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Application of Digitalization and Technology in Developing Digital Marketing for the E-sports Industry in Vietnam

Duy Quang Le

Abstract

Author(s)	Publication Type	Completion year
Duy Quang Le	Thesis, UAS	2022
	Number of pages	
	33 + 11	

Title of the thesis
Application of Digitalization and Technology in Developing Digital Marketing for the E-sports industry in Vietnam

Degree, Field of Study
Bachelor of Business Administration, Business Information Technology

The organization of the client
Vietnam E-sports industry

Abstract

The E-sports industry is being developed all over the world and has become one of the most iconic industries in many countries, and Vietnam is one of them. However, the perspective of e-sports in Vietnam could be more optimistic as E-sports is now considered a small market for significant investment and sponsorship. Therefore, this thesis focuses on using digital marketing technologies to deliver and acknowledge people about E-sports, which can help this industry develop more in the future.

This thesis applies quantitative research and presents a literature review. The primary data was collected through an online questionnaire to understand the perception of people about E-sports as well as the social media platform people are using. The result will help in the process of technology application described in the analysis part. The theory background section of the thesis also shows both E-sports and digital marketing aspects, which are used as secondary data to conduct the recommendations and solutions.

The questionnaire results show that Facebook, Tiktok, and Instagram are the central platforms on which we can operate the new technology application such as AI, Machine Learning and automation to improve the marketing campaign and will receive some success in a short period.

Keywords
Digital Marketing, E-sports, Technology in Digital Marketing, Vietnam

Appendix 1. Survey

1   Introduction

1.1   Background

Nowadays, competition sports have been widely introduced, announced, and advertised to gain more sponsorship and bring more audiences, participants, and spectators, creating a massive ecosystem of competition and entertainment. One of the most modern and becomes popular in recent year of sport is E-sports. (Hjorth, 2009)

E-sports is a competitive sport operating on digital platforms. However, in many countries, E-sports is not commonly understood due to the lack of commercial action and marketing campaigns. This, on the one hand, will limit the potential of e-sport and drags the economy of one's country behind. On the other hand, the development of digitalization and technology will open a huge market for e-sports to spread its influence on the society. (Snavely, 2014)

In Vietnam, although E-sports is known in a specific community, it is considered a small market for both customers and sponsors pay more attention, which can be done through good digital marketing campaigns and applications. Moreover, the internet era is developing with the combination of many additional devices and aspects such as automation, GPS navigation, and AI – the machine learning industry helping digital marketing campaigns to be more successful and accurate. (Funk 2018, 7-13)

Gaming and online activities have been boosted after two years Covid – 19 when people were locked down in their own houses, leading to opportunities to develop and spread knowledge to everybody as they are now aware of E-sports and gaming. Moreover, this thesis concentrates on how to apply the technologies such as AI – Machine Learning, Search Engine Optimization and Automation to support digital marketing and draw more attention to E-sports industry in Vietnam. (Funk 2018, 7-13)

1.2   Objectives, Research Question, and Limitations

In this thesis, the research is conducted to understand two main aspects:

The first aspect is the knowledge of people about E-sports, which will give an overview of how the industry is operating and which kind of customers (age, working conditions, genders) are interested in E-sports when we apply technology such as AI or automation. The purpose of this aspect is to support operation process of the technology as these technology base on the algorithms of navigating, analyzing, and give out solutions according to the input, which requires as accurate information about customers as possible.

The second objective is the platform that most people use. The target of this aspect is to find which platform we can operate the technology as applying new technologies to a new site. For example, running a digitalization work on a digital marketing campaign or adding AI function to advertising campaigns to promote e-sports events.

Finally, when all the data are collected and analyzed, technology can be used on which platform and how well it does will be discussed. The thesis will focus on something other than digital marketing plans as the plans can be made after the decision of tools, so we will keep more eye on how technology can impact spectators and customers who are concerned or not having any understanding of E-sports. The thesis will show the risk of making such a macro move in digital marketing and how to deal with it.

The thesis aims to answer two research questions:

- How do people understand the concept of e-sports?

- Which technology can be applied to developing E-sports industry and digital marketing campaigns for E-sports in Vietnam?

1.3 Theoretical Framework

In this thesis, the theoretical framework of the thesis helps understand digital marketing concepts and how they are applied in this study. The theoretical background section will go through the concept of E-sports, how E-sports is developed in recent year and what is the situation of this industry in Vietnam.

The thesis aims to bring the concept of E-sports to more people by using digital marketing campaigns and applying more technology to this field.The digital marketing section points out how digital marketing is used under the application of new technologies and also the advantages when applying them. Furthermore, the part of E-sports presents the e-sports situation in the society, especially in Vietnam.

1.4   Research Methodology

This section will go through the research method and data collection using in the thesis.

1.4.1   Quantitative Method

In order to gather and analyze data from large groups of customers and participants, quantitative research methodologies are required. This is frequently employed while conducting case studies or gathering user input. This is accomplished by considering respondents as variables that may be isolated from other properties and developing surveys and polls that solicit people's opinions on specific social issues. This data is utilized to understand the phenomenon's actuality immediately and to compare portions as we progress through the prediction, debate, and resolution procedures. (Creswell, 2009)

Questionnaires are one of the most extensively used data collection techniques in quantitative research, particularly in the analysis of social science research, to get important information most accurately and effectively possible. Furthermore, consistency and accuracy are crucial features of research techniques known as validity and feasibility. Questionnaires are used in a variety of contexts and a variety of forms and spellings. It will be distributed via social media as well as conventional print designs. Moreover, questionnaires are used in research, particularly market research and strategy consulting, to map the actual condition of a sector with high precision and in manageable proportions. The study is conducted on a big enough sample size that the results may be summarized in qualitative data, represented in graphs and lines, and compared with tables to understand real estate distribution among market categories thoroughly. Furthermore, the variable distribution in such samples is believed to represent the variable distribution in society or the overall population. (Creswell, 2009)

1.4.2   Data Collection

Primary data is collected through operating experiments or social surveys where researchers have complete control over who participates in the project. It will be planned carefully and manipulated to center the core value and aspect that the operator wants. Moreover, the primary data will be particular and directly answer what the researchers want to know without having distortion and resources wasting, As being collected by operating researchers, the information on subjective phenomena can be recorded only by analyzing respondents who have a decent low accuracy based on the reliability of the participants.

Secondary data is the existing one collected by someone excluding the user available for individual research and conducting a case study or strategies. This implies that the information is often standard and not custom-made, particularly to meet the researcher's needs as primary data does. (Hox, 2005)

1.5   Thesis structure

Chapter 1 introduces the main concepts and goal of the research with the division into five main sub-chapters

Chapter 2 and Chapter 3 form the conceptual and theoretical framework of the study.

Chapter 2 introduces two key concepts: digital marketing and marketing technology. The chapter discusses the history of digital marketing and some technologies that can be used in evaluating customers.

Chapter 3 discusses the concept of e-sports and the e-sports industry. It also discusses the current state of the e-sports industry in Vietnam.

Chapter 4 explains the used research method and the validity as well as reliability of the conducted research

Chapter 5 discusses and analyses the collected data and gives some recommendations and a solution by presenting a SWOT analysis

Chapter 6, finally, presents a summary of the thesis

2 Digital Marketing and Marketing Technology

2.1 Digital Marketing History

Digital marketing was developed in 1971 when Ray Tomlinson created his first technology set, allowing people to send and receive files from one machine to another. From the 1990s to the 2000s, digital marketing changed how brands and businesses use technology. During that period, digital platforms started cooperating with marketing plans and everyday life, influencing people's lifestyles and habits. They began to use digital devices and online shopping sites instead of physical shops leading to more prevalent and efficient digital marketing campaigns. (Desai 2019, 196-200),

In 2007, many marketing plans and segmentation increased roughly, which causing the lack of marketing operation, which cause many negative effect on firms operation. However, problems were solved by the development of marketing automation raising. Until the 2010s, digital marketing and marketing automation became more sophisticated with the proliferation of devices capable of accessing digital media more efficiently. It makes the accessibility of consumers raised enormously through the foundation of many platforms such as Facebook, Youtube, and Twitter. (Mahajan 2002, 1000-1016)

Moreover, digital marketing results from changes in the business landscape from physical marketing customers to cyber consumers and the B2B (Business to Business) world. It presents the fundamental changes of a dynamic and chaotic world where the waves of entrepreneurship and innovation associating with many new business models and methods. (Jerry Wind & Vijay Mahajan 2002)

Nowadays, digital marketing is also used in advertising and marketing. It stimulates the economy and creates opportunities for government to be more efficient (Munshi 2012, 190-196). The Singapore firms have operated digital marketing tools and received excellent results in reviving the economy (Teo, 2005). Furthermore, it has been stated that digital marketing growth depends on the rapid development of technologies and changing market dynamics. (Mort & Sullivan & Dreman & Judy 2002)

2.2   Digital Marketing and Technology

In this chapter, the thesis gives out the history and development of digital marketing. Moreover, technology that can be applied to marketing is also discussed.

2.2.1   Digital Marketing

Nowadays, digital marketing can be described as using technologies in helping activities such as promoting and marketing. In detail, digital marketing works by leveraging digital channels such as search engines, social media, email, and the business website. Moreover, digital marketing is also defined as using numerous digital tactics and channels that help the company to contact customers who spend most of their time. Therefore, it has diversity from a small channel such as website, email marketing, and online brochure to a broader range of connections such as online meeting and events reservations. (Desai 2019, 196-200)

Digital marketing, on the one hand, focuses on the impact of digital technology, which requires the understanding of five different areas: consumer behavior, social media and UGC, platforms and two-sided markets, search engines, and finally, contextual interactions. (Desai 2019, 196-200)

Consumer behavior: the fundamental concept of consumer behaviour is to understand how buyer behavior is affected by the digital environment through interactions with search engines, recommendations, online reviews, and other similar information provided by the environment without the control of the firm or company. (Bala & Verma 2018, 321-339)

Social media and UGC (user-generated content): this criterion is vital in identifying the influential individuals in a social network. On the one hand, the impact of members cascading to others will approach in a small group. (Watts and Dodds, 2007) On the other hand, the higher the position of a person in a group, the more influence that person can have compared to the lower one. (Katona, Zubcsek and Sarvary, 2011)

Platforms and two-sided markets: the critical research of this step is to identify several platforms and markets that have emerged in the digital environment, including the one that makes connections between customers and customers. One example of this platform is eBay, where customers play the dual role of buyer and consumer. The side of two-sided platforms examined the impact of competition on two-sided platforms. The results are both monopoly and duopoly, where duopoly appears in the form of media firms that tend to charge more for their content as there are many competitors in the market. In contrast, the

monopoly platform will cost less because of the lack of competition. (Gode, Ofek and Sarvary 2009)

Search engines: As described in digital marketing, search engines play an essential role in customer accessibility, allowing users to acquire information about services and products freely. Moreover, users and customers can identify the brands and firms' reliability and if their works fit consumers' search criteria.

Contextual interactions: This section discusses the interactions between the companies' contextual elements environment and digital technologies. It works with the principle of navigation and evaluating three main contextual elements: geography and locations, regulations on privacy and regulations against content privacy, and the customers' choices in different book formats offered by geographical variation. (Jank and Kannan 2005) Moreover, examining the Netgrocer.com customer trials, the results state that the customers' adoption decisions would influence the decisions of geographically proximate residents who had yet to try the service. (Bell and Song 2007, 361-400)

2.2.2 Digital Marketing Tactics and Technology

Based on digital marketing concepts, many technologies support the development of marketing strategies based on digitalization and the online connecting process.

There are ten basic tactics in digital marketing which require technology applications. (Desai 2019, 196-200)

- Search Engine Optimization (SEO): search engine optimization works as an optimizing website ranking and pushing the firms' website to a higher place in the search result. Many platforms that SEO can process are websites, blogs, and infographics. These platforms have high accessibility every day, which will increase the interaction between customers and firms.

- Social Media Marketing: this process will promote brands and contents of companies and products on social media channels which makes branding identification and traffic-driven increase creating more superior for the business. Channels boosting the interaction and content can be considered as communication platforms such as Facebook, Twitter, Instagram and Tiktok

- Marketing Automation: This method's fundamental concept focuses on software that automates basic marketing operations. It reduces the time of customer contact and information notification by using an automatic composition: email newsletters, social media post scheduling, contact list updating, or campaign tracking and reporting.

- Pay-Per-Click (PPC): PPC is a process of driving traffic to firms' websites in the way for the content creator and advertisement agents every time ads are clicked. The standard way of using PPC effectively is by operating Google AD Words, Facebook ads, or event-sponsored messages on LinkedIn. It allows companies and sellers to pay for top slots in a search engine such as Google, which results in pages at a PPC price of the links the operator place.

- Online PR: Through blogs, digital newspapers, and other content-based websites, online PR can acquire reliable online press. It bases on the traditional PR method but operates online, where the effort of it will be stronger and easier to access by including report outreach via social media.

2.3   Market Segment and AI technology in Marketing

In marketing and digital marketing, technologies such as the Internet, digitalization, and analytics tools are widely used for understanding customer behavior and daily customer update. However, these traditional technologies require human interaction and workers to control and navigate the path of it, which leads to the usage of Artificial Intelligence and Machine Learning technologies where computers and machines can quickly process customer feedback and give suggestions.

AI and Machine learning tasks are processing dataset that is given for a specific object with an algorithm that they are programmed. In this phase of the task, there are two main categories called supervised and unsupervised. (Liye Ma and Baohong Sun 2020, 481-504)

- Supervised learning: this is the task where a training dataset is provided with a specific input of X and will provide the concrete one with Y. The exam of input with X and output with Y will perform the function $Y=f(X)$, which will be stored in the machine memory. This, on the one hand, will help the computer and machine learning to predict the output when input is input.

- Unsupervised learning: in unsupervised learning, there is only the input set of data, and the output will be undefined or unknown. This learning aims to let the machine find hidden patterns or extract information from the given set.

- Semi-supervised learning and transfer learning: this method lies between supervised and unsupervised learning, where the output is known for only a subset of the data (Zhu,2005). Transfer learning is the method where the output is not observed are nonetheless used to improve learning. An existing model will later

present a starting point adjusted based on the current training dataset. (Pan & Yang, 2009)

- Active learning: the final task that can be done in machine learning is active learning which the algorithm can acquire additional training to improve the accuracy of machine prediction. (Cohn, Ghahramani, & Jordan, 1996; Lewis & Gale, 1994)

Furthermore, AI is defined as "the use of computers to imitate the inherent capabilities of humans," perform physical or mechanical tasks and think and feel ."It appeared at about the same time as the first computers and gained momentum with rapid advances in computing power. Moreover, a wide range of technologies enabled new applications is increasing. The growing relevance of AI in marketing is evidenced by the emergence of several literature reviews on this topic. For example, research topics in marketing and AI are examined using natural language processing to perform the modeling, which is later grouped into two main pillars. Consumer research, organizational and policy-related research. (Mustak 2021, 389-404).

Moreover, it can be identified that there are four themes that AI can help from a technical perspective and enhance the potential itself. Marketing Channels, Marketing Strategy, Performance and Segmentation, Targeting, and Positioning. (Atachagua, 2022)

3   E-sports – History and Nowadays

3.1   E-sports

Sport is a human activity in which physical movement and skill are important. It consists of rules and behavioural patterns in controlling the activity which are created by an organization. (Guttmann 2004)

E-sports, on the one hand, is said to fulfil the sports definition, which is legally recognized as a competitive sport. On the other hand, E-sports has a different aspect than traditional sports as matches, and performances occur in a digital game set. Players use machines or computers to perform actions and movements or even practice and compete. (Snavely 2014)

E-sports are divided into two main types: Multiplayer Online Battle Arena (MOBA) and first-person shooters (FPS). The most popular ones for these types are League of Legends (by Riot Games) for the MOBAs and CSGO – Counterstrike: Global Offence (by Valve Games) for the FPS ones. These games require high contact between teammates and competitive practice of skills and brain functioning. (Snavely 2014)

MOBAs are games with a third-person view, multiple games to beat the nexus. The game core consists of two teams of five members competing against each other. Based on the characteristic of the games, it requires both micro personal skills when solving the variable in the planning phase and macro skills in predicting and organizing an attacking plan or defending one. It also requires the (Snavely 2014)

On the other hand, the FPS game is a team game aiming to defeat the opponent by shooting them down dead. Therefore, the core value of this game is to master shooting and understanding the different weapons. Moreover, the choice of weapon in particular roles in a team is required with good brainstorming to maximize teammates' advantages and disadvantages. (Snavely 2014)

3.1.1   E-sports History

E-sports (Electronic sports) originated in the 1980s when intense competitions occurred between video gamers in the arcade community. At the same time, arcade games such as Asteroid (1979), Centipede (1981), and Pac-Man (1980) became famous favorites of video games player. However, the competition at that time was simply players working their way through the game against the computerized machine. After trying their way to beat the

computer, the player would have their score recorded based on their performance, and they would use it in intrapersonal competition. (Tyler Louis Snavely, 2014)

In the early 1990s, a new decade of E-sports development was opened with the publishment of the game Street Fighter II released by Capcom. This game series genuinely focused on game elements and competitive play. Street fighter featured a new form of video game where players competed directly again each other using controllers on the game console. Meanwhile, social interaction and players' motivation were gained through sports participation. The series also pushed the level of video games further by incorporating more elements for the interpersonal competition mode. (Cox, 2002)

Lastly, in the late 1990s, E-sports system was modernized by utilizing software for personal computers and developing aspects of E-sports competitions. With the rapid development of technology, the simulation of game and gaming environments has been pushed to a higher peak, especially with 3D environments. During this time, many new game genres were introduced, such as the first–person shooter or FPS with the combination of camera-person perspective. Moreover, the gaming technique and equipment are upgraded by adding more buttons allowing better control and outcome possibilities which raises the competition to high ground.

In 1997, the CPL – Cyberathlete Professional League was founded by Angel Monez, marking a milestone in the development of E-sports industry. At the same time, Counterstrike – one of the most popular FPS games then- was given its first World Championship by CPL in 2001 with a total price of $150000. Although the price was high, the tournament failed, particularly in breaking the prejudice in gaming and sports barrier. Later on, in 2007, events in gaming and E-sports were heated off until 20210, when Wolong Ventures PTE LTD acquired CPL. They demonstrated more support and sponsors for the tournaments with a higher effort in upgrading the equipment and scoring many wealthy rewards. However, the industry lacked a legitimate event organizer capable of sustaining mass participation and competition. (Holden, 2014)

3.1.2 E-sports Nowadays

South Korea hosted a competition comparable to the CPL, but video game competitions were still held in the West. Interest in digital technology and network infrastructure in culture (Jin & Chee, 2009). A South Korean player spends money online on his. They are interested in developing their skills to compete with others. Spending much time on the campaign has created a market where professional players can be supported by developing sporting events that engage audiences and subsequently engage in sponsorships. South Korea

serves as his emergence and pinnacle of popular professional gambling, as large-scale national and global gambling competitions in the style of "World Cyber Games" develop into his increase.

3.2   E-sports Industry in Vietnam

Vietnam's playing subculture evolves rapidly, reflecting comparable traits to the relaxation of the arena while incorporating specific aspects, practices, and tendencies that mirror the country's ongoing cultural and financial development. The phenomenon may be explained. Although consoles, PlayStation, and Xbox dominate the western gaming landscape, Vietnamese tend to keep away from this shape of gaming and immerse themselves in different video games. For example. PC and cell video games ruled gaming in Vietnam. (Yoon and Cheon,2014) That is because in latest years, with the explosion of lower-priced smartphones in the marketplace, cyber his café quick have become the simplest access factor into gaming to be had at the time. Cross-border playing cultural flows among Asian international locations show the significance of globalization, and the Vietnamese marketplace is ruled by using Chinese video games. Cultural proximity is one of the fundamental motives for selecting global video games, which will be the principal purpose for recognizing Korean video games in China. Moreover, the Korean Wave has become ubiquitous in Vietnam, as evidenced by using the recognition of its music, films, and TV show. However, about playing, imports from China have historically ruled. (Hjorth and Chan ,2009)

The Vietnamese player's competitive mindset was the second characteristic that stood out. We discovered that this competitiveness is influenced by the local environment and influences, even though the competition is an inherent feature of gaming worldwide. Vietnamese competition is "more ubiquitous and competitive than what is seen in Westernized society," and that winning is more important than the prize. (Vierra, 2010)

4 Empirical Research and Data Analysis

4.1 Data Analysis

Primary data analysis works on analyzing charts and tables in order to give out the result, solution, and recommendations that can be done to the situation.

In secondary data analysis, as the data is collected by people who are not neatly involved in the research, the way of data visualization will be different. The process will be based on the original information published in text, tables, graphs, and appendices of the published articles leading to the overview of the market and environment the research is looking into. The process consists of how the researchers collect, analyze, and interpret the data in their project. It is a precise method with procedural and evaluation steps but needs more understanding and envisioning the research and processing method.

4.2 Validity and Reliability

In this section the validity and reliability will be discussed as they place an important role in the survey and research as it is the basic for choosing the participants and analysing the results.

4.2.1 Validity

Face validity measures appearance relating to a specific construct. Its test is run by implementing whether the participants and representatives are relevant to the content that is placed. Face validity testing also evaluates a questionnaire's appearance, feasibility, readability, consistency, and formatting. In terms of running a face validity test, the scale can be used in the form of a categorical option with Yes and No answers, which indicate a favourable and unfavourable item, where the favourable item stands for the item with objectively structured and can be classified by using the thematic category. Although having a direct integration about how relating the content and participants, face validity is the weakest form of testing and not suggested as a form the strictest way of navigating research validity. (Taherdoost 2006)

Apart from face validity, construct validity testing has placed the concept of measuring whether the research instrument follows the criteria:

- Homogeneity: the instrument measures one constructs

- Convergence: this criterion is evaluated by comparing the instrument of the measures with another similar one. If there are similar instruments available, the measurements will be conductive or else.

- Theory evidence: this aspect evaluates if the behaviors are similar to the theoretical propositions of the construct measured in the instrument.

Lastly, the validity can be classified using the criterion validity (Concrete validity) method. It weighs how well the measure predicts an outcome for another measure. Criterion validity test can be used in research and aspect that requires predicting the performance or behavior of a situation (past, present, or future). Moreover, the test places an essential role in understanding if the meaning of the measures and their constructions is pursued in both test interpretation and justification of user testing. Criterion validity consists of two main types: concurrent and predictive and postdictive.

First, concurrent validity is gathering evidence to defend the use of a test for predicting other outcomes. It includes the determination of the ability to distinguish between groups that it should theoretically be able to distinguish between.

Secondly, predictive validity method measurements are correctly indicated when the research and project require predicting a phenomenon supposed to happen in a short or long period. Therefore, it can be considered to be operated in short – term period by analyzing the criterion data collected later. However, as predictive validity studies can take a long time to complete, they should be conducted in a further future sight of results with more meaningful aggregate data as the research prediction should present the operationalization's ability to predict something it should theoretically be able to predict.

Lastly, postdictive validity is operated by studying the criterion in the past. It is a form of comparing whether the results of the method and data collecting are similar to the one conducted in the past.(Taherdoost 2016)

4.2.2   Reliability

Reliability is the consistency of a measure that evaluates if a measurement of a situation provides a stable and consistent result. As there are no exact calculations about reliability or an estimation of the reliability of the resources, the researchers can evaluate through different measures by following three main attributes: Homogeneity, stability, and equivalence. (Taherdoost 2016)

Homogeneity	Scaling of all the measures, methods, and data are under one constructs
Stability	The consistency of the result using a method with a repeating test
Equivalence	Consistency of the respondents of an instrument or among alternate forms of a method.

Table 1: Attributes of Reliability (Taherdoost 2016)

5   Discussion and Data Analysis

5.1   Survey Explanations

This part will explain a brief of the goal and concepts of the survey. This survey is conducted using a questionnaire with thirteen questions divided into three main sections. The first three questions will collect basic information about the participants, while the next one will be the one that separates them into two different categories. The first will be the participants who understand Esports and the others. The following section will mainly be the one for the first criteria participants, which collects information about E-sports aspects to know if the marketing and media work of Vietnam's E-sports industry is good enough and what they want to see or want to hear. The last section is for all participants, where we can understand more about their social media usage habits and the perspectives of what if they want to know more about E-sports.

The survey is conducted to understand two main things: customer behavior and social media usage, which will help us to choose the platform, technologies, and strategies for introducing and bringing E-sports to the community.

5.2   Result Analysis

A 13-question survey was completed successfully, with 88 valid responses (Appendix 1). This survey aims to investigate user awareness of E-sports in Vietnam. The survey result, parallel with the theoretical background, acts as a foundation for developing ideas of applying technology to digital marketing to contribute to the expansion of E-sports in Vietnam.

In order to acknowledge user awareness of E-sports in Vietnam, demographic segmentation is applied in the survey's first question (Figure 1). Age is acknowledged as one of the essential demographic factors since users' demands and behaviors can be predicted through age. It is reported in the survey result that the primary age group is from 18 to 25 years old, which accounts for a considerable amount of 46.6%. Additionally, teenagers (from 12 to 18 years old) occupied 30.7%, and only 18.2% of respondents belong to the age group from 26 to 35 years old, leaving the minority of 4.5% of participants who are beyond the age of 36. Therefore, it is demonstrated that people interested in E-sports in Vietnam or at least have an awareness of this field belong to young and middle-aged groups; digital marketing and technology application should be designed to fit their demands.
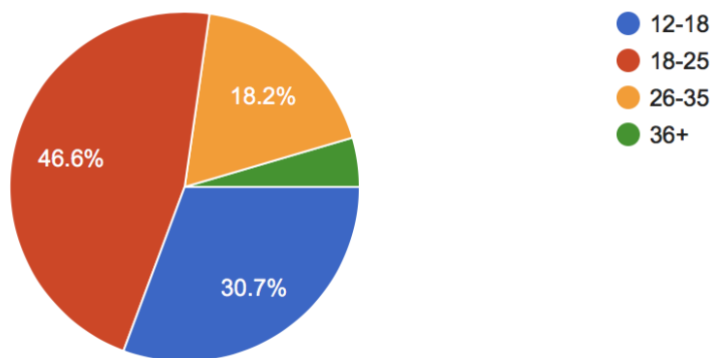
Figure 1. Respondents' Age

To better understand Vietnamese users, the second question in this survey examines the popularity of devices used for gaming or E-sports (Figure 2). This question allows respondents to select as many options as they want since an individual may have various choices for entertainment. Based on the survey result, Mobile and PC are the two most preferred devices for E-sports, with 67 and 55 responses, respectively: followed by PS4/5 or Xbox with 26 responses. This information can be utilized as a guideline for investors or businesses to formulate marketing and foster the digital games industry in the future.
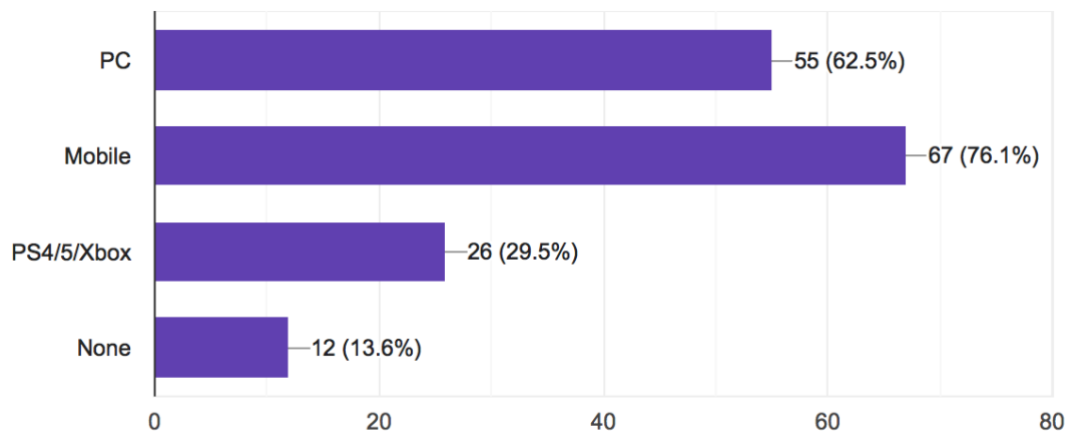
Figure 2. Respondents' Preferred Devices for E-sports.

The next question in the survey investigated the familiarity of respondents with E-sports. This question allowed the respondents to rate their familiarity with E-sports on a scale ranging from Not at all familiar to Extremely familiar (Figure 3). Correspondingly, a significant number of participants consider themselves quite familiar with E-sports, 23.9%

of respondents chose the "extremely familiar" option, and 31.8% of participants said they were very familiar with E-sports. Respondents who are moderately familiar with E-sports account for 20.5%, and those who are slightly familiar with this term made up only 14.8%. Merely 9.1% of participants assume they are not familiar with E-sports. Most respondents have some knowledge about E-sports, which gives a convincing reason for examining and stimulating development in this industry.
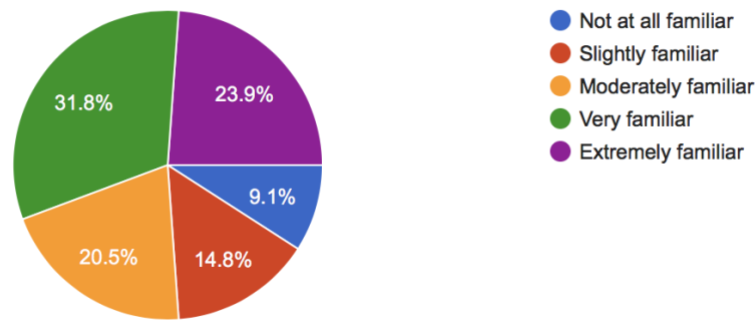

Figure 3. Respondents' Familiarity with E-sports.

In the next part, the survey was split into two sections; respondents who consider themselves quite familiar with E-sports were directed to the section that includes more questions related to researching the matter. For those respondents who are already familiar with E-sports, the author would like to know more about when they first acknowledged this field (Figure 4). It is reported that more than half of the participants knew about E-sports since 2019 (61.2%), and 28.4% of respondents raised their awareness about E-sports during the Covid-19 period (from late 2019 to 2021). The remaining respondents (10.4%) just acknowledged E-sports recently (from 2021 till now). It is demonstrated that Vietnamese users have acknowledged this e-industry for some time, despite all concerns about the futility of video games. Moreover, due to the global outbreak of Covid-19 preventing traditional sports and competition, E-sports had the chance to enter the market, becoming a preferred source of entertainment for Vietnamese users.
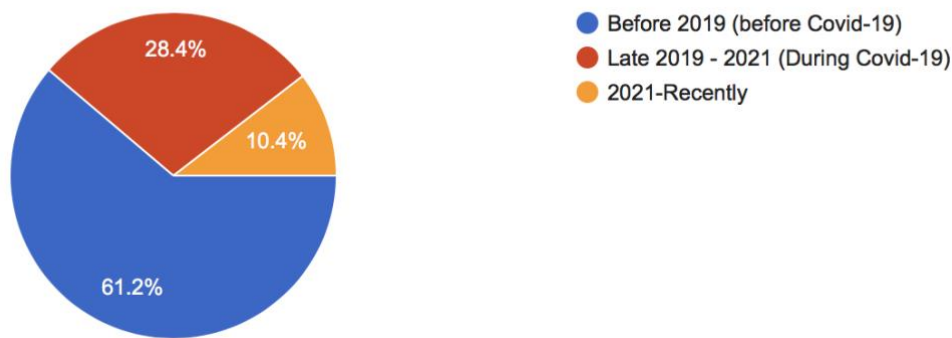
Figure 4. The time when respondents first knew about E-sports.

Furthermore, to have deeper insights into users' behaviors, the following figure generates information about platforms or channels that respondents got information about E-sports (Figure 5). This question lets respondents select as many options as they wish since an individual can collect information through various channels. Participants are reported to mainly acquire knowledge about E-sports through Facebook (54 out of 67 responses). No surprise that Facebook is the most popular channel where participants get some information related to E-sports since this is the most used social media in the Vietnam community. Youtube ranks second among the most popular channels where respondents gain information about E-sports, with 35 responses out of 67 answers. It is understandable because for sharing videos and advertising, there exists no other platform as rewarding as Youtube. Moreover, even though in this survey, only 17 participants reported that they gained information about E-sports through Tiktok, this platform should be considered since it recently had the highest growth rate among Vietnamese users.
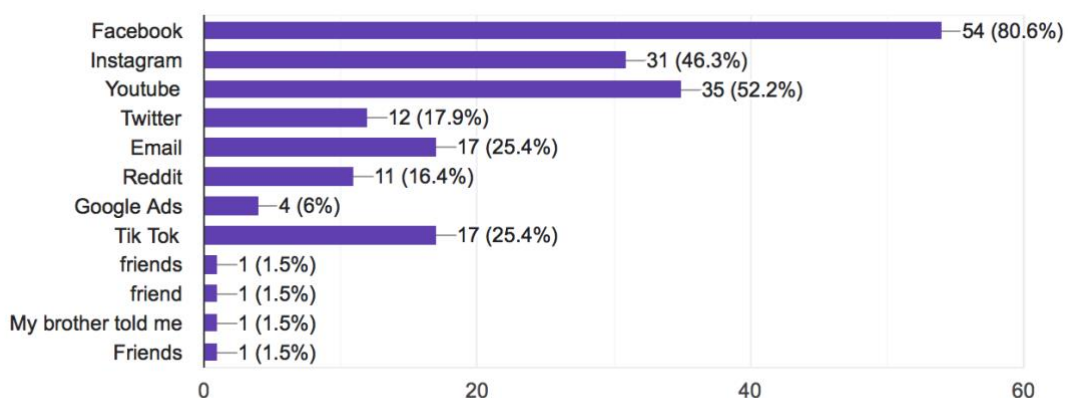

Figure 5. Respondents' Most Used Channels for Acknowledging E-sports.

Along with the development of E-sports globally, a thousand E-sports events are organized frequently. The next question explores the frequency of participants regarding attendance

at an E-sports event (Figure 6). Reportedly, most respondents attend E-sports events at great frequency, usually or often, sharing a considerable amount of 28.4% and 14.9%, respectively. Additionally, 19.4% of participants stated that they attended E-sports events at a lower frequency as often, and 13.4% of respondents answered that they only go to these events occasionally. Surprisingly, 23.9% of participants who already had conscious awareness of E-sports reported that they had never attended E-sports events. It heightens the growing need that marketing E-sports in Vietnam should be improved to capture Vietnamese people's attention, particularly the young.
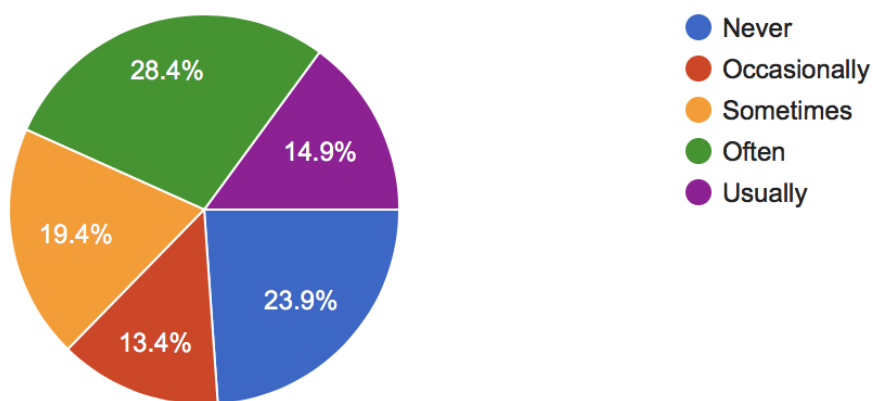

Figure 5. E-sports participation frequency of the society in Vietnam

Moreover, the next question is for participants who know E-sports to some extent to investigate their thoughts about E-sports if they presume E-sports as a competitive sport or just a mean of games (Figure 6). The Likert 5-point scale is utilized in this question, with a rate ranging from strongly agree to disagree strongly. It is reported that a significant number of participants agreed that E-sports could be considered as a severe competition (43.3% of respondents strongly agree with this statement, and 31.3% agree). It demonstrates that E-sports is gradually creating its value system as a professional competition in the digital entertainment age that attracts the young Vietnamese generation. This untapped industry does have the potential to thrive in Vietnam despite all concerns about the futility of video games and ongoing challenges.
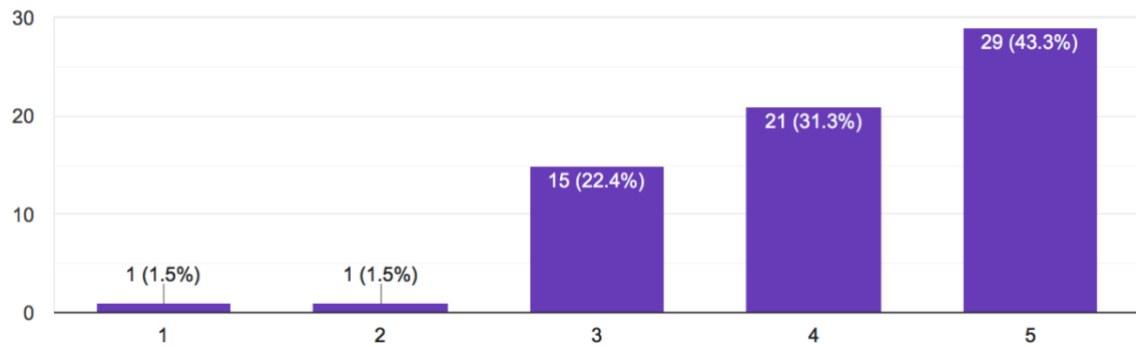
Figure 6. Customer aspect of E-sports

After considering the value of E-sports from the perspective of society, the following figure illustrates the aspect and trend of Vietnam's society in using social media with a big gap between some platforms.
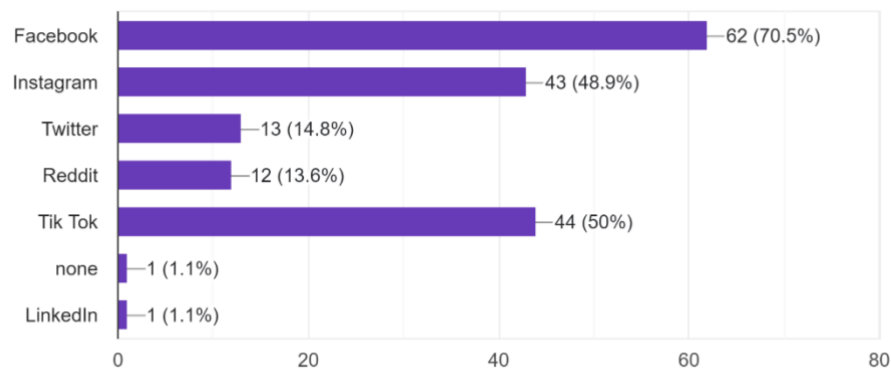

Figure 7: Social media usage of consumers in Vietnam

Although there are many social media, we focus on such media that people often use. The figure shows that Facebook and Tiktok take the first two places (70.5% and 50% of usage), whereas Instagram follows in the third place as the common platform used by the customer (48.9%). Comparing this result with figure 5, we can see that there is one platform used by many customers but needs to be developed by E-sports digital marketing, which is Tiktok. Tiktok is vital in today's digital world, so that the recommendation will be partially connected with this platform.

Lastly, the survey collects information and data about the E-sports events and advertisements, and the results are shown in figure 8 below.
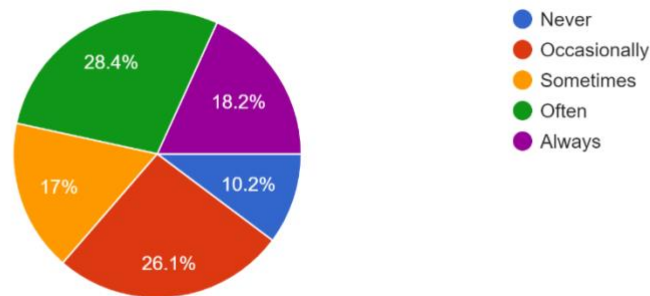
Figure 8. The percentage of appearance frequency of E-sports announcement

Figure 8 shows the frequency of E-sports announcements with slightly the same percentage between all the categories. This leads to the conclusion that the more people are concerned about E-sports, the more they get advertisements and tournaments announced. This marketing strategy could be better as the 28.4% of occasionally seen is very high, which will affect the interaction of society with the E-sports events and industry. Based on this pie chart, the solution is to give out more information and advertisement for not only supporting the media of E-sports but also attracting more sponsors for this industry which will be discussed in the next section.
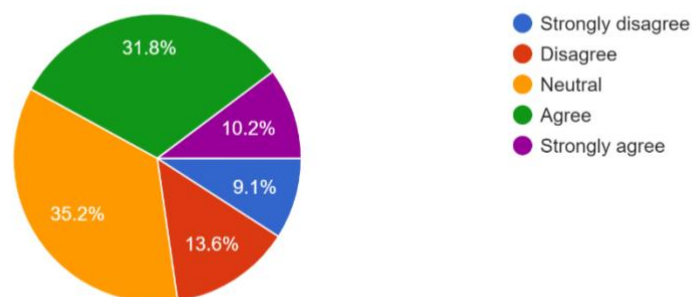

Figure 9. The accuracy and informativeness of the notification about E-sports events.

Figure 9 illustrates if the information is well delivered to the user. The agreed and neutral percentages stay quite close (35.2% and 31.8%), which states that the information is delivered quite well. However, this opens the situation of people ignoring the information as they still have a significant percentage in the neutral zone.
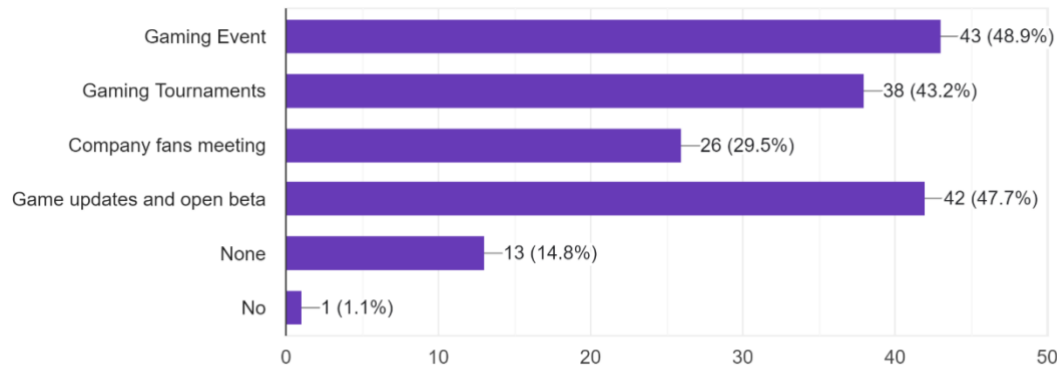
Figure 10. The percentage of information needs distribution in E-sports

Figure 10 shows how likely people are concerned about E-sports through different information, which will help us to navigate the user behavior and support in the technology application and will be discussed in the next section.

5.3   Technologies Application

Based on the survey results, there are solutions for developing the marketing campaigns by applying technologies. In this chapter, the thesis recommends some technologies for the application (AI-Machine Learning, Automations and Search Engine) as well as gives out criteria for evaluating which technologies can be applied. Moreover, the path in applying and operating these technologies is also be drawn in the latter section of this part.

5.3.1   Criteria

According to the survey result and the theoretical background of the technology in digital marketing, the criteria we consider in evaluating which technology can be used are flexibility, capability in many platforms, and ease of operation.

- Flexibilities: the first consideration of the criteria belongs to flexibility, as the technology we apply needs to have vital flexibility in the changes in customer behavior and the market environment. Moreover, as the E-sports industry is a new field of development, the policy of government, as well as the social perspective, is still changing, leading to changes in technology operations. In a nut shell, flexibility is very crucial in choosing the technology.

- Capable in many platforms: as in the analysis of the survey, many platforms can be used in digital marketing which can gather a large amount of interaction from the customer; the technology we want to apply needs to fit most of them and work well in the result as when conducting a new application to a platform requiring a significant amount of time and resources. If the application of the technology varies into many platforms, the same work can be done with little new investment and research.

- Easy to operate in the theoretical background, we have discussed that most new technology invented recently requires hard work in mechanical operation and maintenance, which are very difficult to illustrate in such a new industry like E-sports in Vietnam. As the condition, the easier the operation is, the more successful the project brings, as digital marketing needs time to operate. However, on the other hand, with a heavy mechanical process, the results can come at a different time than we need.

5.3.2 Technologies choice and evaluation

As the criteria for the technology has been discussed, the thesis will come up with some solutions and make an analysis based on those criteria.

	Flexibilities	Capable in many flatforms	Easy to operate
AI – Machine learning	Yes	Yes	No
Pay–Per–Click	Yes	No	No
Online PR	Yes	No	No
Search Engine Optimization	Yes	No	No
Marketing Automation	Yes	No	Yes

Table 2: Criteria evaluation of technology

Based on the table of criteria evaluating, we recommend choosing three leading technologies that can apply in the digital marketing campaign for the E-sports industry: AI - Machine Learning, and Marketing Automation.

5.3.3 Technologies Applying Plan and Discussion

In this chapter, how the technology works and if there are any drawbacks of the technology are discussed based on the model of swot analysis.

- AI – Machine Learning SWOT analysis

  o Strength: the strength of AI – Machine Learning is its customization. Compared to other working tools, AI has a big hit in the advantage of flexibility as the machine will play the same role as a customer service officer and marketing planning consultant. This will help the digital marketing campaign smooth working and understand more about customer behavior.

  o Weakness: the weakness of this method lies no longer between the lack of specialization and the technology barrier. As the newest invention in human-technology history, AI–machine learning requires a wide range of specialists to support, maintain, and optimize this technology. However, the Vietnam industry is incapable of using this technology's potential.

  o Opportunities: two main opportunities can be said in using AI technology. The first one is the easiness of accessibility in the resources [8] as the companies and marketers can access multiple types of resources and data so they can easily understand more about the feedback of customers on the event and the access time of the platform they are operating in. Another opportunity is the capability of transferring the findings of their own into another domain. The AI technology is built with a human perspective which can quickly learn from the different platforms through the active learning process.

  o Threats: the only threat for AI – machine learning applications are the results analysis part, as the data collected by this method is vast, and the loss in communication and usage between human and artificial intelligence can occur, causing a significant loss in both profit of the campaign and the investment of this technology.

- Usages plan of AI Machine Learning: the step in operating and getting benefits from the technology by applying it to the digital marketing campaign falls into three main steps:

  o 1st step: In this first step, we will choose one platform which is very potential to operate Tittok to the survey, people in society widely use Tiktok, but the number of advertisements and announcements are not available for most of the participants – some see, but some does not which lead to the first step of showing the announcement to all the people in the society. In this step, the AI bots need to learn the habits of society and show them the E-sports event under the shape of entertainment events. This not only helps to bring the aspects of E-sports to more people but also supports the face of entertainment in E-sports.

  o 2nd step: after bringing the perspective to the society, the second step is to ensure that the information is relevant and valuable. Based on figure 9 and figure 10 analysis, different people will have different needs in understanding E-sports which need to be learned by the AI. With the information collected by the AI technologies, the campaign operation will be more successful as. Moreover, based on the statistic, Vietnamese use social media take 78.1% of the population, which is a considerable amount. Hence, the quality of our information needs to be as accurate and informative as possible.

  o 3rd step: the last step of this process is to spread the technology to another platform; with the data collected from the AI and the performance of the platform Tiktok, we can consider if we can spread this work to other platforms like Youtube or Facebook. Moreover, the platform Youtube ad Facebook already have a decent amount of access to people, which we can hold later in our campaign.

The second technology that we can apply to our digital marketing campaign is marketing automation, where Google Ads and Video are combined with a small survey to collect feedback on the Ads and Videos are operated.

- Marketing Automation Swot Analysis:

  o Strength: the strength of this method is variety, but in the sight of this thesis, the most important thing is to support AI – Machine Learning. Marketing Automation and Ai – Machine learning share the same platform of social media extension, but marketing automation works mainly in showing and

enabling video ads for customers. This will share the burden with AI – Machine learning which will help the campaign to be required less in the machine learning aspects as marketing automation is easier to be operated.

- o Weakness: the weakness of marketing automation is the lack of understanding of customer behavior as it is just a programmed application. This will lead to needing help to give the correct information to the right person.

- o Opportunities: as automation marketing works on applications and software, the opportunity of this method is vast as we can operate our platform of information or use other platforms and operate more upgrades where more and more potential applications can be used.

- o Threats: the threats of this method lie in the category of lacking workers and knowledge as operating software or application is easy, but how to run it effectively is a small amount of a question that can cause the loss of resources with no returns.

- Marketing Automation usage plan: Conducting this method with being more leisurely as we have done one first method with AI – Machine Learning which is a significant advantage. The plan of which will follow two main steps:

- o 1st step: in this step, we will choose one software, platform, or application to operate the marketing content, and we suggest the Google Ads application where there is a trial for up to two months so we can see the results of its. Moreover, google ad also provides its analysis tools, which can be used freely to help our analysis work more feasible.

- o 2nd step: this is the most critical step in the work of technology applications as we will combine this with the first method to form a supporting component.

After the recommendation, we come up with an overview of the technology application and the results. While AI – Machine Learning is the tool for automatically learning and improving the market process, automating marketing will help AI – Machine Learning have full access to various tools to operate its marketing.

6 Summary

Firstly, this chapter will conclude all the coverage information that can lead to the answer to the research questions. Moreover, it also summarized all the information collected during the survey, which can be used in the data analysis phase.

- How E-sports industry in Vietnam is going, and how to develop it?

    o The thesis shows the overall history of E-sports to understand its characteristics and what is missing throughout the development history, which can be used in developing the E-sports industry in Vietnam. Moreover, it also shows the reality of the E-sports industry in Vietnam and some opportunities and threats that people can act into.

- How do people understand and acknowledge E-sports?

    o The questionnaire survey has shown that only a few know what e-sports is. Furthermore, as the participants are the one in age from 12 to 35 years old, the results show that there are still people who do not know the aspect of E-sports, which can be said that several people in society miss understand this concept massive as the one over 35 will have less understanding than the survey participants.

- Which technology can be applied to develop E-sports industry and digital marketing campaigns for E-sports in Vietnam

    o As the survey is conducted to collect the number of people using social media of different ages and by different platforms combined with the SWOT analysis, the thesis recommended using the set of techniques consisting of AI – Machine Learning and Marketing Automation. This, on the one hand, will lead to a supportive ecosystem between the two methods and, on the other hand, give the campaign many opportunities to spread information wider.

Secondly, the validity and reliability of the survey are also included in this chapter through the theory in chapter 4. As the discussion in chapter 4 and the survey questions, the goal of the thesis is achieved by collecting the answers of 88 respondents with high reliability. However, as the topic is quite huge in such a societal phenomenon, the 88 respondents are less than expected. However, they have contributed enough in the solving problems process of the research.

Lastly, as the thesis stops at the phase of giving recommendations and planning for the technology application, there are places for further research in two main criteria. The first one is applying more technology in supporting the combination as technology is being developed every day, which will form a better solution for the campaign. The second criterion is to dig deeper into understanding customer behavior and understanding both internal and external aspects that can affect their needs and perspectives.

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Appendix 1. Survey

1. Age? *

◯ 12-18

◯ 18-25

◯ 26-35

◯ 36+

2. Which device do you normally use for gaming? *

☐ PC

☐ Mobile

☐ PS4/5/Xbox

☐ None

☐ Other:

3. Which game are you into playing? *

- [ ] League of Legends
- [ ] Valorant
- [ ] Dota 2
- [ ] CSGo
- [ ] Arena of Valor
- [ ] None
- [ ] Other: _____

4. How familiar are you with Esports? *

- ( ) Not at all familiar
- ( ) Slightly familiar
- ( ) Moderately familiar
- ( ) Very familiar
- ( ) Extremely familiar

5. Approximately when do you first hear about Esports? *

○ Before 2019 (before Covid-19)

○ Late 2019 - 2021 (During Covid-19)

○ 2021-Recently

6. Through which platform that you knew about Esports? *

☐ Facebook

☐ Instagram

☐ Youtube

☐ Twitter

☐ Email

☐ Reddit

☐ Google Ads

☐ Tik Tok

☐ Other: _____

7. How often do you attend eSports event ? *

○ Never

○ Occasionally

○ Sometimes

○ Often

○ Usually

8. Do you consider eSport as a competition sport? *
1=Strongly disagree; 2= Disagree; 3=Neutral; 4= Agree; 5=Strongly agree

	1	2	3	4	5
	○	○	○	○	○

9. Which social media do you regularly use? *

- [ ] Facebook
- [ ] Instagram
- [ ] Twitter
- [ ] Reddit
- [ ] Tik Tok
- [ ] Other: _____

10. Which content about eSports seems attractive to you? *

- [ ] Gaming Event
- [ ] Gaming Tournaments
- [ ] Company fans meeting
- [ ] Game updates and open beta
- [ ] None
- [ ] Other: _____

11. How often do you see advertisement and announcement about game or eSports event? *

○ Never

○ Occasionally

○ Sometimes

○ Often

○ Always

12. Do you think that the advertisement and announcement provide informative details about eSports for you? *

○ Strongly disagree

○ Disagree

○ Neutral

○ Agree

○ Strongly agree

13. Would you introduce and give information to your acquaintances about eSports? *

○ Yes

○ No

○ Maybe