p16-1174
- Settles, B., Brust, C., Gustafson, E., Hagiwara, M., & Madnani, N. (2018). Second Language Acquisition Modeling. *Proceedings of the Thirteenth Workshop on Innovative Use of NLP for Building Educational Applications*. doi: 10.18653/v1/w18-0506

- Simons, D. J., Boot, W. R., Charness, N., Gathercole, S. E., Chabris, C. F., Hambrick, D. Z., & Stine-Morrow, E. A. L. (2016). Do “Brain-Training” Programs Work? *Psychological Science*, *17*(3), 103–186. doi: 10.1177/1529100616661983
- Soares, A. M., Farhangmehr, M., & Shoham, A. (2007). Hofstede’s dimensions of culture in international marketing studies. *Journal of Business Research*, *277*–284. Retrieved from https://www.researchgate.net/publication/222686829_Hofstede's_dimensions_of_culture_in_international_marketing_studies
- Soveri, A., Antfolk, J., Karlsson, L., Salo, B., & Laine, M. (2017). Working memory training revisited: A multi-level meta-analysis of n-back training studies. *Psychonomic Bulletin & Review*, *24*(4), 1077–1096. doi: 10.3758/s13423-016-1217-0
- Spulber, Daniel F. (2007). Introduction: the global challenge. *Global Competitive Strategy*, 1-15. New York: Cambridge University Press, 2007.
- Superdata (2016). Asia Mobile Games Report 2016. (n.d.). Retrieved December 2019, from <https://www.superdataresearch.com/market-data/asia-mobile-games/>.
- Terpstra, V., & Sarathy, R. (1994). *International Marketing*, 6th edition. South-Western College Pub.
- Thayer, A., & Kolko, B. E. (2004). Localization of Digital Games: The Process of Blending for the Global Games Market. *Technical Communication*, *51*(4), 477–488.
- Thayer, A., & Kolko, B. E. (2004). Localization of Digital Games: The Process of Blending for the Global Games Market. *Technical Communication*, *51*(4), 477–488.
- The Botton Committee. (1971, November). Report of the Committee of Inquiry on Small Firms. Retrieved from https://ipmall.law.unh.edu/sites/default/files/BAYHDOLE/3_DIV_SCAN/2791_001_OCR_DIV.pdf
- Valentine, R. (2019). Southeast Asia is the world's fastest-growing mobile games market. Retrieved December 2019, from <https://www.gamesindustry.biz/articles/2019-11-19-southeast-asia-is-the-worlds-fastest-growing-mobile-games-market>.
- Webb, E. J., Campell, D. T., Schwart, R. D., & Sechrest, L. (1966). Unobtrusive Measures: Nonreactive Research in the Social Sciences. *American Educational Research Journal*, *3*(4), 317. doi: 10.2307/1162043
- Webb, E. J., Campell, D. T., Schwart, R. D., & Sechrest, L. (2000). *Unobtrusive Measures*. Thousand Oaks. CA: Sage Publications
- Welch, L. S., & Luostarinen, R. (1988). Internationalization: Evolution of a Concept. *Journal of General Management*, *14*(2), 34–55. doi: 10.1177/030630708801400203
- Whitton, N. (2010). *Learning with digital games: A practical guide to engaging students in higher education*. New York: Routledge.
- Yin, R. K. (2003). *Case study research: Design and methods*, 3rd edition. Thousand Oaks, CA: Sage.
- Zou, S., & Cavusgil, S. T. (2002). The GMS: A Broad Conceptualization of Global Marketing Strategy and Its Effect on Firm Performance. *Journal of Marketing*, *66*(4), 40–56. doi: 10.1509/jmkg.66.4.40.18519