

The impact of brand image on public university links in the context of autonomy: A case study in Vietnam

Quang Bach Tran^a, Thi Thuy Quynh Nguyen^{a*}, Hoai Nam Nguyen^a, Thi Hoang Mai Tran^a, Thi Quynh Lien Duong^a, Thi Hanh Duyen Nguyen^a, Thi Bich Thuy Nguyen^a, Nhu An Nguyen^b and Thi Lien Trinh^c

^aLecturer, Faculty of Economics, Vinh University, Vietnam

^bVinh University, Vietnam

^cLecturer, University of Labour and Social Affairs, Vietnam

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ABSTRACT

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This study aims to examine the impact of brand image on public university links in the context of autonomy in Vietnam. Using quantitative research methods through exploratory factor analysis (EFA) and Structural Equation Modeling (SEM), the survey data included 631 samples of managers, experts, and scientists at public universities divided by different disciplines. The results of the study showed that the brand image has both a direct and indirect impact on public university links in the context of autonomy through intermediate elements of trust and commitment in the relationship between universities. In addition, trust has also been shown to have a direct impact on commitment in the relationship between public universities in Vietnam in the context of autonomy. In the context of research in Vietnam, the findings of this study have shown both theoretical and practical contributions and will be an important basis for further research.

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1. Introduction

Higher education serves as the nurturing system of all areas in the life, a source of high quality human resources to serve the management, planning, design, teaching and research of scientific works that require creativity, independent thinking, and logical thinking. In the present age, Human Development, which emphasizes the role of higher education, has become one of the main focal points of the common development strategy of many countries around the world. Schools tend to expand interconnected in a variety of fields to create a sustainable block of strength, aiming to educate, internationalize and modernize. To clarify why it is necessary to associate, Feng and Margaret (2012) has shown that universities are very different from Institutes of functional and mission studies. Many scientific studies and innovations have been conducted at the University, which in turn can be transformed into products for use in production and social life through institutional - University Relations. For universities, universities are assigned autonomy very early, it is an inevitable trend in the future. In his study, Verhoest et al. (2004) addressed two issues in the autonomy of a training educational institution: the degree of freedom to make its own decisions and the things that a higher education institution must make in the use of this freedom. International linkage is also an increasingly in demand trend and the study of international linkage is increasingly important. In his research, Thomas (2010) sees affiliated organizations as a new scientific organization. Also with the view that the network of associate relations is a social - technical integration network, Brian (2006) sets out the task of assessing the structure and function of academic research networks in related fields (Management, Economics, ICO) in some countries such as Australia, Europe, the United States, etc.

* Corresponding author.

E-mail address: quynhkt1983.dhv@gmail.com (T.T.Q. Nguyen)

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Sultan and Wong (2012) argue that the brand image of a university in a globally competitive market is crucial because it determines the marketability of programs/ courses, and affects the ability to attract, sustain students as well as seek funding opportunities. Susan (2010) refers to partnerships between universities and public high schools, which clarify the issues that need to be addressed as well as the possibilities for establishing and managing this relationship effectively. Judith's Research (2002) shows the importance of linkage in research and training because, as a result, scientists can effectively use the knowledge and resources of other units, Yarime (2009) considers universities as the foundation for linkage.

In the context of globalization and international economic integration, the education system in Vietnam and especially higher education should have changes to suit the practical conditions. Over the years, Vietnam has enacted many policies to renew education and training to meet social needs, one of them is university autonomy, university links. Vietnam's network of higher education institutions has initially met the requirements of highly qualified human resources training for the socio - economic development of the country and the learning needs of the people.

Currently, the volatile economic environment has had a negative impact on the financial situation of most higher education institutions in Vietnam. As a result, the universities found that the relatively simple advertising tools of the past were no longer as effective as they had been, they began to recognize the need to build a sustainable brand strategy. However, on a common level, it can be seen that many public universities in Vietnam still seem to operate in their own way, there is no close association with each other in training, science and technology, serving the community.

Therefore, public universities have many difficulties in their activities, which has led to the competitiveness of Vietnamese public universities compared to universities in the region and in the world. In particular, in the context of intense competition of private universities, advocated autonomy and internationalization of Education. Therefore, the Association of public universities to attract learners, promote scientific research, and strengthen the ability to serve the community is a vital issue of public universities in Vietnam.

The study aims to examine the impact of brand image on public university links with research questions identified as how does brand image have an impact on university links? How is the intermediate role of trust and commitment in the relationship between universities expressed?. Given the context of autonomy in Vietnam, the findings of this study have shown both theoretical and practical contributions, demonstrating the importance of brand image and the direct and indirect impact of brand image on public university links through intermediate factors of trust and commitment in the relationship between universities. From there, the study helped propose a number of recommendations to promote the Association of public universities in the context of autonomy in Vietnam.

2. Literature Review and Hypotheses

2.1. Literature Review

In his research, Jonathon and Sara (2008) considered the concept of Science and engineering to encompass interdisciplinary collaboration and sometimes to link multiple organizations. The study also presents issues that belong to the management of this linkage relationship; pointing out how to operate for high efficiency. To take the right approach when building a partnership, one also needs to define the form of partnerships. Referring to financial autonomy, Cazenave (1982) argues that the University's problem of financial autonomy is its legal status; its budget; its estimation process; the election and decision-making of the principal; the appointment of the treasurer; the composition, duties of the school council and the control of the state. According to Yeager et al. (2012), financial autonomy includes the organization's resources, expenses, strategic planning, resource allocation, and financial management of the institution of higher education.

So we can say that financial autonomy has a relationship with resources, costs, resource allocation and financial management. In other words, finance involves both monetary and non-monetary resources. According to Kohtamaki (2009), autonomy refers to the quality state of an object or a unit as state, local government, an organization, an agency. Factors affecting financial autonomy and autonomy include: management mechanism, Control, Funding budget; dynamics, creativity; organizational structure; legal form; ownership and accountability; the financial diversity of the schools (Pruvot & Estermann, 2012).

Bennett and Choudhury (2008) identified the school brand as a characteristic of an organization that distinguishes one school from another, reflecting its ability to meet learners ' needs, creating confidence in its ability to provide quality education at a higher level, and helping learners make the right decisions when enrolled. According to Lassar & et al. (1995), there are two ways to assess brand value: from the point of view of financial investors and from the point of view of consumers. Evaluating a brand from a financial point of view helps contribute to a company's Asset Appraisal; judging from a consumer perspective can help managers position themselves and develop brand value.

Brand image is described as the way in which a particular brand is positioned in the market, i.e. how consumers are aware of that brand's product. According to Chernatony and MacDonald's (2003), Reizebos (2003) and Keller (2008), the brand image

is a subjective perception of the brand. Brand image can be interpreted as how the customer perceives the brand, and can vary according to the customer's own experience, through selective perception, selective distortion and selective retention. It is key to consumer choice after gathering information about a particular brand and alternatives (Ataman & Ulengin, 2003). The theory of commitment to defined concepts beginning with Becker's study (1960) refers to a mechanism that produces appropriate human behavior. Commitment to the organization is broadly defined as strength based on the relationship of the individual's close attachment and the individual's participation in the organization (Mowday et al., 1982). Along with identifying the origins of the commitment factor to the organization, previous studies have explored the scope of correlations of variables such as job security, job satisfaction, and work-related commitment (Namasivayam & Zhao, 2007) as well as leadership style with commitment to the organization (Yahaya & Ebrahim, 2016). Bary (2009) research on the internationalization of the University on the most general level.

In particular, attention should be paid to clarifying the basic causes of university internationalization; the primary measures for success; the basic necessary activities to enhance the effectiveness of this internationalization; the problem of strategic planning for internationalization; the basic knowledge, skills and attitudes in university internationalization; the interaction between internationalization and multiculturalism; the common models of internationalization; the challenges and opportunities surrounding the study of foreign programs and finally summarized international organizations in this area of the United States.

2.2. Hypotheses

2.2.1. Brand Image and University Affiliation

Jiatao (2010) studied to determine whether in international cooperation, businesses, research institutes and foreign universities often choose which scientific units to associate with and specify, which universities and then which research institutes are often the chosen subjects. Ramanathan (2014) affirmed that research institutes and universities are the driving force for innovation and technology transfer, while he also addressed the issue of building institutes - schools partnerships for technology transfer and promoting commercialization of research results, emphasizing the role of cooperation in promoting and creating institutional - schools links and international links.

However, Brookes' study (2003) found that commercial activities, such as branding, are difficult to apply to universities, because they must take into account the role of relevant departments without targeting commerce. So with the context of autonomy in public universities in Vietnam, the relationship between brand image and university links is expressed, the study hypothesizes:

H₁: *The brand image has a positive impact on the public university affiliation in Vietnam in the context of autonomy.*

2.2.2. Brand Image and Trust in the Relationship between Universities

According to Aaker (2004), an organizational brand is a brand that represents an organization and reflects its traditions, values, culture, people, and strategies. Customers of higher education include many subjects, such as: students and various beneficiaries, such as alumni, friends, family, employers, donors, society, government... In the context that universities tend to strengthen links, many seem to be still looking for potential partners, branded well enough to be tied to long-term activities and promoting strong strategies from schools on a global scale. So the brand image seems to have a close relationship with trust in relationships between schools. Studying this problem, the authors set the hypothesis:

H₂: *Brand image has a positive impact on trust in the relationship between public universities in Vietnam in the context of autonomy.*

2.2.3. Beliefs in Relationships and University Affiliation

According to Joe (1999), the way to create a value-added brand in today's global competitive market is to create an appropriate, effective strategy that includes advertising, marketing, public relations, and research investigations. The long-term bond is made up of sustainable values, and so the image, brand, is always promoted in those relationships (Tran et al., 2021). With the context in Vietnam, aims to examine and clarify the relationship the impact of trust in relationships on public university links, hypothetical research:

H₃: *Beliefs in relationships have a positive impact on public university links in Vietnam in the context of autonomy.*

2.2.4. Brand Image and Commitment in the Relationship between Universities

Chapleo (2011) said that the key goal of college branding is to create the right image. Branding of the university also helps distinguish the University from its competitors. In addition, university branding also aims to educate staff, faculty and students

on how to communicate the brand, thereby creating a competitive advantage for the university. So the hypothesis is constructed:

H4: *The brand image has a direct impact on commitment in the relationship between public universities in Vietnam in the context of autonomy.*

2.2.5. Commitment in Relationships and University Affiliation

Commitment affects affiliation and thereby affects the organization's performance (Nguyen, 2021). Commitment refers to the willingness of partners to endeavor to build relationships and propose a future orientation in which organizations trying to build relationships can be maintained in the face of unforeseen issues. So, between commitment in relationships and increased links how universities have ties with the context of autonomy of public universities in Vietnam, the study hypothesizes:

H5: *Commitment in pros and cons relations to the links of public universities in Vietnam in the context of autonomy.*

2.2.6. Trust and Commitment in the Relationship between Universities

Research by Morgan and Hunt (1994) shows that collaborative and transferable behaviour is a positive result of commitment, an aspect that reflects managerial efficiency, contributing to improving the effectiveness of the nation's development. Commitment affects affiliation and thereby affects the organization's performance (Nguyen, 2021). Trust values always bring many positive effects in relationships and promote cohesion as well as ensure long-term commitment from universities. Furthermore, with the aim of maintaining relationships through mutually beneficial principle commitments, partnerships need to be based on long-term and orthodox beliefs and expressed through the action level of trust. So, when studying the relationship between trust and commitment in relationships and with the context of universities in Vietnam in autonomy mechanisms, the team of authors hypothesized:

H6: *Belief has a direct impact on commitment in the relationship between public universities in Vietnam in the context of autonomy.*

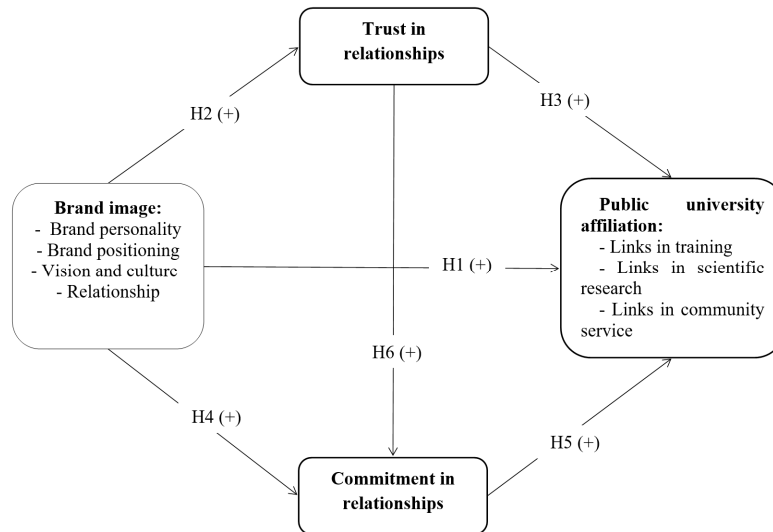


Fig. 1. The proposed study

3. Research Method

3.1. Research Scale

On the basis of theoretical overview and related research works, the article proposes research models with independent variables as brand images consisting of 4 component variables: (1) brand personality; (2) brand positioning; (3) Vision and Culture; (4) Relationships. The goal variable is to link public universities consisting of 3 component variables: (1) links in training; (2) links in scientific research; (3) links in community service. Intermediate variables are beliefs and commitments in relationships. The scale used in the study is the likert scale with 5 levels given points from 1 to 5 (1 - very disagreeable; 2 - disagreeable; 3 - Normal; 4 - agreed; 5-very agreed). Indicators measure the applicable variables that are adapted to the study sample characteristics from previous studies.

Table 1

Origin of the scale of variables

No.	Variable	Code	Number of observations	Scale origin
1	Brand image:	BRI	22	
	- Brand personality	BPE	6	Azoulay and Kapferer (2003);
	- Brand positioning	BPO	5	Chernatony (1999)
	- Vision and culture	VCU	6	Deshpande et al. (1993)
	- Relationships	REL	5	Barros et al. (2013)
2	Trust in relationships	TRR	5	Morgan và Hunt (1994)
3	Commitment in relationships	COR	5	Meyer et al. (1993)
4	Public university affiliation	PUA	17	
	- Links in training	LIT	8	Togar and Ramaswami (2005)
	- Links in scientific research	LSR	5	
	- Links in community service	LCS	4	

3.2. Research Sample

The study sample selected according to the non-probability sample selection method is convenient sample selection. The data was collected through stratified sampling at public universities divided by sectors: technical and natural engineering; social humanities and economic law; agriculture and Forestry and Fisheries. These universities are allocated in all 3 north, central and south of Vietnam. Investigative units in the study of managers, experts, scientists at universities.

The data collection process is conducted in two ways: live and online voting through the Google Form tool. In terms of direct, the total number of votes emitted is 600, the total number of votes collected is 336, the number of votes used is 278; in terms of online, the total number of votes sent is 550, the total number of votes received is 398, the total number of votes used is 353. Thus, the total number of valid votes used for analysis was 631. According to a study by Hair et al. (1998) for reference on the expected sample size, the minimum sample size is 5 times the total number of observed variables. With the observation number in the paper being 49, the study scale consists of 631 samples that ensure analysis requirements. The data collection completion period is February 2022 to July 2022.

3.3. Data Processing

The study uses quantitative methods through discovery factor analysis (EFA) and linear structure modeling (SEM). Data after collection, cleaning, is processed through SPSS and AMOS programs. First, the study conducted a reliability assessment of the scale with Corrected Item-Total Correlation > 0.3; Cronbach's Alpha > 0.7; at the same time when the Cronbach's Alpha If item Deleted of an indicator is greater than the cronbach's Alpha of the total variable, it is necessary to consider this type of indicator. Then, the EFA explores factor analysis to determine the "convergence value" and "differential value of the scale" and with factor loading requirement > 0.5; KMO coefficient ≥ 0.5 and ≤ 1 ; Sig value. < 0.05; percent extract variance > 50%; the factor extraction method used is the Varimax factor rotation method. Next, the study used AMOS software to assess the suitability of the research model through CFA affirmative factor analysis and finally tested research hypotheses using SEM linear structure model analysis with the requirement for chi-square/DF < 5 (Hair & et al., 1998); GFI; TLI, CFI > 0.8; RMSEA < 0.08 (Taylor & et al., 1993).

4. Results and Discussion

4.1. Testing the Reliability of the Scale

To assess the reliability of the scale, the expert conducted by Alpha Cronbach for each stage. The device for the signals of the scale in the specially designed section of Cronbach's Alpha of the amplitude Download image on preserving the systematic conformity of the composite relations of the payroll observed on > 0.3 and the coefficient of Cronbach's alpha > 0.7. However, the VCU6 Index has Cronbach's Alpha coefficient if the deleted item is 0.840 greater than Cronbach's Alpha coefficient of VCU (0.800); the REL5 indicator has Cronbach's Alpha coefficient if the deleted item is 0.837 greater than Cronbach's Alpha coefficient of REL (0.823); COR5 indicator has an alpha coefficient of Cronbach if the deletion item is 0.900 greater than Cronbach's Alpha coefficient of COR margin (0.891); LIT4 indicator has an alpha coefficient of Cronbach if the deletion item is 0.909 greater than LIT's alpha coefficient of Cronbach (0.889); LSR5 indicator has an alpha coefficient of Cronbach if the deletion item is 0.865 greater than LSR's alpha coefficient of Alpha number of CRONBACH of the LKKH (0.835). Therefore, to increase the suitability of the scale, the study conducted the types of indicators VCU6; REL5; COR5; LIT4 and LSR5.

Table 2
Rating the reliability of the scale through Cronbach's Alpha coefficient

No.	Variable	Code	Cronbach's Alpha
1	Brand personality	BPE	0.745
2	Brand positioning	BPO	0.897
3	Vision and culture	VCU	0.840
4	Relationships	REL	0.837
5	Trust in relationships	TRR	0.856
6	Commitment in relationships	COR	0.900
7	Links in training	LIT	0.909
8	Links in scientific research	LSR	0.865
9	Links in community service	LCS	0.907

4.2. Exploratory Factor Analysis (EFA)

After conducting an assessment of the suitability of the scale, the study conducted an analysis of the EFA discovery factor for both intermediate variables and dependent variables. The results showed that the data was eligible for analysis due to having factor loading coefficients > 0.5; KMO coefficients >= 0.5 and <=1; P-value < 0.05; extract variance percentages > 50% and satisfying two conditions: "convergence value" (convergence observed variables on the same factor) and "differentiation value" (observed variables belonging to one factor differentiated from another).

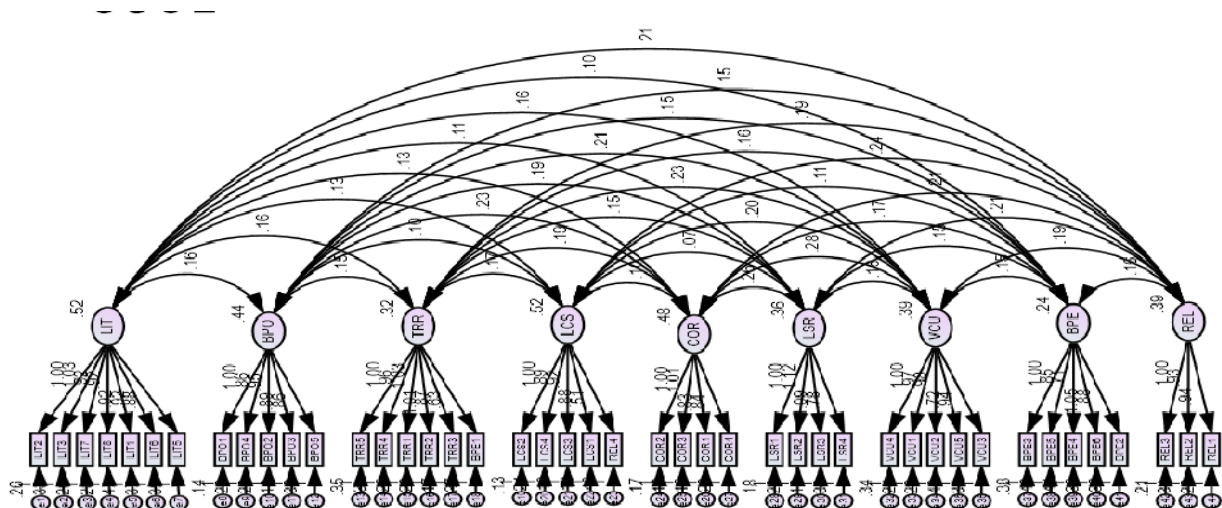
Table 3
Analysis results EFA

EFA analysis	KMO	P-value	Average Variance Extracted	Factor Loading	Conclusion
Independent variables and intermediate variables	0.910	0.000	63.983	All >0.5	Ensure analysis requirements
Dependent variables	0.871	0.000	70.806	All >0.5	Ensure analysis requirements

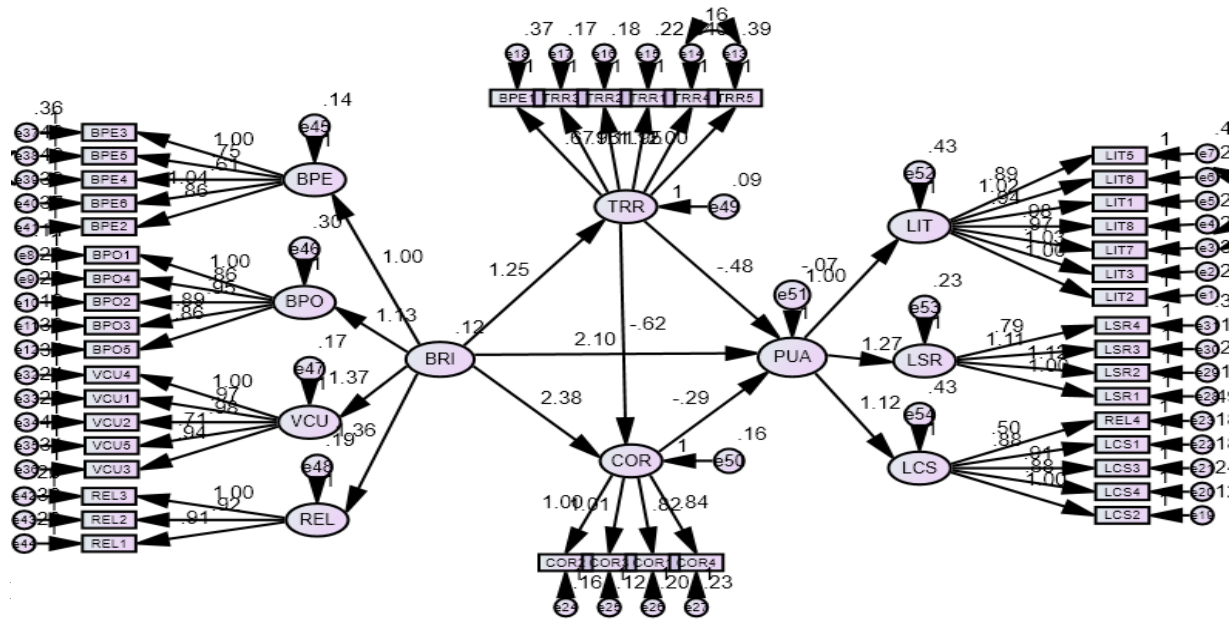
4.3. CFA Analysis

After the results of EFA and the data used in the analysis meet the requirement, CFA is carried out. Confirmatory Factor Analysis - CFA is the next step of Exploratory factor analysis - EFA, including design to identify, test and adjust measurement models independently. The purpose of CFA is to establish appropriate measurement models that are used to test structural models. Determine the appropriateness of the model based on some evaluation indicators as presented above.

Analysis shows that the model fits with data research, Chi-square value = 3527.275; df = 866; Chi-square/df=4.073 (< 5); P= 0.000 (< 0.05); GFI = 0.802 (> 0.8); TLI = 0.829 (> 0.8), CFI = 0.843 (> 0.8); RMSEA = 0.070 (< 0.08).



By conducting SEM on the research model, we found that the composite indexes meet the requirements. To specify, Chi-square= 3514.906; df= 885; Chi-square/df = 3.972 (< 5); P= 0.000 (< 0.05); GFI = 0.803 (> 0.8); TLI = 0.834 (> 0.8); CFI = 0.845 (> 0.8); RMSEA = 0.069 (< 0.08).



P < 0.05 are accepted.

Specifically, the H1 hypothesis examines the impact of brand image on public university links in Vietnam in the context of autonomy. The results of the study showed that, with a meaningful P < 0.05 and a positive regression weighting (2.098), the study demonstrated a positive impact on the public university affiliation in the context of autonomy. This result corresponds to the research work of Brookes (2003); Jiatao (2010); Ramanathan (2014).

The H2 and H3 hypotheses are accepted with the meanings P both < 0.05 and the regression weights 1.255 and 0.479 respectively. Thus, the results of the study also demonstrated that the brand image affects the trust in the relationship between public universities, at the same time, trust also has a positive impact on the Association of public universities in Vietnam in the context of autonomy. These results are similar to the studies of Joe (1999); Aaker (2004); Tran et al. (2021).

Similarly, with a meaningful P in accreditation < 0.05 and regression weights of 2.378 and 0.292 respectively, the research results also show that the brand image has a direct impact on commitment in the relationship between public universities in Vietnam in the context of autonomy. At the same time, commit to a pro-dimensional impact on public university affiliation in the context of autonomy. This is similar to the studies of Chapleo (2011); Nguyen (2021).

Thus, with the acceptance of all hypotheses from H1 to H5, the results of this study demonstrated that the brand image has both a direct and indirect impact on public university links in the context of autonomy through intermediate elements of trust and commitment in the relationship between universities. In the context of research in Vietnam, these are valuable contributions both theoretically and practically and will be important bases for further research.

In addition, given the significance in the test < 0.05 and the regression weight > 0 (0.623), the study has also demonstrated that confidence has a direct impact on commitment in the relationship between public universities in Vietnam in the context of autonomy. This result also corresponds to the research work of Morgan and Hunt (1994); Jiatao (2010); Nguyen (2021).

Table 4
SEM analysis results for relationships in the model

Hypothesis	Relationship	Weight	S.E.	C.R.	P	Conclusion
H1	PUA ← BRI	2.098	0.517	4.057	0.000	Accepted
H2	TRR ← BRI	1.255	0.130	9.661	0.000	Accepted
H3	PUA ← TRR	0.479	0.188	2.546	0.011	Accepted
H4	COR ← BRI	2.378	0.324	7.329	0.000	Accepted
H5	PUA ← COR	0.292	0.122	2.394	0.017	Accepted
H6	COR ← TRR	0.623	0.164	3.811	0.000	Accepted

4.5. Descriptive Statistical Analysis

For a more realistic view of variables and comparisons to the results drawn, the study conducted descriptive statistical analysis to determine the average value of the elements included in the model. With an average value of 3.8982, links in the community service of public universities in Vietnam are rated at the highest of all factors. This shows that the problem of community service is increasingly being taken care of by public universities in Vietnam, social activities, volunteer, community health care is increasingly focused by schools, these will be tools to increase the value of the brand, the image of the school in a sustainable, long-term way in the context of competition today. At the same time, schools have become aware of the importance of the link between the schools involved in this activity through the organization of many social activities co-organized by the schools towards a broader scope and context, as well as greater support from the community and society.

Besides, with the lowest average value weighing all the variables included in the model is 3.6461, the brand personality factor is underestimated. This is an important factor, creating the brand image and the unique values of each school. Therefore, in the coming time, public schools in Vietnam need to study more in research, create unique values of each school, both to distinguish it from other schools, and to create the characteristics and sustainable value of a university. At the same time, it will also be an effective solution to help students, students can more accurately choose the school they will study and study during their student life.

Table 5
Descriptive statistical analysis of research data

<i>Variable</i>	<i>N</i>	<i>Minimum</i>	<i>Maximum</i>	<i>Mean</i>	<i>Std. Deviation</i>
BRI	631	1.23	4.88	3.6877	0.44764
BPE	631	1.00	4.83	3.6461	0.50615
BPO	631	1.00	5.00	3.6593	0.64368
VCU	631	1.00	5.00	3.7677	0.62800
REL	631	1.00	5.00	3.6779	0.64531
TRR	631	1.00	5.00	3.6488	0.59801
COR	631	1.00	5.00	3.7207	0.67328
PUA	631	1.13	5.00	3.7914	0.46826
LIT	631	1.00	5.00	3.7641	0.71717
LSR	631	1.25	5.00	3.7120	0.63725
LCS	631	1.00	5.00	3.8982	0.69937
Valid N (listwise)	631				

5. Conclusions and Recommendations

The study aims to model and examine the impact of brand image on public university affiliation in the context of autonomy. In the case of research in Vietnam, the findings of the study have shown valuable contributions in both theoretical and practical terms, demonstrating the importance and the direct and indirect impact of brand image on public university links through intermediate elements of trust and commitment in relationships. In addition, Trust has also been shown to have a direct impact on commitment in relationships between universities.

In addition to those contributions, the study also had certain limitations as to how convenient sampling was applied in the study that could reduce the ability to control sample representation. At the same time, research is limited to public universities in Vietnam. With the results achieved, the paper opens up the direction of development in research conducted in other countries in the region and around the world. Based on the results of the study, the authors proposed a number of recommendations to promote the Association of public universities in the context of autonomy:

Firstly, with the brand image, universities need to build and synchronize integrated brand communication programs, improve the level of brand awareness, perceived quality, create and promote positive brand associations as well as strengthen brand loyalty. In order to use integrated communication about the brand, universities need to have unity about the brand message, coordinate in using different media about the space, time and the cohesion of participatory programs between the schools besides the need to maintain and make a difference, the characteristics inherent in each school.

Secondly, with trust in relationships, universities need to strengthen their bonds through public messages and ensure a harmonious combination of schools in their bond activities. Schools need to promote more knowledge sharing in a variety of activities, including training, research, community service. Build close, long-term and sustainable relationships.

Thirdly, with commitment in relationships, schools need to strengthen and ensure efficiency, transparency and accountability in constructive commitments. Schools should implement and ensure commitment to stakeholders, partners, and society for the effectiveness of activities already underway. In a well-oriented and well-competitive education market, each school must

proactively develop appropriate strategies and objectives, build appropriate teams and facilities to compete to attract investment from the state as well as from other sources to improve the quality of training, meet the needs of learners and human resources of society.

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