

# **Student Satisfaction and Its Antecedents: How Does Student Satisfaction Index Model Matter in the Context of Joint Master's Degree Programs in Vietnam**

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## **Abstract**

*Vietnam is increasingly integrated into the world economy, and in the process, reaping impressive economic results. As a result of the rapid integration, the education sector has enjoyed significant growth, especially in the number of joint master's degree programs offered by foreign universities in Vietnam. Despite this rapid integration and increase in joint degree programs, to date, very little research has been conducted to assess Vietnamese student satisfaction with joint master's degree programs. To bridge this research gap, the aim of this study is to develop an integrated model to assess the factors affecting student satisfaction with joint master's degree programs in Vietnam. Based on regression analyses, the results indicate six positive relationships: image and student satisfaction; image and student expectation; student expectation and perceived quality; perceived quality and perceived value; perceived value and student satisfaction. The results also indicate that perceived quality has the most important impact on perceived value; and perceived value has the most important impact on student satisfaction. The results of this study are consistent with that of Temizer and Turkyilmaz (2012), meaning that the SSI (student satisfaction index) model is reliable and valid under cross-cultural circumstances.*

**Keywords:** Student satisfaction, student expectation, perceived quality, perceived value, image, Vietnam.

## **1. Introduction**

Today, with rapidly growing globalization, international education in Vietnam is experiencing significant growth. According to Ngoc (2013), International education can be understood in two primary ways. The first understanding focuses on the results of the program, meaning, the joint training program allows students to receive international degrees upon their graduation from Vietnamese universities. The second understanding emphasizes content and process of

implementation, holistically considering the results students have received and absorbed during the joint training programs. International education in Vietnam is increasingly common and widely deployed (212 programs) with different joint training forms (bachelor's and master's degrees), in partnership with many reputable global universities and educational institutions (Hoang, 2013). Universities around the world have launched a variety of masters programs in Vietnam with a diverse selection of majors such as agriculture, economics, business, information technology, and law, to name a few.

Masters training programs are bringing a couple of key benefits for Vietnamese students. First, master training builds on knowledge acquired in bachelor's degree programs by providing students a deeper understanding of the subject material from an international education perspective. Employers recognize, and studies show, professionals with a master degree on average perform better at work than their counterparts without a master degree. As such, master's degree graduates either commence employment at a higher level than they would have, or are soon promoted. Secondly, advanced learning is widely considered as a strategy to counter uncertainty; this is evidenced by the increase in the number of master programs for the last 5 years despite the worldwide economic recession. Scarcity of jobs due to economic recession has indirectly been a factor in the increased demand for post graduate education in Vietnam. As this research demonstrates, advanced education provides students additional job opportunities placing applicants in a much more competitive position than peers without an advanced degree and provides a larger, more internationally diverse, base of knowledge beyond the bachelor's degree.

Obviously, the benefits of a bachelor's program are undeniable; however, as living quality continues to rise in Vietnam, the job market has become more competitive requiring advanced degrees to compete. With the knowledge and degree from master courses, graduates have enjoyed increased access the job opportunities. Many jobs now demand applicants to demonstrate their achievements at the postgraduate level, either as a requirement for starting a career or as a necessity to secure promotion to more senior levels. Having a master degree is an edge in a competitive job market and most graduates with a master's degree secure a job within three months of graduation. In spite of the substantial financial costs, the advantages of job placement for students with a master's degree outweigh other considerations (Hoang, 2013).

Joint master's program is a model of education to create opportunities for social learning. In fact, joint master's program is a trend not only popular in Vietnam but also in many countries around the world. Most activities of joint master's program are carried out between universities from developed nations (based on English speaking programs) such as the UK, the US, Canada, Australia, and New Zealand, with educational institutions in developing countries such as Vietnam (Ha, 2013). These programs bring several mutual benefits to the training parties and participants. If joint master programs are executed well, it will help educational organizations enhance their prestige, attract more students and international lecturers to participate in the program, and in turn help institutions of higher education access to education development funds and promote cooperation in scientific research. Additionally, joint master programs aide in rapid expansion of training networks and increase international attributes for training activities of the related parties providing additional revenue for the educational institutions. Finally, as joint master programs increase, so do the opportunities for local teaching staff to improve language skills due to foreign institutions requiring classes be taught in English or the language of the country that issues the degree (Hoang, 2013).

Vietnam has increasingly integrated into the world economy and as such, the country has reaped many impressive economic and education results. There continues to be an increasing number of joint master's degree programs offered by foreign universities in Vietnam, however, almost no research has been conducted in Vietnam to assess students' satisfaction with these joint master's

degree programs. To bridge this gap, the aim of this study was to develop an integrated model to assess the factors that affect student satisfaction with joint master's degree programs in Vietnam, and to provide recommendations for solutions for universities in Vietnam which are implementing these joint master's degree programs.

## 2. Literature Review

### *Student Satisfaction*

According to Oxford Dictionary, satisfaction is defined as a fulfilment of one's wishes, expectations, or needs or the pleasure derived from this. According to Feclikova (2004), satisfaction is interpreted as a feeling which results from a process of evaluating what was received against that expected, the purchase decision itself and/or the fulfilment of needs/want. Thus, satisfaction refers to achieving the things people want. There are many kind of satisfaction like customer satisfaction, job satisfaction, employee satisfaction, and life satisfaction. In this study, researcher focuses on student satisfaction.

Businesses need to understand that to what extent their customers would be satisfied. Customer satisfaction is the degree to which a customer perceives that an individual, firm or organization has effectively provided a product or service that meets the customer's needs in the context in which the customer is aware of and/or using the product or service; satisfaction is not inherent in the individual or the product but is a socially constructed response to the relationship between a customer, the product and the product provider /maker (Reed et. al., 1997).

Zhang et al. (2008) suggested that evaluation of customer satisfaction often through Swedish model (SCSI), American model (ACSI) and Europe model (ECSI). ACSI embeds customer satisfaction within a series of cause-and-effect relationships. In the model, indices for the drivers of customer satisfaction are on the left side (customer expectations, perceived quality, and perceived value), customer satisfaction is in the center, and the outcomes of customer satisfaction are on the right side (customer complaints and customer loyalty, including customer retention and price tolerance). Customer expectations serve as a measure of the customer's anticipation of the quality of a company's products or services. Expectations represent both prior consumption experience, which includes some non-experiential information like advertising and word-of-mouth, and a forecast of the company's ability to deliver quality in the future. Perceived quality is a measure of the customer's evaluation via recent consumption experience of the quality of a company's products or services. Quality is measured in terms of both customization, which is the degree to which a product or service meets the customer's individual needs, and reliability, which is the frequency with which things go wrong with the product or service. Perceived value is a measure of quality relative to price paid. Although price (value for money) is often very important to the customer's first purchase, it usually has a somewhat smaller impact on satisfaction for repeat purchases. Customer complaints are measured as a percentage of respondents who indicate they have complained to a company directly about a product or service within a specified time frame. Satisfaction has a negative relationship with customer complaints, as the more satisfied the customers, the less likely they are to complain. Customer loyalty is a combination of the customer's professed likelihood to repurchase from the same supplier in the future, and the likelihood to purchase a company's products or services at various price points (price tolerance).

ECSI is a model for CSI measurement, based on the model of Sweden and the U.S. This model consists of nine latent variables, each of which includes a number of expressions (European Report, 2005). Image variable is expected to influence perceived value, satisfaction and customer loyalty. Perceived quality was divided into separate variables: a product quality (hardware quality) describes

performance of the product/service attributes, a service quality (human ware quality). According to European Report (2005), ECSI has been modelled in a way that is similar to ACSI.

The student is a special customer in a special service environment. The student is part of the product development (Jurkowitsch et al., 2006). Student satisfaction is one kind of customer satisfaction just because education currently is known as a special type of services. Mansor et al. (2012) stated that it is a challenge for universities to understand their students' needs and to transform these needs into services that will satisfy the students. Furthermore, student's overall satisfaction with educational experiences is viewed as a key component in maintaining a long-term competitive advantage for an institution of higher education. Mansor et al. (2012) adapted the Hierarchical Service Quality Model (HSQM) proposed by Brady and Cronin (2001) as a comprehensive multilevel construct that consists of three primary elements such as interaction quality, physical environment quality, and outcome quality to study student satisfaction. Mansor et al. (2012) identified the positive relationships between student satisfaction and interaction quality, physical environment quality, and outcome quality.

Grace et al. (2012) examined the CEQ dimensions including good teaching, clear goal setting, appropriate workload, appropriate assessment, and generic skills development to study student satisfaction. Their results indicated that good teaching and clear goal setting have a direct influence on student satisfaction, whereas appropriate assessment and appropriate workload do not have a direct effect on student satisfaction. Hanaysha et al. (2011) found a significant relationship between the five dimensions of service quality (tangibility, reliability, responsiveness, assurance, and empathy, or SERVQUAL) and student satisfaction. Considering a student as a citizen (not a customer), Zneldin et al. (2012) integrated technical-functional quality and Servqual into a framework of five quality dimensions (5Qs). 5Qs contain quality of the object, quality of the process, quality of the infrastructure, quality of the interaction and communication, and quality of the atmosphere that all have impacts on student satisfaction.

Temizer and Turkyilmaz (2012) impressed with a student as a customer. They have developed and tested a student satisfaction index model (SSI) for institutions of higher education. The results showed that aspects such as the image of the university, expectations, perceived quality, and perceived value have impacts on student satisfaction.

### ***University Image***

According to Hsieh et al. (2004), a successful brand image enables consumers to identify the needs that the brand satisfies and to differentiate the brand from its competitors, and consequently increase the likelihood that consumers will purchase the brand. A company (or its product/services) which constantly holds a favorable image by the public would definitely gain a better position in the market, sustainable competitive advantage, and increase market share or performance (Park et. al., 1986).

Kotler (2001) defined image as the set of beliefs, ideas, and impression that a person holds regarding an object. Keller (1993) considered brand image as a set of perceptions about a brand as reflected by brand associations in consumer's memory. A similar definition to Keller's was proposed by Aaker (1991), whereby brand image is referred to as a set of associations, usually organized in some meaningful way. Bruinsma (2004) defined brand image as a cluster of attributes and associations that consumers connect to the brand name.

Some research studies differentiated corporate image from brand image. Kandampully and Hu (2007) stated that corporate image consisted of two main components. The first is functional such

as the tangible characteristics that can be measured and evaluated easily. The second is emotional such as feelings, attitudes and beliefs one has towards the organization. These emotional components are consequences from accumulative experiences the customer has with the passage of time with the organization. Corporate image is defined as the “overall impression” left in the customers’ mind as a result of accumulative feelings, ideas, attitudes and experiences with the organization, stored in memory, transformed into a positive/negative meaning, retrieved to reconstruct image and recalled when the name of the organization is heard or brought to ones’ mind (Hatch et al., 2003). Thus, corporate image is a result of communication process in which the organizations create and spread a specific message that constitutes their strategic intent; mission, vision, goals and identity that reflects their core values (Leuthesser and Kohli, 1997). This is consistent with Keller’s (1993) worldwide vision of brand image that is corporate image could be considered as a type of brand image in which the brand name refers to the organization as a whole rather than to its sole products/services. All definitions of image mentioned above vary due to different theories used. However, these theories also showed that image can generate value (Roth, 1995). Image of university can be seen as an image of corporate.

Brand identity for a university refers to how the institution wants to be, and is perceived by prospective students, the existing students, alumni, legislators, and the public (Lawlor, 1998). To enlarge scope and reach the targeted students, many universities intentionally develop a unique image. Brand is also understood as a reputation, the principles, and goals the organization is aspiring for, and as what an individual may expect when using the services of the organization (MacMillan et. al., 2005). The student’s perception of university reputation is very important to attract and retain students (Standifird, 2005).

### ***Student Expectation***

To some researchers (Anderson, 1973; Churchill and Surprenant, 1982; Oliver, 1977; Westbrook and Reilly, 1983), expectations are significant beliefs (before experience) about product global performance, formed by company suggestions or by product information. Swan and Martin (1981) indicated that expectations represent the anticipated satisfaction of product consumption. Olson and Dover (1976), Oliver and Linda (1981), Churchill and Surprenant (1982), Bearden and Teel (1983), and Westbrook and Reilly (1983) defined expectations as beliefs about attributes levels of a product that can be measured as individual beliefs or as those beliefs sum. McDougall and Levesque (2000) suggested four types of expectations that can be used by consumers in the process of satisfaction formation: ideal or wished-for level, expected or predicted level, minimum or lowest accepted level, and deserved or appropriate level. Parasuraman et al. (1991) suggested that expectations can be bounded by an adequate and desired level of expectations.

### ***Perceived Quality***

Hasan and Ilias (2008) stated that service quality is commonly noted as a critical prerequisite for establishing and sustaining a satisfied relationship with valued customers. In this way, the association between service quality and customer satisfaction has emerged as a topic of significant and strategic concern (Cronin and Taylor, 1992). In general, perceived service quality is an antecedent to satisfaction (Spreng and Mckoy, 1996). Thus, a proper understanding of the antecedents and determinants of customer satisfaction can be seen as to have an extraordinarily high monetary value for service organizations in a competitive environment (Lassar, Manolis and Winsor, 2000).

Perceived quality is defined as the consumer’s judgment about an entity’s overall experience or superiority (Zeithaml, 1987; Zammuto et al., 1996). Similarly, Parasuraman et al. (1990) also

concluded that consumer perceptions of service quality result from comparing expectations prior to receiving the service, and their actual experience of the service. Perceived quality is also seen as a form of attitude, related to, but not the same as satisfaction, and resulting from a comparison of expectations with perceptions of performance (Rowley, 1996).

Therefore, perceived service quality could be the product of the evaluations of a number of service encounters and in the education setting, of a student, these could range from encounters with office staff, to encounters with tutors, lecturers, the head of departments (Hill, 1995). As a result, if an organization regularly provides service at a level that exceeds customer expectations, the service will be evaluated as high quality. In contrast, if an organization fails to meet customer expectations, the service will be judge as poor quality (Zammuto et al., 1996).

### ***Perceived Value***

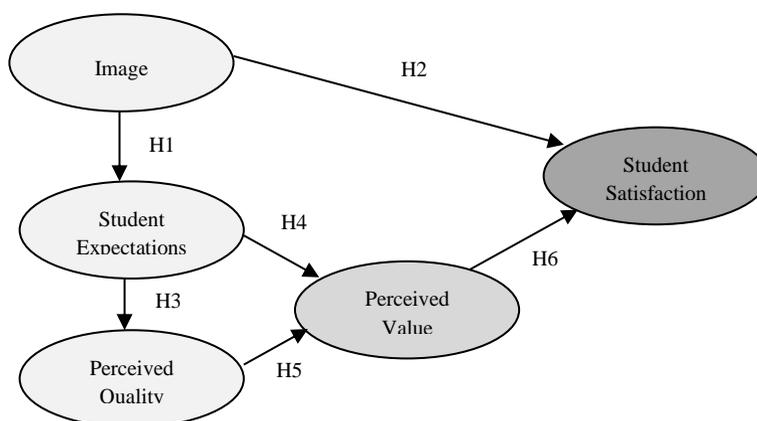
Zeithaml (1988) suggested that perceived value is the overall evaluation that the consumer makes of a product based on perceptions of that given in exchange for that received. Hence, value represents a trade-off between the most prominent components of that given in exchange for that received (Alves, 2010). Various other studies have also adopted this perspective on value (e.g., McDougall & Levesque, 2000; Cronin et al., 2000; Hermawan, 2001; Fornell et al., 1996). Eggert & Ulaga (2002) further included in their value definition the available alternatives, that is, client perceived value is a trade-off between the multiple benefits and sacrifices of a supplier's range, perceived by the key decision makers in the client organization and resulting in the alternatives available being taken into consideration.

Woodruff (1997) stated that customer value is a customer's perceived preference for and evaluation of those product attributes, attributing performances, and consequences arising from use that facilitate (or block) achieving the customer's goals and purposes in usage situations. According to Alves (2010), this includes the way in which the client conceives value, the value desired and received as well as the connection of the product to its own consequences in terms of consumer objectives, a means-end type model.

Sánchez-Fernández & Iniesta-Bonillo (2006) showed that consumer value is a cognitive-affective evaluation of an exchange relationship carried out by a person at any stage of the process of purchase decision, characterized by a string of tangible and/or intangible elements which determine, and are also capable of, a comparative judgment conditioned by the time, place and circumstances of the evaluation. Ledden et al. (2007) stated that the value perceived by a student is the overall evaluation made of the utility of the service based upon the perception of that received and that given. Brooks and Everett (2009) associated the value of education only to the targets to be reached.

### **3. Research Model and Hypotheses**

SSI model justified in this study has 5 latent constructs: image, student expectations, perceived value, perceived quality, student satisfaction; and contains of 6 relationships. Figure 1 presents the research model with relevant hypotheses.

**Figure 1: Research Model**

Yavas and Shemwell (1996); Landrum et al. (1998); and Parameswaran and Glowacka (1995) found that the higher education institutions need to maintain or develop a distinct image to create a competitive advantage in an increasingly competitive market. Image is one of the main influences on the willingness of students to apply for admission. Image plays an important role when donors are considering providing funding. Kristensen et al. (1999); Cassel and Eklof (2001) indicated that the image always appears as one of the variables with greatest influence in shaping satisfaction. Alves and Raposo (2007) studied the influence of university image on student expectations, satisfaction, and loyalty in higher education based on the ECSI model. Their results indicated that if higher education is an extremely complex service with features and experiences of faith, which makes it difficult to be assessed, the image of the university has an important influence in shaping the expectations of students in higher education. University's image has a significant influence in the formation of the student's expectations in higher education (Alves and Raposo, 2007). Thus, consistent with results from prior empirical studies, in this study, we propose to test the following hypothesis:

**Hypothesis 1:** Image has a positive effect on student expectation.

Temizer and Turkyilmaz (2012) developed SSI model to examine the relationship between university's image and student satisfaction. The results showed that image has a positive effect on student satisfaction and thus managers of higher education institutions should aim at enhancing the institutions' image from the eyes of the students. According to Jurkowitsch et al. (2006), the antecedents of student satisfaction derived from service performance, university performance, relationships, and university standing.

Brown and Mazzarol (2008) categorized image dimension into three components - study environment, practicality, and conservativeness. As a research result, they confirmed that the image dimension displayed a strong relationship with satisfaction.

Dib and Alnazer (2013) analyzed the influence of perceived service quality, perceived value, and image on student satisfaction. They tested their model by using the structural equation modelling technique with a sample of 280 students. The findings showed that image had a positive effect on

student satisfaction, and the satisfaction had a positive effect on student loyalty, and negative effect on student complaint.

It is observed that prior studies have confirmed a positive relationship between the university image and student satisfaction. Thus, based on the empirical analysis, in this study, the writer assumes a positive impact on the image to student satisfaction. Therefore, the second hypothesis is:

**Hypothesis 2:** Image has a positive effect on student satisfaction.

When discussing about perceived quality, Temizer and Turkyilmaz (2012) showed that this construct includes perceived educational quality, contribution of social environment to goal, managerial and administrative excellence and fulfilment of education and career goals. Forrester and Parkinson (2004) in their study basing on Servqual model showed the relationship between student expectation and quality perception. Turel and Serenko (2006) studied about the linking student satisfaction and service quality perceptions. In his research, Turel and Serenko (2006) stated the relationship between student expectation and service quality perceptions. Thus, consistent with results from prior empirical studies, in this study, we propose to test the following hypothesis:

**Hypothesis 3:** Student expectation has a positive effect on perceived quality.

Perceived value in higher education can be considered as the perceived level of service quality at a university in relation to the price paid by the student. In terms of expectancy-value theory of motivation, this can be explained by the value students attach to gains in competences (Bruinsma, 2004; Eccles & Wig-field, 2002). Students' assessments of the importance of specific achievements reflect their mastery goals and their wishes to become proficient in an area. Consequently, students who attach a high value to specific achievements are also likely to invest more efforts in learning, to apply more elaborated information processing strategies, or to devote more time to learning (Bruinsma, 2004; Nurmi & Aunola, 2005). Thus, consistent with results from prior empirical studies, in this study, we propose to test the following hypothesis:

**Hypothesis 4:** Student expectation has a positive effect on perceived value.

Perceived quality includes perceived educational quality of training programs at universities, contribution of these courses and fulfilment of education and career goals of students (Choi and Kim, 2013). Choi and Kim (2013) showed the positive relationship between quality and value of products/services in the context of social enterprise. In investigating relationships between service quality and customer's perceived value in conventional retailing and online shopping, many empirical studies have pointed out that service quality positively influences perceived value (Cronin et al., 1997; Cronin et al., 2000; Brady et al., 2001; Bauer et al., 2006). Wang et al. (2004) and Turel and Serenko (2006) investigated the mobile services in China and Canada and found out that service quality is positively related to perceived value. Thus, consistent with results from prior empirical studies, in this study, we propose to test the following hypothesis:

**Hypothesis 5:** Perceived quality has a positive effect on perceived value.

Perceived value is the customer's overall assessment of the utility of a product based on perceptions of what is received and what is given (Zithaml, 1988). Bolton and Drew. (1991) showed that a customer's assessment of value depends on sacrifice (i.e., the monetary and nonmonetary costs associated with utilizing the service). Helgsen and Nettet (2007) and Dib and Alnazer (2013) concluded that perceived value has a significant effect on student satisfaction.

Zhang et al. (2008) argued that students' pay-outs are not only money, but also time, endeavors, and other non-price costs to realize the study objectives. They used two indexes including the quality that students spend their individual time, endeavors, and intelligence and the time, and endeavor and intelligence relative to the quality as the observation variables of perceived value (Zhang et. al, 2008). They concluded that perceived value has strong effect on student satisfaction.

Alves (2010) found an index of perceived value by students in higher education, and this perception is affected by age, gender, number of registrations, and field of study and work experience of the students. He also found that student satisfaction is influenced by perceived value. In higher education, the relationship between value and satisfaction has also been studied with the findings that student satisfaction levels were influenced by perceived value (Webb and Jagun, 1997; Hermawan, 2001; Brown and Mazzarol, 2009). Thus, consistent with results from prior empirical studies, in this study, we propose to test the following hypothesis:

**Hypothesis 6:** Perceived value has a positive effect on student satisfaction

#### **4. Methodology**

##### ***Data Collection***

This study focus on 2 joint master programs organized and administered by International Education Faculty, Foreign Trade University (FTU) in Vietnam. The 2 joint master programs are MIB (Master in International Business offered by La Trobe University, Australia) and MBA (Master of Business Administration offered by Shu-Te University, Taiwan). MIB program has completed 9 courses which include approximately 260 students. However, MBA only has 1 course which includes 23 students. The total participants were 283 students. Questionnaires were sent by to respondents by email. Email survey used to collect the data because it is more powerful, efficient and effective than telephone survey. Besides, personal interviews were used to collect data. Questionnaires were designed in the form of Google document, and launching questionnaires is done by International Education Faculty. With the help of International Education Faculty (IEF), questionnaires were sent via email to 283 participants from 2 joint master programs at FTU. After 14 days from the date of delivering email by IEF, the surveys were collected. At the beginning, 251 questionnaires were collected in which 14 were not fully completed and removed. Finally, 237 questionnaires were used for further analysis. Table 1 summarizes the demographics of the respondents.

**Table 1: Profiles of the Survey Respondents**

<b>Profile</b>	<b>Item</b>	<b>Count</b>	<b>Percentage</b>
<b>Gender</b>	Male	104	44%
	Female	133	56%
	<b>Total</b>	<b>237</b>	<b>100%</b>
<b>Age</b>	Less than 30	132	56%
	31-40	89	38%
	41-50	12	5%
	51-60	4	2%
	<b>Total</b>	<b>237</b>	<b>100%</b>
<b>Marital status</b>	Married	137	58%
	Single	100	42%
	<b>Total</b>	<b>237</b>	<b>100%</b>
<b>Joint master programs</b>	MBAF4	20	8%
	MIB	217	92%
	<b>Total</b>	<b>237</b>	<b>100%</b>

**Measures**

To ensure the content validity of the survey instruments, we implemented an extensive review of the student satisfaction literature and adopt the model of SSI (Temizer and Turkeyilmaz, 2012). This model is used to measure the satisfaction of students from different aspects, such as image of the university, expectations, perceived quality, and perceived value. These pilot scales were reviewed by five professors each of whom is directly teaching and playing some administrative positions in their universities; and 10 MBA students who are in the second year of their MBA program. Several revisions were made based on their comments/feedback.

A Vietnamese scholar translated the final version of the questionnaire into Vietnamese. Another researcher, who is fluent in both Vietnamese and English, translated the Vietnamese version back into English to ensure consistency between the English and Vietnamese versions. Then two scholars who are Vietnamese-English bilingual examined both the Vietnamese and the English versions independently and validated that the translation was accurate and consistent. This revised questionnaire was pretested by 20 MBA students, and the scale items were further refined based on their comments and suggestions.

The measurement scale contained 6 constructs in which each construct was operationalized by multiple indicators: 7 items to measure Image, 4 items to measure student expectations; 4 items to measure perceived quality; 2 items to measure perceived value; 3 items to measure student satisfaction. Each survey respondent was asked to provide a personal profile, such as gender and educational level, and to rate one's perception of and experience with learning on a seven-point Likert scale.

**Reliability Statistics**

Cronbach's Alpha is a statistics used to examine the reliability of constructs. Specifically, variables with Corrected Item-Total Correlation are greater than 0.3 and Cronbach's Alpha greater than 0.7. Table 2 indicates that Cronbach's Alpha of Image, Student Expectation, Perceived Quality,

Perceived Value and Student Satisfaction are 0.850, 0.837, 0.899, 0.850, and 0.863, respectively. Thus, the 5 constructs with 20 items have good reliability.

**Table 2: Measurement Scale Reliability**

Construct	Cronbach's	# of Items
Image	0.850	7
Student expectation	0.837	4
Perceived quality	0.899	4
Perceived value	0.850	2
Student satisfaction	0.863	3
<b>Total</b>		<b>20</b>

## 5. Results

### *Pearson Correlation*

Table 3 shows Pearson correlation for each pair of constructs. The 5 constructs are IM (image), EXP (student expectation), PQ (perceived quality), PV (perceived value), and SS (student satisfaction). “\*\*” indicates significant at 0.000 (<0.001). Thus IM and EXP, IM and PQ, IM and PV, IM and SS, EXP and PQ, EXP and PV, EXP and SS, PQ and PV, PQ and SS, and PV and SS have statistically strong positive correlations.

**Table 3: Correlations among Constructs**

		IM	EXP	PQ	PV	SS
IM	Pearson Correlation	1				
	Sig. (2-tailed)					
EXP	Pearson Correlation	0.759**	1			
	Sig. (2-tailed)	0.000				
PQ	Pearson Correlation	0.723**	0.891**	1		
	Sig. (2-tailed)	0.000	0.000			
PV	Pearson Correlation	0.716**	0.840**	0.863**	1	
	Sig. (2-tailed)	0.000	0.000	0.000		
SS	Pearson Correlation	0.661**	0.825**	0.867**	0.840**	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	

### ***Relationship between Image and Student Expectation***

Linear regression is used to measure the relationship between Image and Student expectation. Table 4 indicates that Image has a positive effect on student expectation. Sig value in Table 4 determines whether or not the model relatively fits to the data. The Sig value is under 0.05 which means the regression model fits to the data. In addition, Table 4 shows that Sig is at 0.000 (<0.05) and F value is quite high at 319.533. It means that the regression model fits statistically.

**Table 4: Regression of Student Expectation on Image**

Model Summary		ANOVA <sup>a</sup>		Coefficients <sup>a</sup>			
				Model	Unstandardized	Standardized	Sig.
R	Adj.	Sig.	F		B	Beta	
0.576	0.574	0.000 <sup>b</sup>	319.533	(Constant)	-0.528		0.031
				IM	1.029	0.759	0.000

Adjusted R squared indicates how well data points fit a statistical model. R squared is the square of the coefficient of multiple correlation ranging from 0 to 1. Adjusted R squared is at 0.574 meaning that 57.4% variability of EXP (Student expectation) can be explained by IM (Image).

As for the regression coefficients, IM (1.029) is independent variable while EXP is dependent variable, and constant is -0.528. This results in the positive relationship between Image and Student expectation. Thus, H1 is supported.

### ***Relationship between Student Expectation and Perceived Quality***

Linear regression used to measure the relationship between Student expectation and Perceived quality. Table 5 indicates that the Sig value is under 0.05 which means the regression model is suitable with data. Table 5 also indicates that Sig is at 0.000 (<0.05) and F value is really high at 908.001. It means that the regression model fits statistically to the data.

**Table 5: Regression of Perceived Quality on Student Expectation**

Model Summary		ANOVA <sup>a</sup>		Coefficients <sup>a</sup>			
				Model	Unstandardized	Standardized	Sig.
R	Adj.	Sig.	F		B	Beta	
0.794	0.974	0.000 <sup>b</sup>	908.001	(Constant)	0.173		0.149
				EXP	0.936	0.891	0.000

Adjusted R squared is at 0.794 which means that 79.4% variability of PQ (Perceived quality) can be explained by EXP (Student expectation). As for regression coefficients, EXP (0.936) is independent variable while PQ is dependent variable, and the constant is 0.173. This results in the positive relationship between Image and Student expectation. Thus, H3 is supported.

### ***Relationship between Student Expectation, Perceived Quality and Perceived Value***

Linear regression is used to measure the relationships among Student expectation, Perceived quality and Perceived value. Table 6 indicates that Sig value is under 0.05 which means the regression model is suitable with data. Table 6 also indicates that Sig is at 0.000 (<0.05) and F value is at 389.547. It means that the regression model fits statistically to the data.

**Table 6: Regression of Perceived Value on student Expectation and Perceived Quality**

Model Summary		ANOVA <sup>a</sup>		Coefficients <sup>a</sup>			
				Model	Unstandardized	Standardized	Sig.
R	Adj.	Sig.	F		B	Beta	
0.769	0.767	0.000 <sup>b</sup>	389.547	(Constant)	-0.084		0.554
				EXP	0.404	0.346	0.000
				PQ	0.615	0.554	0.000

Adjusted R squared is at 0.767 meaning that 76.7% variability of PV (Perceived value) can be explained by EXP (Student expectation) and PQ (Perceived quality). As for regression coefficients, EXP and PQ are independent variables while PV is dependent variable. Coefficients of EXP and PQ are 0.404 and 0.615, respectively. This results in the positive relationship between Student expectation and Perceived value, and the positive relationship between Perceived quality and Perceived value. Thus, H4 and H5 are supported. The Standardized Beta value for EXP is 0.346 while the Standardized Beta value for PQ is 0.554. It is concluded that PQ (Perceived quality) is the most important impact on PV (Perceived value).

### ***Relationship between Image, Perceived Value, and Student Satisfaction***

Linear regression is used to measure the relationships between image, perceived value, and student satisfaction. Table 7 indicates that Sig is at 0.000 (<0.05) and F value is at 290.381. It means that the regression model fit statistically to the data. Adjusted R squared is at 0.710 meaning that 71% variability of SS (Student satisfaction) can be explained by IM (Image) and PV (Perceived value).

**Table 7: Regression Student Satisfaction on Image and Perceived Value**

Model Summary		ANOVA <sup>a</sup>		Coefficients <sup>a</sup>			
				Model	Unstandardized	Standardized	Sig.
R	Adj.	Sig.	F		B	Beta	
0.713	0.710	0.000 <sup>b</sup>	290.389	(Constant)	0.464		0.033
				IM	0.174	0.121	0.016
				PV	0.683	0.753	0.000

As for regression coefficients, coefficients of IM and PV are 0.174 and 0.683, respectively. This results in the positive relationship between Perceived value and Student satisfaction, and the positive relationship between Image and Student satisfaction. Thus, H2 and H6 are supported.

The Standardized Beta value for IM is 0.121 while the Standardized Beta value for PV is 0.753. It is concluded that PV is the most important impact on SS.

## 6. Conclusions and Implications

This study examines factors that have impacts on student satisfaction. Results from regression analyses show that there are 6 positive relationships supported by the data: between image (IM) and student satisfaction; between image and student expectation; between student expectation and perceived quality; between perceived quality and perceived value; between perceived value and student satisfaction. In addition, perceived quality is the most important impact on perceived value; and perceived value is the most important impact on student satisfaction. The results in this study are consistent with that of Temizer and Turkyilmaz (2012), meaning that the SSI (Student Satisfaction Index) model is reliable and valid under the education setting of Vietnam. Based on these results, implications are drawn as follows:

Improving training quality of joint master programs will lead to an increase in student expectation which will have impact on perceived value. Moreover, improving training quality will create value for each course which will also leads to an increase in perceived value. In order to improve training quality, universities in Vietnam should continue innovative joint master courses. The target is to provide the students with a high level of theoretical and practical skills, and train the students to become experts in the field of economics and business administration today. To accomplish that goal, it is necessary to improve the quality of training and to rise up to meet the learning needs of society growing in an intimate relationship between the quality of training and the training scale. There should also be aware that there are many people who learn joint master course. Highly qualified people are more beneficial to society. To satisfy these needs, actions should be taken to enhance the curriculum, the training forms, and complete rules on training. The universities should continue to build applicable programs and teaching methods for joint master courses. In terms of innovating teaching methods, teaching and practice guidelines should keep turning to the form of case studies. Besides, the universities should consider the possibility of importing training programs, as some countries did and was successful.

It is essential to improve teaching ability of lecturers to ensure the quality of joint master courses. It should be noted that lecturers play a key role in the success of joint master programs. The lecturers as the human element are very important in directly affecting the university training process. The human factors are not only the lecturers but also the administrators. Awareness on the role of lecturers and administrators, the universities should build mechanisms of self-studying and self-training for the lecturers. The recruitment process, arrangement and employee treatment need to be executed well to attract and maintain the teaching activities in compliance with requirements of international joint master programs. The universities should focus on building employee attracting policies to create a dynamic and qualified pool of professors, lecturers, administrators, and staff. The universities need to improve student management. Student management is a prominent activity to promote university image. Student management activities of joint master programs needs to provide information related to programs, regulations of the university, rights and benefits of the students. Student management activities should be able to track personal information about family, address, phone number in the student's records. The lecturer in charge of taking care of the student needs to build an assessment profile about the student's attitude and study results. Student management activities should provide excellent study consulting services. It can be seen that the human element is always an important factor directly affecting the training process. Management and administration of joint master courses should be flexible, enthusiastic, quickly, and friendly. Most of students who attend in joint master programs are still working at the same time, thus they may need help and support during their study. Finally, the universities should keep good relations

with students during and after they study because their feedback and words of mouth are important in order to build the image of the university, and help the university to have more enrollments into joint master courses.

The universities should invest more in modern facilities and equipment for learning and research in order to enhance the university image. In particular, the universities should invest and modernize lecture rooms to serve training programs in general and joint master programs in particular, such as classrooms, conference rooms as well as international standard laboratories. The universities should apply management information technologies in managing faculty, students, and teaching and studying activities more effectively. Purchasing and subscribing to prestigious research data to build database for researchers, lectures, and students are important. Improving libraries for joint master courses which include electronic library and traditional library. However, electronic library should be built such that it is suitable with the international training standards regarding books, textbooks, and international journals. The universities should find our ways to build useful mobilization channels such as enterprises, alumni, funds, partner universities, and domestic and foreign research institutes to have monetary and non-monetary supports for the purpose of enhancing facilities and equipment for training.

## **7. Limitations and Future Research**

This study provides a number of important contributions to international joint master programs conducted by universities in Vietnam. The results indicate that there are 6 positive relationships: between image and student satisfaction; between image and student expectation; between student expectation and perceived quality; between perceived quality and perceived value; between perceived value and student satisfaction. Furthermore, perceived quality is the most important impact on perceived value, and perceived value is the most important impact on student satisfaction. The results in this study are consistent with that of Temizer and Turkyilmaz (2012), meaning that the SSI model is reliable and valid. While to some extent, a number of implications are drawn from this study, there are also some limitations. Firstly, this study focused solely on student satisfaction from joint master courses based on investigating factors such as image, student expectation, perceived quality, and perceived value. There might be other factors that are likely to have impacts on student satisfaction, but not considered in this study.

Secondly, two joint master programs from one university in Vietnam might not be considered as representative for all education programs in general and joint master programs in particular offered by universities in Vietnam. This may limit the generalizability of the results.

Thirdly, this study focused on the perceptions of students and did not measure the perceptions of staff and other stakeholders regarding student satisfaction and other pertaining constructs. It should be noted that measuring perceptions of students on satisfaction, image, student expectation, perceived quality, and perceived value might be different from measuring these under perceptions of different stakeholders.

Last but not least, the statistical techniques in this study are multiple regression techniques which might not be adequate to analyze reliability, validity, and relationships between the constructs. Thus, future studies should take all the limitations into consideration in order to build a more integrative model for better investigating student satisfaction and its determinants of joint master programs in particular and education programs in general offered by universities in Vietnam.

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