

Factors Affecting Success In E-Marketing Activities At Universities In Vietnam

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Abstract

Through polls of senior high school students, college freshmen, alumnis, and staff at some universities in Vietnam; the article has identified several factors influencing the electronic marketing activities of these universities, primarily focusing on factors affecting the use of electronic marketing tools at these institutions. The results showed that (i) the utility of information provided on the university's marketing channels is the most significant factor affecting the success of marketing activities in higher education institutions in Vietnam; (ii) the reliability of information shared on the university's channels also reflects the credibility and reputation of the higher education institution; (iii) improving the quality of education and service delivery is also a factor that can enhance the credibility and brand of universities; (iv) marketing tools need to be user-friendly to ensure that many people can access and disseminate them quickly, conveniently, and easily; (v) the physical facilities of higher education institutions are not currently a significant factor in increasing the effectiveness of their marketing activities.

Keywords: e-marketing, university, Vietnam, influencing factors.

1. Introduction

In the context of rapidly growing digital marketing spaces, employers and educational institutions need to form more partnerships and to stay competitive in the digital education environment (John Farrar, 2021). With an electronic and digital environment, national borders will no longer be an obstacle, enrollment can be expanded without borders, creating opportunities but also significant challenges for students. higher education institution. Many leading higher education brands in the world have made positive moves to keep up with the times to build and invest in digital and electronic marketing platforms and tools to help them realize their goals. strategies to attract students from around the world.

Besides, the needs of learners have also changed dramatically, and there are also differences in their expectations. Learners not only have a higher desire for online education, but also want more services on campus as well as in virtual education environments, from course support services to career support, career guidance, mental health counseling, etc

When the Covid-19 pandemic occurred, it significantly transformed the landscape of education, demanding that higher education institutions adapt to new approaches to survive and thrive. In this new context, electronic marketing activities are not only aimed at attracting the attention of learners but also at creating connections and increasing engagement with labor users and other partner relationships. This will enhance the competitiveness of higher education institutions. Throughout the years 2020 and 2021, due to the impact of Covid-19, higher education institutions in Vietnam had even more opportunities to leverage electronic marketing tools for teaching and research activities in the "new normal" context. Even if the Covid-19 pandemic can be controlled globally, the trend of applying electronic marketing or digital marketing in higher education activities remains irreversible. The advantages of electronic marketing can help higher education institutions

personalize the goals of learners, create customized marketing solutions to meet the diverse learning needs of different target groups. Electronic marketing solutions can also enable Vietnamese higher education institutions to reach learners worldwide, eliminating geographical barriers and time zone differences (Rahul Jain, 2019). This is the trend in the new context, and institutions that fail to keep up may be phased out, especially as most higher education institutions in Vietnam have gradually transitioned to financial autonomy.

In Vietnam, according to the Ministry of Education and Training's official website, as of the end of 2022, there were 248 higher education institutions, including 181 public universities and 67 private institutions (Ministry of Education and Training Vietnam, 2023). Industry 4.0 has made the use of digital and electronic tools in higher education more common. The younger generation is increasingly proficient in using the internet, social media, and tools like mobile phones to access, connect, and share information, as well as conduct electronic transactions. Therefore, to reach and manage customers effectively, implementing electronic marketing activities is an essential trend for every university in Vietnam today (Ngo Thanh Hien, 2018).

E-marketing can expand markets, increase customer attraction, and enhance the brand image of organizations, including higher education institutions, while also providing convenience in delivering information to customers. Choosing the appropriate electronic marketing strategy will have an impact on the success of marketing activities for higher education institutions in the current context. Currently, many universities in Vietnam have been and are actively applying electronic marketing tools to achieve their strategic goals.

Research aimed at promoting the marketing activities of universities is necessary and meaningful. To do so, it is essential to study the factors influencing

the electronic marketing activities of higher education institutions in Vietnam.

2. Literature reviews

Electronic marketing, also known as digital marketing, is a rapidly spreading phenomenon closely tied to the development of information and communication technology (ICT). Essentially, the principles of electronic marketing are rooted in traditional marketing, but the execution differs. Electronic marketing is defined as encompassing a set of tools, mechanisms, and approaches aimed at using technology most effectively to carry out marketing activities (Stephen Dann and Susan Dann, 2011).

Electronic marketing (or digital marketing) is the promotion of services using digital channels and technologies, whether based on the internet or not. This includes social media, websites, mobile text, email, software applications, display advertising, and search engine marketing (Tiago & Verissimo (2014), Afrina, Sadia & Kaniz (2015), Makrides, Vrontis & Christofi (2020)). Electronic marketing activities can involve a variety of activities carried out through electronic means, combined in a market research process, providing practical value to customers, maintaining close relationships with customers, and thus benefiting the business.

In the context of higher education, electronic marketing involves using various electronic tools throughout activities such as student recruitment (admissions counseling), student support during their studies, and maintaining close relationships with alumni after graduation. Attracting potential students, retaining enrolled students, and re-engaging alumni through various means are effective ways to enhance the image of a higher education institution.

Efficient use of these tools is crucial to achieving marketing objectives and increasing the satisfaction and loyalty of students, who are the

customers of higher education institutions (Tehci & Ersoy, 2020).

*** The success of e-marketing activities**

The success of electronic marketing can be measured using various performance metrics, which can be categorized into two main types: quantitative metrics (such as website traffic) and qualitative metrics (e.g., user experience) (Saura, Palos-Sánchez & Cerdá Suárez, 2017). The attractiveness of marketing channels also influences students' university selection decisions (Wu, T, Naidoo V. (2016)). In addition, the success of electronic marketing in higher education institutions can be measured by market indicators (such as revenue, current student enrollment, and new student enrollment) and customer behavior metrics (student loyalty, as demonstrated by students continuing their studies at the institution and maintaining relationships with the institution after graduation, as well as student satisfaction and brand recognition of the university (Mohammad Mousa Eldahamsheh et al., 2021). These metrics collectively provide a comprehensive assessment of the effectiveness and impact of electronic marketing efforts in higher education.

*** Impact factors**

To research the factors influencing the success of electronic marketing activities, the author relies on the foundation of the Technology Acceptance Model (TAM). The Technology Acceptance Model (TAM), developed by Davis (1986), is a well-known model related to the acceptance and usage of technology. TAM is an extension of the robust Theory of Reasoned Action (TRA) by Ajzen and Fishbein (1980), and its adoption was proposed by Davis (1989) and Davis, Bagozzi, and Warshaw (1989) as researchers sought to explain users' acceptance or rejection of information technology through the adaptation of TRA. Using TAM, researchers are equipped with a framework to monitor how external variables

influence trust, attitude, and usage intention. TAM posits two user-perceived beliefs: perceived usefulness and perceived ease of use of the tools. TAM suggests that an individual's actual usage of a technological system is directly or indirectly influenced by behavioral intention, attitude, perceived usefulness, and perceived ease of use. This theory also implies that external factors influence intention and actual usage through mediating effects on perceived usefulness and perceived ease of use.

This model has also been applied in marketing at higher education institutions. Farah Hân Zawaideh (2017) conducted research on the factors influencing the intention to use electronic marketing among students in Jordan. In this study, trust, perceived usefulness, and perceived ease of use, as perceived by 221 Jordanian students, were found to influence the intention and actual usage of electronic marketing tools.

According to Kiang, Raghu and Shang (2000), there are many important factors to evaluate the success of electronic marketing activities aimed at increasing the school's image and brand recognition. From the perspective of higher education institutions, so that learners can recognize the school's brand, through the use of electronic marketing tools, universities have clear goals announced to users. learn; show the characteristics of organizational culture (Oguz, 2016); have an appropriate technical infrastructure system; service quality of higher education institutions to meet the requirements of learners. Cultural elements and the goals and philosophies of educational institutions are expressed in the content of messages on the electronic marketing tools they use. The infrastructure system and training quality are the factors to help the messages of higher education institutions be delivered to learners more effectively.

On the part of learners, the learners' feelings about marketing activities, especially through electronic marketing tools of higher education

institutions, will be the basis for evaluating the success of the implementation. marketing activities, as well as in enhancing the image and brand recognition of higher education institutions.

Factors on the learner's side include their perception of the usefulness, ease of use, and reliability of the information or messages conveyed in electronic marketing tools. Consumer behavior in general, and student choices in particular, can be better explained when considering the perceived quality of products/services as well as students' subjective perceptions of activities. advertising and promotion activities of higher education institutions (Wu , T, Naidoo V. (2016)).

(i) Infrastructure system

Obviously, e-marketing activities are associated with the development of the internet. Therefore, the availability of IT infrastructure services will help schools deploy many integrated software tools in teaching and managing learning and teaching activities of lecturers and students. In addition, a stable IT system will be the basis for schools to apply many appropriate marketing tools, increasing marketing effectiveness. Speedy wifi access in classrooms and on campus, full computer terminals in classrooms, libraries or feedback from IT tech support Surej P. John & Rouxelle De Villiers (2022) will be the technical infrastructure factors affecting e-marketing activities at schools. In addition, stable and fast access speed, as well as continuous updating of information posted on official channels will increase the success of e-marketing activities at establishments. department of higher education.

⇒ H1: Facilities serving the application of electronic marketing tools have an impact on the success in marketing activities of universities.

(ii) Service quality of higher education institutions:

Service quality of higher education institutions is shown by many different criteria. In the field of higher education, Kurz, Scannell, and Veeder (2008) found that factors such as perceived quality include the responsiveness of faculty, support staff, and public facilities. service work in higher education institutions. Besides, students' learning experiences are also recorded through interactive activities between learners and teaching staff, then perceived quality in higher education is considered a structure that reflects including library services, student activities, facilities and the responsiveness of the teaching staff (Pinar et al. (2014), Nguyen Van Thanh Truong (2021). Learners can evaluate products they will or are being offered (Sen, Ananya and Catherine Tucker, 2022; Jusuf & Sarwono, 2018), and can assess the educational costs that will be incurred when pursuing the programs training (Grewal, R. et al., 2022). Learners can evaluate training programs to make decisions about whether to study or continue studying at an educational institution. certain higher education (Robert Ackerman and John Schibrowsky, 2007). If learners participate in training activities at school, it will create even more effects in the school's marketing activities.

=> H2: Service quality of higher education institutions to increase the application of electronic marketing tools affects the success in marketing activities of universities

(iii) Information reliability: Information needs to be reliable to increase persuasion to viewers. Information such as scholarship policies, admission procedures, or outcomes of training programs will be the basis for learners to make necessary decisions (Kaasinen, 2007, Chen et al. (2004). Farah Hanna Zawai deh (2017)).

⇒ H3: The usefulness of electronic marketing tools has an influence on the success of marketing activities of universities

(iv) Ease of use: Learners' awareness of the ease of use in marketing tools of educational and training institutions will help schools quickly and easily reach learners. The quality of experience with the internal management system will also affect learners' satisfaction with university training programs. Therefore, the task of schools is to meet the needs of learners by increasing the level of access and convenience in using internal systems (Surej P. John & Rouxelle De Villiers (Surej P. John & Rouxelle De Villiers (Surej P. John & Rouxelle De Villiers (Surej P. John & Rouxelle De Villiers) 2022).

=> H4: The ease of use of electronic marketing tools affects the success in marketing activities of universities.

(v) Usefulness : Information about the training program, organizational structure, necessary procedures for admission as well as useful information about services for students, especially foreign students or boarding students are factors affecting the level of student satisfaction. Therefore, the more useful the marketing tools for enrollment as well as internal management are, the more successful they will be in attracting and maintaining the student rate. (Mohammad Mousa Eldahamsheh et al., 2021, Yang (2005), Hasan et al. (2021).

=> H5: The information reliability of electronic marketing tools affects the success in marketing activities of universities.

3. Research methods

The article employs a qualitative approach, based on a survey of students, graduates, and some faculty members in higher education institutions in Vietnam to assess the factors affecting the success of electronic marketing activities in these universities. The author utilizes SPSS 22 software and employs Exploratory Factor Analysis (EFA) to analyze the factors influencing electronic marketing activities, specifically the use of electronic tools in admissions,

student management, and alumni engagement. Based on this analysis, the article suggests several solutions to enhance the effective implementation of electronic marketing tools in student care and engagement activities.

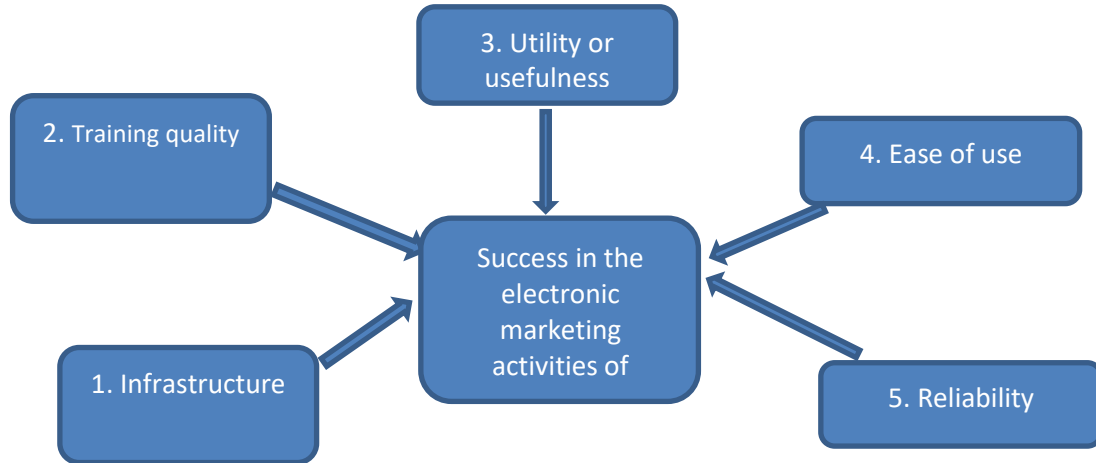


Figure 1. Framework for analyzing factors affecting e-marketing activities of higher education institutions

Source: Author's recommendation, 2022

Table 1. Factors affecting the success of e-marketing activities of higher education institutions

Encode	Index/Factor	Source
I. Success in electronic marketing activities at higher education institutions		
ThC1	In my opinion, the school has attracted many good students who want to study and work at the school	Author suggested
ThC2	In my perception, the school's culture and message are widely known and spread by sharing links on the internet.	Oguz, 2016
ThC3	In my opinion, the school has attracted many alumni to participate in the alumni association of the school	Surej P. John & Rouxelle De Villiers (2022), Mohammad Mousa Eldahamsheh et al., 2021
ThC4	In my opinion, students from my school graduate successfully in their careers	Surej P. John & Rouxelle De Villiers (2022), Mohammad Mousa Eldahamsheh et al., 2021

Encode	Index/Factor	Source
THC5	In my perception, the quality of training at the school is considered top in the country	Pinar, Trapp, P., Girard, T., & E. Boyt, T. (2014), Nguyen Van Thanh Truong (2021)
ThC6	In my perception, the school has a high reputation and reputation because it has links with many domestic and foreign business and organizational partners.	Author suggested
II. Factors affecting		
1. Facilities serving the application of electronic marketing tools		
CSVC1	Wifi system, electronic library, internal management system operate stably and smoothly	Oguz, 2016, Surej P. John & Rouxelle De Villiers (2022 .)
CSVC2	The speed of accessing the school's electronic information channels is fast	Surej P. John & Rouxelle De Villiers (2022
CSVC3	Information on websites and internal channels is constantly updated	Surej P. John & Rouxelle De Villiers (2022
CSVC4	Information on websites and internal channels of the school is quite diverse	Author suggested
CSVC5	The internal management system is designed in accordance with the interface on phones and computers	Pinar, M., Trapp, P., Girard, T., & E. Boyt, T. (2014)
CSVC6	In the school's messages displayed on the website, I see that the school's leaders also pay great attention to IT innovation in teaching.	Author suggested
2. Service quality of higher education institutions to increase the application of electronic marketing tools		
CLDT1	Training programs are updated on the school's electronic information channels in a transparent and public manner	Sen, Ananya and Catherine Tucker, 2022; Jusuf & Sarwono, 2018
CLDT2	Tuition fees and scholarship programs are publicly displayed and can be compared and assessed	Grewal, R., Meyer, R., & Mittal, V. (2022), Le Quang (2015), Giovanni Azzone and M. Soncin (2019), Tri D. Le (2019)
CLDT3	Learners can frankly evaluate the quality of training through feedback tools in the internal management system.	Scott Gaier (2005), Nguyen Van Thanh Truong (2021), Pinar et al (2014)

Encode	Index/Factor	Source
CLDT4	Learners can receive timely consulting support on the school's electronic communication channels	Jaschik (2019), Pinar et al (2014), Nguyen Van Thanh Truong (2021)
CLDT5	Learners can participate in building training programs on the school's electronic support tools	Recommended by the author
CLDT6	Activities to support learners are deployed continuously and diversely	Surej P. John & Rouxelle De Villiers (2022)
3. The usefulness of electronic marketing tools		
HI1	I can find training programs on the school's website	Mohammad Mousa Eldahamsheh et al, 2021, Yang (2005), Hasan et al (2021)
HI2	I can find online support and consulting channels through the school's information pages (website, fanpage, school's internal management system...)	Mohammad Mousa Eldahamsheh et al, 2021, Yang (2005), Hasan et al (2021)
HI3	I can virtually experience the facilities and amenities that serve students right on the school's website	Mohammad Mousa Eldahamsheh et al, 2021, Yang (2005), Hasan et al (2021)
HI4	I can manage my own learning and experience through the internal management system	Author suggested
HI5	I can participate in exchanges and connect with former students of the school	Author suggested
HI6	I can find information about job opportunities by visiting the websites of the school's partner organizations and businesses.	Mohammad Mousa Eldahamsheh et al, 2021, Yang (2005), Hasan et al (2021)
HI7	I can access the information I need on the school's electronic channels anytime, anywhere	Recommended by the author
4. Ease of use of e-marketing tools		
SD1	I can quickly access the school website	Recommended by the author
SD2	There is no charge for me to access information on the school's information channels	Author suggested
SD3	The school's internal management system has a user-friendly interface that is convenient to use	Pham Kien Trung et al (2020),
SD4	The school's linked pages are easy to access	Surej P. John & Rouxelle De Villiers (2022 .)

Encode	Index/Factor	Source
SD5	I often use electronic tools to interact with lecturers and students	Surej P. John & Rouxelle De Villiers (2022 .)
5. Information reliability of electronic marketing tools		
TC1	I trust the information the school shares on its website and other official information channels	Kaasinen, 2007, Chen et al (2004), Farah Hanna Zawaideh (2017)
TC2	I often share information provided on the school's official information channels	Pham Kien Trung and colleagues (2020),
TC3	I often rely on information posted on the school's website to make decisions about studying, research and other activities.	Author suggested

Source: Author's compilation, 2023

4. Research results

4.1. Research sample

The author conducted a random survey involving participants from various high schools, universities, and foreign universities in Vietnam, including both public and private institutions. The study subjects consisted of high school students, university students, alumni, and faculty members. In total, there were 33 observed variables in this study, comprising 27 independent variables and 6 dependent variables. The author employed an online survey method, using a convenience sampling approach, and distributed survey links to participants in Hanoi and a smaller number in Ho Chi Minh City to collect data from January to March 2023.

The author filtered the data obtained from these institutions to ensure that the sample aligned with the research scope of the article. The study yielded 320 responses, of which 315 were valid (filled out with all necessary information for usability). The majority of the participants were high school students (58.4%), then college students (32.1%), former participants (5.5%), and faculty at higher education institutions (4%).

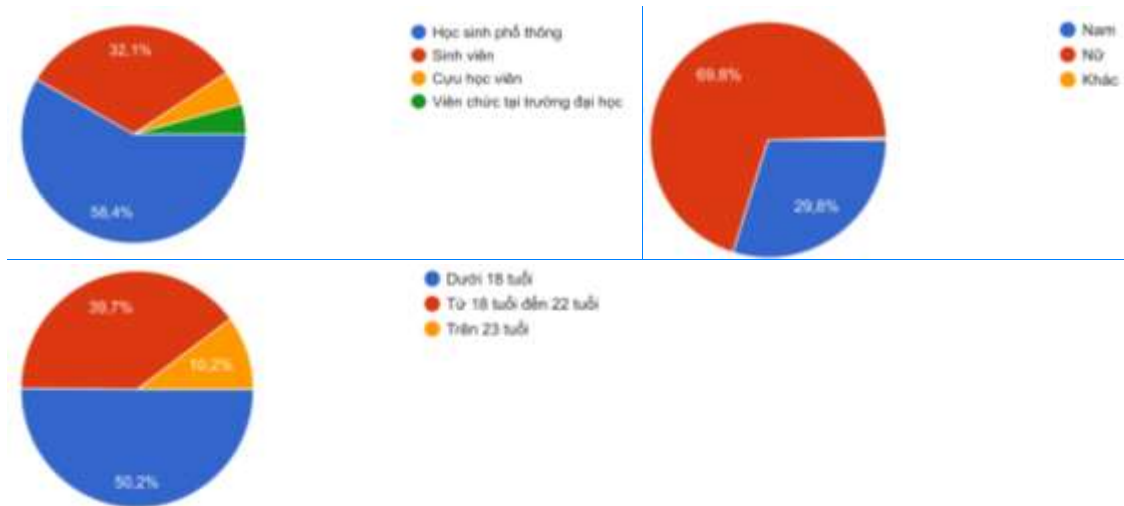


Figure 2. Survey sample

Source: Author's survey results, 2023

The survey participants all had experience or intentions of studying at various public universities in Vietnam, such as Foreign Trade University, National Economics University, Hanoi National University, University of Economics Ho Chi Minh City, Open University Ho Chi Minh City, Banking University Ho Chi Minh City, and many other public universities. They also included participants from private and semi-private higher education institutions like Van Hien University, Van Lang University, Hoa Sen University, Phenikaa University, VinUni, as well as international universities operating in Vietnam like RMIT.

The gender distribution among the participants showed that 69.8% were female. The age range of survey participants was predominantly under 18 years old (50.2%) and between 18 and 22 years old (39.7%).

4.2. Measuring success in university marketing activities

According to survey findings, the majority of students have learned about schools through the marketing strategies that schools are now using.

Table 2. Evaluation of success in electronic marketing activities at some universities in Vietnam

	WO MEN	Mean	Std. Deviation
ThC1 - In my opinion, the school has attracted many good students who want to study and work at the school.	315	4.0254	.78155
ThC2 - In my perception, the school's culture and message are widely known and spread by sharing links on the internet	315	3.9937	.72706
ThC3 - In my opinion , the school has attracted many alumni to participate in the school's alumni association.	315	3,8000	.78683
ThC4 - In my opinion, students from my school graduate successfully in their careers	315	3.8095	.79523
ThC5 - In my perception, the quality of training at the school is considered top in the country	315	3.8444	.78476
ThC6 - In my opinion, the school has a high reputation and prestige because it has links with many domestic and foreign organizational and business partners.	315	3.9397	.78573
Valid N (listwise)	315		

Source: Author's survey results, 2023

The cultures and messages of these universities have been widely disseminated on social media and across the internet. This reflects the reputation and credibility, as well as the distinctive features of these institutions that have been recognized and spread. As a result, these universities have attracted many high-quality students who come to study and work there.

However, learners still believe that universities can enhance their marketing activities even further and be more effective by incorporating the achievements of Industry 4.0 into teaching and providing services to learners. In addition, marketing

activities should emphasize the connection between the past, present, and future by showcasing the link between alumni, current students, and future students through the university's communication channels.

When using electronic marketing tools, it is crucial to emphasize the universities' goals of providing the most practical benefits to learners, such as quality education, employment opportunities, and excellent experiences that learners will gain at a specific higher education institution. This will also contribute to increasing the university's brand recognition, reputation, and image.

4.3. Usefulness of e-marketing tools in universities

Table 3. Evaluation of the usefulness of e-marketing tools at universities in Vietnam

	WO MEN	Mean	Std. Deviation
HI1 - I can find training programs on the school's website	315	3.9238	.74904
HI2 - I can find online support and consulting channels through the school's information pages (website, fanpage, internal management system of the school...)	315	3.8095	.75833
HI3 - I can experience virtual facilities and student services right on the school's website	315	3.5302	.96179
HI4 - I can self-manage my learning activities and experiences through the internal management system	315	3.6984	.80672
HI5 - I can participate in exchanges and connect with former students of the school	315	3.6381	.86094
HI6 - I can find information about job opportunities by visiting the websites of the school's partner organizations and businesses	315	3.6825	.81439
HI7 - I can access the information I need on the school's electronic channels anytime, anywhere	315	3,775	.7758
Valid N (listwise)	315		

Source: Author's survey results, 2023

Electronic marketing tools are considered useful for potential learners as well as current students and society in providing information about training programs on websites and other information channels in a timely manner. quickly, anytime, anywhere.

However, schools' current electronic marketing tools have not been thoroughly and effectively applied to provide virtual experience services about facilities and utilities to serve integrated learners. right on the school's website or through internal management systems. CRM management tools have also not been utilized effectively to support learners in connecting with alumni. These are also issues that higher education institutions need to consider when establishing information promotion channels, as well as pay attention to the content presented on the channels, to ensure increased usefulness of the information. marketing tools, thereby helping schools' electronic marketing activities be carried out more effectively.

4.4. Ease of use of e-marketing tools in universities

Most electronic information channels of higher education institutions are considered friendly, easy to access, interact and exchange information. This is also the characteristic that attracts many visitors to the information channels of higher education institutions, contributing to the success in using the school's electronic marketing tools.

Table 4. Evaluation of the ease of use of electronic marketing tools at some universities in Vietnam

	WOM EN	Mean	Std. Deviation
SD1 - I can quickly access the school's website	315	3,743	.8709
SD2 - I do not have to pay for accessing information on the school's information channels	315	3.8381	.86094

SD3 - The school's internal management system has a friendly interface, convenient for use	315	3.7746	.78804
SD4 - School Links Sites Easily Accessible	315	3.7556	.82589
SD5 - I often use electronic tools to interact with lecturers and students	315	3.6921	.83538
Valid N (listwise)	315		

Source: Author's survey results, 2023

4.5. Reliability of information provided in e-marketing tools in universities

The majority of survey participants believe that the information provided in the information channels of higher education institutions is reliable. Because of the reliability of the information provided, learners can share information with relatives, friends and others, and make decisions about choosing a university or choosing a path. Study appropriately and choose suitable jobs.

Table 5. Assessment of the reliability of information provided in electronic marketing tools at some universities in Vietnam

	WO MEN	Mean	Std. Deviation
TC1 - I trust the information that the school shares on its website and other official communication channels	315	3.8730	.79192
TC2 - I often share the information provided on the school's official communication channels	315	3.6413	.81870
TC3 - I often rely on information posted on the school's website to make decisions about studying, research and other activities.	315	3.7937	.78923
Valid N (listwise)	315		

Source: Author's survey results, 2023

The active sharing of information by learners also demonstrates the success in using electronic marketing tools of the higher education institution, which also means that the higher education institution has effectively applied its effective form of electronic word-of-mouth marketing (eWOM),

thereby contributing to popularizing the image and reputation of the school.

4.6. Facilities create the foundation for applying electronic marketing tools in universities

Facilities are also one of the factors that learners pay attention to when evaluating a higher education institution. Good facilities are also a natural form of marketing for the school's image.

Higher education institutions such as the National Economics University and Hanoi National University have used good facilities as a tool to attract learners to the school. These higher education institutions have communicated the image of their beautiful, modern facilities through articles shared on websites, Facebook, forums, blogs and other social networks. This evoke learners' curiosity, as well as their desire for practical experience, and to study at such modern facilities. This is also a factor that can affect the communication effectiveness of higher education institutions. The survey results show that the majority of learners are satisfied with the school's facilities.

Table 6. Assessment of facilities affecting the application of electronic marketing tools at some universities in Vietnam

	WOM EN	Mean	Std. Deviation
CSVC1 - Wifi system, electronic library, internal management system works stably and smoothly	315	3.5810	.97857
CSVC2 - Fast access speed to the school's electronic information channels	315	3.6190	.83758
CSVC3 - Information on electronic pages and internal information channels is continuously updated	315	3.7270	.82269
CSVC4 - Information on the school's electronic pages and internal information channels is quite diverse	315	3.7905	.79041

CSVC5 - The internal management system is designed in accordance with the interface on phones and computers	315	3.7651	.86071
CSVC6 - In the school's messages displayed on the website, I see that school leaders also pay great attention to IT innovation in teaching.	315	3.8222	.77797
Valid N (listwise)	315		

Source: Author's survey results, 2023

However, to better provide services to learners, higher education institutions also need to continue to improve access speed and stability in wifi systems and connection channels, communication between students and schools.

4.7. The quality of training is a prerequisite for the application of electronic marketing tools in universities

Similar to physical infrastructure, the quality of education and training remains the foundation of marketing activities and impacts the reputation and credibility of educational institutions at all levels. Therefore, focusing on improving the quality of education and training is also the best marketing activity to enhance the reputation of these institutions.

Survey results indicate that learners are reasonably satisfied with the quality of education and training at higher education institutions. However, to better meet the needs of learners through electronic tools, higher education institutions need to create conditions for learners to directly participate in assessment and curriculum development. They should also emphasize the message that tuition fees correspond to the quality of education that learners will receive.

In addition, integrated survey tools on platforms designed for prospective learners, current learners, and alumni, along with transparent and publicly disclosed survey results, will also impact the building of the image and brand of these institutions.

The quality and speed of counseling and service provision are also factors that will contribute to learner satisfaction.

Table 7. Evaluation of training quality affecting the application of e-marketing tools at some universities in Vietnam

	WOM EN	Mean	Std. Deviation
CTLDT1 - Training programs are updated on the school's electronic information channels in a transparent and public manner	315	3.8762	.78231
CTLDT2 - Tuition fees and scholarship programs are publicly displayed and can be compared and evaluated	315	3.7365	.79635
CTLDT3 - Learners can honestly evaluate training quality through feedback tools in the internal management system	315	3.7206	.80487
CTLDT4 - Learners can receive timely counseling support on the school's electronic communication channels	315	3.7460	.76484
CTLDT5 - Learners can participate in building training programs on the school's electronic support tools	315	3.6667	.83323
CTLDT6 - Learner support activities are deployed continuously and diversely	315	3.7175	.79780
Valid N (listwise)	315		

Source: Author's survey results, 2023

4.8. Results of exploratory factor analysis

Reliability of measurement scales

The reliability of the dependent and independent variables meets the conditions to perform EFA exploratory factor analysis. The Cronbach's Alpha test shows that all variables satisfy the conditions (i) the total variable correlation coefficient is greater than 0.3 and (ii) the group's Cronbach's Alpha coefficient ($C\alpha$) is greater than 0.6.

EFA test with independent variables

The test results showed that: the model's KMO coefficient reached $0.936 > 0.5$, sig coefficient < 0.05 , the total extracted variance reached $73.846\% > 50\%$. Thus, the variables in the model are related to each other, and the 5 factors containing 73.846% of the original variables meet the conditions for EFA analysis.

The independent variables were loaded in 5 groups, named CLDT, CSVC, HI, SD, TC.

The six factors of the dependent variable are also loaded in a group and named ThC.

Table 8. Regression results
Coefficients ^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	REMOVE	Std. Error	Beta			Tolerance	VIF
first	(Constant)	.637	.155	4.111	.000		
	CLDT	.148	.054	.159	.271	.350	2,854
	CSV	.047	.037	.051	.200	.752	1,330
	SD	.117	.048	.129	.015	.428	2.339
	TC	.166	.041	.182	.000	.604	1.656
	HI	.395	.060	.410	.000	.311	3.212

a. Dependent Variable: ThC

Source: Author's survey results, 2023

The model is written as a formula as follows:

$$\text{ThC} = 0.159 \cdot \text{CLDT} + 0.051 \cdot \text{CSV} + 0.129 \cdot \text{SD} + 0.182 \cdot \text{TC} + 0.410 \cdot \text{HI}$$

Among the 5 factors, the physical infrastructure factor does not have statistical significance (due to a sig value greater than 0.05) and has the smallest impact on the success of electronic marketing activities in Vietnamese universities. All the remaining factors are statistically significant at the 5% level. The usefulness of the information provided on marketing tools has the most significant impact on the success of marketing activities in higher education institutions.

The adjusted R-squared value of the model is 0.625, indicating that the independent variables collectively account for 62.5% of the variance in the dependent variable. The Durbin-Watson coefficient is also approximately 3, ensuring the model's appropriateness in measuring the factors influencing electronic marketing activities in Vietnamese higher education institutions.

The VIF (Variance Inflation Factor) values for all independent variables are approximately 3, suggesting that there is not enough evidence to conclude multicollinearity in the model.

Based on the ANOVA table, the statistical F-value of the model is $\text{Sig} = 0.000 < 0.01$, indicating that the model is accepted, and all factors have successfully explained the variation in the dependent variable (ThC).

4.9. Conclusions drawn from the analysis

Firstly, the usefulness of information provided on the university's marketing channels (with a standardized coefficient of 0.410) is the most impactful factor on the success of marketing activities in higher education institutions in Vietnam. At each stage of the learner's journey, from being a prospective candidate to post-graduation, there are different information needs. Therefore, electronic marketing tools should be designed to cater to the specific needs of each audience.

For example, for prospective admissions candidates, the necessary information will help potential learners make informed decisions about choosing a specific university. Many potential learners often have questions such as what they will study at the university, where they will work after graduation, the university's job placement rate, the tuition fees for the programs, the services offered by the university, or the services the university has partnerships with external businesses, organizations, and agencies to meet learners' needs. In many universities worldwide, learners also want to access data on the student retention rate compared to the number of students enrolled. This information helps future learners evaluate and make decisions about which institutions to choose.

For current students, the information they often seek may include academic support and issues related to student life. Sometimes, learners may not know where to seek specific assistance, so setting up online or automated counseling systems can be very useful, enabling learners to receive support quickly.

Secondly, The reliability of the information shared on the university's channels (with a standardized coefficient of 0.182) also reflects the credibility and reputation of the higher education institution. Officially published information represents the commitments and responsibilities of the university to provide certain values, as outlined in the messages posted on their website or other electronic promotional mediums. Some unofficial websites even provide evaluations of schools to avoid and reasons why learners should not choose them. Therefore, instead of letting learners search for this information from unofficial sources, universities can provide this information in an official and accurate manner, minimizing the risks that could affect the institution's reputation or credibility. When learners trust the information posted, they typically take actions such as sharing and spreading the information through various channels or making decisions about

their education, such as selecting a university, choosing an academic program, or selecting other services offered by the university based on that information. Accurate and reliable information helps universities attract learners and can also help retain them, building learner loyalty. On the contrary, inaccurate information can lead to problems for universities, and if information management is not effective, it can lead to a communication crisis.

In the age of information revolution, information on the internet spreads rapidly and extensively. The disseminated information can include both positive and negative content. Therefore, higher education institutions need a specialized department for planning, developing marketing and communication strategies, and handling communication incidents when necessary.

Thirdly, improving the quality of education and service delivery (with a standardized coefficient of 0.159) is also a factor that can enhance the reputation and brand of universities. The quality of university services will be spread by the generations of students, thereby maintaining the reputation of a higher education institution. This is essentially word-of-mouth marketing that higher education institutions should apply. In the context of developing electronic technologies, the task of electronic marketing tools is to make customers perceive and share positively about the quality of services provided by the higher education institution. However, quality is not a sustainable concept as it evolves with changing learner needs. Therefore, higher education institutions need to continuously improve the quality of educational services to meet learner needs.

Fourthly, the standardized coefficient for the ease of use of electronic marketing tools is 0.129, indicating that these tools need to be designed to be user-friendly to ensure that many people can access and spread information quickly, conveniently, and easily. While some tools may require passwords to ensure security, they should have user-friendly and

intuitive interfaces that can be used on various devices like smartphones or computers with internet connectivity. Today's Gen Z learners are familiar with smartphones; therefore, electronic marketing tools should be designed to work seamlessly on smartphone versions. Information should also be digitized, and tools for transmitting information should be standardized to ensure fast and easy transmission and reception.

Finally, the physical infrastructure of higher education institutions is currently not a significant factor in ensuring the success of their electronic marketing activities. Many individuals express dissatisfaction with the current physical infrastructure of universities, especially regarding the Wi-Fi network, internet access speed, data for enrollment, internal management systems for learners and alumni, and electronic library systems. The infrastructure also plays a role in supporting the development of electronic marketing activities. Therefore, if the infrastructure is lacking, it will significantly affect the development and use of electronic marketing tools. According to the model results, the physical infrastructure factor also affects the success of marketing activities because many universities still lack the capital to invest in comprehensive infrastructure, from classroom equipment to information management systems.

5. Conclusion

The results indicate that the issues that higher education institutions in Vietnam need to focus on are ensuring the usefulness, reliability, and user-friendliness of information in electronic marketing tools. Additionally, universities need to use these tools in a way that allows students to perceive and share the quality of education provided by the institution, while also enhancing the quality of physical infrastructure to improve the effectiveness of using electronic marketing tools. These issues

require universities to have solutions to enhance the application of electronic marketing tools to improve the brand image of the institution, as well as attract and retain students. Solutions for universities should focus on issues such as improving the quality of education and service delivery, enhancing physical infrastructure (especially infrastructure for the application of electronic marketing tools), increasing reliability and usefulness in the information provided, enhancing the institution's information access capabilities, diversifying electronic information channels of the institution, and other solutions.

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