

# **E-COMMERCE ADOPTION IN HANDICRAFT BUSINESSES OF TRADITIONAL CRAFT VILLAGES OF THUA THIEN HUE PROVINCE**

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## **Abstract**

*The purpose of this paper is to assess the current situation of e-commerce adoption in handicraft businesses of traditional craft villages of Thua Thien Hue province. Direct interviews were used to collect data from a sample of 100 traditional handicraft businesses. The research results clearly indicate that the potential of e-commerce which was believed to help micro, small and medium-sized enterprises, especially those from craft villages in Thua Thien Hue province, to overcome the market access constraints was far from being fulfilled. One of the positives was that they have initially taken advantages from e-commerce by using e-mail to communicate with customers, participating in e-marketplaces and even building a website to promote their brand image and products. Apart from these good points, there were many problems of e-commerce adoption among them. For instance, transactions conducted over the Internet were mainly national, not cross border. The application of new business models through e-commerce for craft villages was still very limited because they lacked of investment in IT infrastructure and human resources. Indeed, many barriers existed to prevent them from buying and selling their products and services online. Hence, efforts must come from both handicraft businesses and authorities to facilitate the use of electronic transactions as a tool for market access and to better integrate micro, small and medium-sized enterprises into e-commerce.*

**Key words:** e-commerce adoption, traditional craft villages, market access

## **Tóm tắt**

*Mục tiêu của bài viết này là đánh giá thực trạng ứng dụng thương mại điện tử tại các cơ sở thủ công mỹ nghệ ở các làng nghề truyền thống của tỉnh Thừa Thiên Huế. Phỏng vấn trực tiếp được sử dụng để thu thập dữ liệu từ quy mô mẫu là 100 cơ sở thủ công mỹ nghệ. Kết quả của nghiên cứu cho thấy tiềm năng của thương mại điện tử*

*trong việc giúp các doanh nghiệp siêu nhỏ, nhỏ và vừa, đặc biệt là các cơ sở của làng nghề ở Thừa Thiên Huế, vượt qua những khó khăn trong việc tiếp cận thị trường còn lâu mới được khai thác một cách hiệu quả. Những điểm tích cực đó là các cơ sở đã bước đầu tận dụng những lợi thế của thương mại điện tử như sử dụng email để giao dịch với khách hàng, tham gia vào các sàn giao dịch thương mại điện tử và thậm chí là xây dựng trang web để quảng bá hình ảnh và sản phẩm của cơ sở. Tuy nhiên, các cơ sở của làng nghề vẫn còn gặp nhiều khó khăn trong việc ứng dụng thương mại điện tử. Chẳng hạn, các giao dịch trên Internet chủ yếu diễn ra trong nước, chưa tiếp cận thị trường nước ngoài. Việc áp dụng các mô hình kinh doanh mới thông qua thương mại điện tử cho các làng nghề còn rất hạn chế do thiếu đầu tư vào cơ sở hạ tầng công nghệ thông tin và nguồn nhân lực. Do đó, những nỗ lực phải đến từ các cơ sở thủ công mỹ nghệ truyền thống và các cơ quan chức năng để tạo thuận lợi cho việc sử dụng các giao dịch điện tử như là một công cụ để tiếp cận thị trường và khuyến khích các doanh nghiệp siêu nhỏ, nhỏ và vừa ứng dụng thương mại điện tử.*

**Từ khóa:** ứng dụng thương mại điện tử, làng nghề truyền thống, tiếp cận thị trường

## **1. Introduction**

As a province in the key economic zone in the North Central Coast region and also a centre of commerce, service and international transactions in the Central and Highlands of Vietnam, Thua Thien Hue province has preserved famous historical and cultural relics such as Citadel's relic complex and Hue Royal Court Music (under Nguyen Dynasty) which were listed in the World's Tangible and Intangible Heritage Works by UNESCO. This place is home to a large team of skilled artisans and craftsmen who have made many famous products in the whole country. Today, traditional craft and craft villages not only contribute to the conservation and promotion of Hue cultural identity but also have important roles in socio-economic development of the province, namely offering employment opportunities, providing income generation opportunities, attracting infrastructure investment, and shortening the gap between urban and rural living standards.

In the renewal process of the country and the trend of international economic integration, the performance of traditional craft villages in Thua Thien Hue province has been very remarkable but tends to come to a standstill. Some famous villages such as Pho Trach mat weaving village, Thuy Lap rattan village, My Lam and Thuy Thanh conical hat villages...face difficulties in accessing markets for their products, and thus witnessing a decline in the number of businesses participating in craft production. There are numerous reasons for these problems such as small business scale, poor

designed products, small range of high economic value products and provincial market, and fierce competitors from China, India and Thailand and so on. Most notably, a majority of the craft villages are still very inactive in taking advantages of e-commerce which offers convenient tools for marketing and promoting their products. Only a few handicraft businesses at Thanh Tien paper flower village, Bao La rattan village, My Xuyen wood carving village have initially adopted e-commerce to promote their products to the market by participating in e-marketplaces, building websites and providing information about their villages and products.

There have been some researches on e-commerce adoption of small and medium-sized enterprises in Vietnam (Pham, Pham & Nguyen, 2011; Le, Rowe, Truex & Huynh, 2012; Vecita, 2014; Vecom, 2014). Recently, VCCI-ITB (2013, 2014) has assessed the level of e-commerce adoption at businesses and handicraft business from craft villages. But as far as e-commerce is concerned, there is no report concentrating on handicraft businesses from craft villages in Thua Thien Hue province. Therefore, this research is conducted to assess the current situation of e-commerce adoption in handicraft businesses of craft villages of Thua Thien Hue province. Specific objectives of this study are as follows:

- To identify the readiness level for e-commerce adoption in handicraft businesses
- To understand the current situation of e-commerce adoption in handicraft businesses
- To measure the effectiveness of e-commerce adoption in handicraft businesses
- To identify the constraints of e-commerce adoption in handicraft businesses
- To make recommendations on promoting e-commerce adoption in handicraft businesses

## **2. Overview of craft villages and the role of e-commerce for craft businesses**

### ***2.1. Definition of craft villages***

There are different definitions of traditional craft villages in Vietnamese policy and research literature (Dang, Mahanty & Nguyen, 2010; Vu, 2011). Bui (1996) defined that “*A traditional craft village is the centre of craft production, with master artisans and lots of households of traditional craft. Artisans and craft households in the village have the same craft progenitor, have rules in production management, in*

*keeping and inheriting professional secrecy, cooperate in producing and selling their products in the style of small and medium enterprises”.*

In order to differentiate among the concepts of traditional, non - traditional and ‘new’ craft villages, Decree No.66/2006/ND-CP dated 07/7/2006 of Prime Minister and Circular No.116/2006/TT-BNN dated 18/12/2006 of Ministry of Agriculture and Rural Development have set following criteria:

*Traditional craft:* a craft which has a long-standing development and creates unique and typical products has been passed down through generations and developed until now or under threats of disappearance. A craft recognized as a traditional one must meet three key criteria: (1) has existed for at least 50 years; (2) reflects Vietnamese cultural identity; and (3) is practiced by at least one well-known artisan in the village, or is incorporated in village name.

*Craft village:* a residential community clusters such as communes and hamlets where rural production activities are taken place and at least one product is made. Criteria for recognizing a craft village are described as follows: (1) at least 30 per cent of households participate in craft activities; (2) business operation has been steadily organized for at least two years; and (3) the village has complied well with government policies.

*Traditional craft village:* A traditional craft village has a traditional craft which has existed for a long time. It must satisfy the criteria set for craft village and also possesses at least one traditional craft according to this Circular.

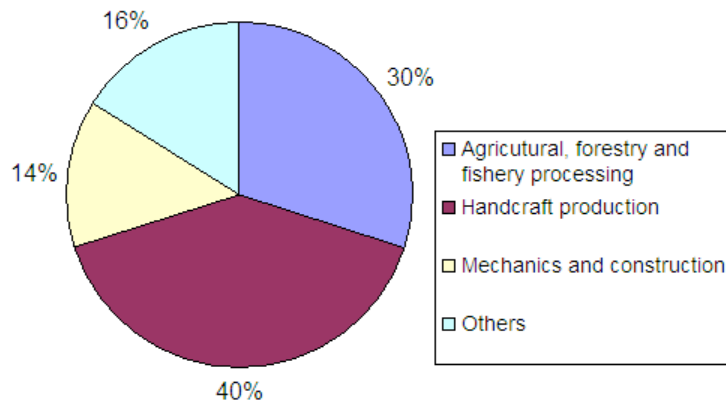
*New craft village:* a new craft village is one that has been recently established in response to new market demand and the availability of input materials.

According to Decision No.29/2012/QĐ-UBND of the People’s Committee of Thua Thien Hue province, although the village cannot meet the first two criteria of recognizing a traditional craft village, it will be also recognized as a traditional one as long as it has at least one recognized traditional craft.

## ***2.2. Current state of craft villages in Thua Thien Hue province***

At present, the province has 94 craft villages, of which 32 are recognized as traditional craft ones, attracting 3,486 establishments (Thua Thien Hue DRD, 2015). Craft and craft villages have offered 15,000 permanent and thousands of seasonal jobs (Thua Thien Hue DARD, 2014). Production value of craft villages is approximately VND 900-1,000 billion per year, accounting for only 1% of total provincial GDP.

### **Figure 1. Proportion of groups of crafts in Thua Thien Hue province**



(Source: Thua Thien Hue DARD, 2014)

Figure 1 shows the highest rate of crafts in Thua Thien Hue province falls into handicraft group, making up 40%. Ranked at the second place is processing group at 30%. Mechanics and construction group has the lowest rate of crafts at 14% and others at 16%.

In the process of international integration, traditional craft villages are likely to enjoy having many new opportunities to gain access to the global markets, but also face numerous challenges such as small business scale, monotonous products, small range of high economic value products and provincial market. These opportunities and challenges require a breakthrough policy and a creation of an advanced development model. In this context, Thua Thien Hue province has connected restoring and developing traditional craft villages along with developing tourism services, while promoting traditional craft village tours at the same time (Nhan Dan, 2015). Especially, Hue Traditional Craft Festival is organized every two years in the hopes of drawing attention to unique local art forms, displaying the best of Vietnamese crafts and exposing the creativeness and golden hands of Vietnamese craft people.

### ***2.3. The role of e-commerce for craft businesses***

E-commerce has the potential to become a new trend which will replace the old business model because it offers outstanding benefits such as faster communication, cost savings, more efficient and convenient form of trading goods and services and unlimited space and time, etc. In the current climate of international economic integration trends, there are both opportunities and challenges for craft villages. One of the positives is that they now have a chance to introduce their products to foreign customers. Although Vietnamese skilful artisans and craftsmen from craft villages are

good at producing beautiful and sophisticated products, they are lack of marketing skills and advanced technology tools to facilitate accessing new markets, both within national borders and across them.

E-commerce is believed to fill in the gap between craft producers and the markets (VCCI-ITB, 2014). In other words, e-commerce can help introducing the overall picture of craft villages and artisans to the whole world and market their products online as everybody can trade anywhere with Internet access. With e-commerce tools, craft producers can display their products through online pictures, videos and brochures which can be accessed by people around the world. Moreover, they can establish virtual shops where customers are allowed to order and shop over the Internet. All of the costs spent for these activities are low and under the limited resources of craft businesses. More importantly, there is no gap between rural and urban areas as they are equal in terms of geographical location in the Internet. Under this positive point, craft villages and producers in remote and rural areas can be supported in market development.

### **3. Research methodology**

#### ***3.1. Research design***

The study used a survey research design. The data were collected through a questionnaire. A pre-test of the instrument was administered in 10 handicraft businesses in Thua Thien Hue province, prior to data collection, and modifications were made to the questionnaire following the pre-test.

#### ***3.2. Sampling method***

Based on Decision No.29/2012/QĐ-UBND and Decision No.111/QĐ-UBND of Thua Thien Hue province, 11 handicraft villages were selected for the sample because they were paid much attention for restoring and developing by the authority. These villages included: Phuong Duc copper casting village, Thuy Thanh conical hat village, My Lam conical hat village, Bao La rattan village, Thuy Lap rattan village, My Xuyen wood carving village, Phuoc Tich pottery village, Pho Trach mat weaving village, Sinh paper painting village, Thanh Tien paper flower village, A Luoi Zèng weaving (Brocade) village.

Currently, a precise number of handicraft businesses adopting e-commerce in Thua Thien Hue province are not available. In this situation, a sample size was determined based on Israel's consideration which states that if descriptive statistics are to be used, e.g., mean, frequencies, then nearly any sample size will suffice (Israel, 2012). Furthermore, Sudman (1976) suggests that a minimum of 100 elements is

needed for each major group and Kish (1965) says that 30 to 200 elements are sufficient. Therefore, a sample size of 100 handicraft businesses and a sampling technique including a combination of judgement sampling and quota sampling were applied for this research. Specifically, in order to reflect the accurate assessment of current situation of e-commerce adoption in handicraft businesses of traditional craft villages of Thua Thien Hue province, one of the criteria for choosing respondents to answer the survey questionnaires was based on the types of business entities. In other words, types of entities such as cooperatives, private enterprises, registering individual business households were more likely to adopt e-commerce for their businesses, thus being given much priority in the sample. Secondly, heads of handicraft businesses or IT staff were invited to participate in the interviews. Regarding quota sampling, there were representatives from all of 11 villages mentioned above. At each village, the most famous producers in terms of business scale were surveyed.

### ***3.3. Data collection***

There were two stages for data collection. In stage 1, telephone appointments were arranged by researchers from Hue College of Economics (HCE) introducing the research program and specifying an appointment (date and time) for interviews. In stage 2, lecturers from HCE visited each business and administered the questionnaire in person. This approach was suitable because it helped researchers to receive high response rate of completed questionnaire, reduce the possibility of miscoding responses, receive instance response of interviewers to the queries of interviewees and assure higher both quality data and survey completion rate.

### ***3.4. Data analysis***

Quantitative data were edited to eliminate inconsistencies, summarized and coded for easy classification in order to facilitate tabulation and interpretation. The data collected were processed by Microsoft Excel. Descriptive statistics were used in describing the sample data to portray the typical respondents and to reveal the general response patterns.

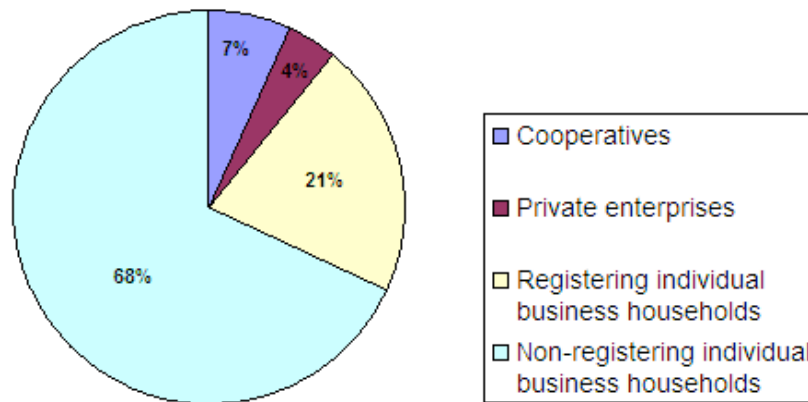
## **4. Research results**

### ***4.1. Sample profile***

To obtain a sample size of 100, 110 questionnaires were distributed but only 100 were complete and usable. Classification of respondents according to types of business entities were as follows:

### **Figure 2. Types of business entities surveyed at traditional craft villages**

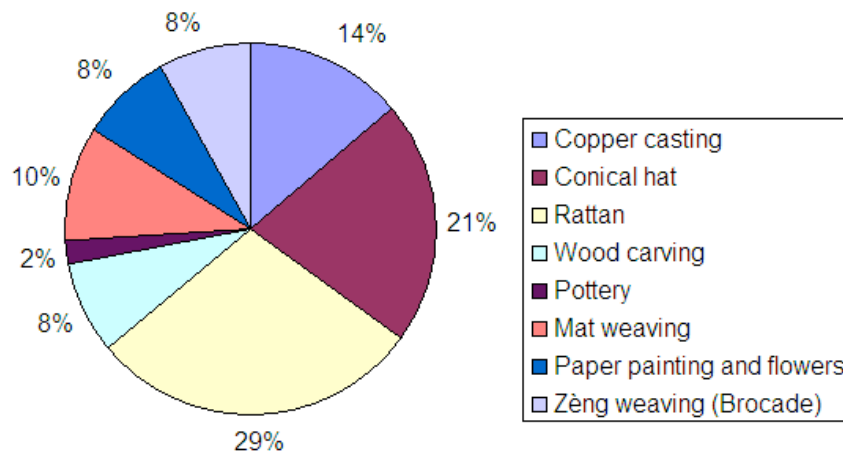
**in Thua Thien Hue province**



*(Source: Interview data analysis, 2015)*

Figure 2 highlights that non-registering individual business households accounted for the highest figures (68%), followed by registering individual business households (20%). Cooperatives and private enterprises accounted for 7% and 5% respectively. Three product categories having more businesses participating in the survey were rattan (29%), conical hat (21%), and copper casting (14%) (Figure 3).

**Figure 3. Overview of businesses by product categories**



*(Source: Interview data analysis, 2015)*

Regarding labour situation, survey results revealed that there were 6 labourers per handicraft business on average in Thua Thien Hue province. Of total businesses surveyed, there were 79% of businesses with the size of fewer than 5 labourers, of which there were 34 establishments having 1 labourer (accounting for 34% of the total). In particular, for non-registering individual business households, there were 97% having 1 labourer and for registering individual business households, such number was 3%. If considering by product categories, the number of establishments having from 1

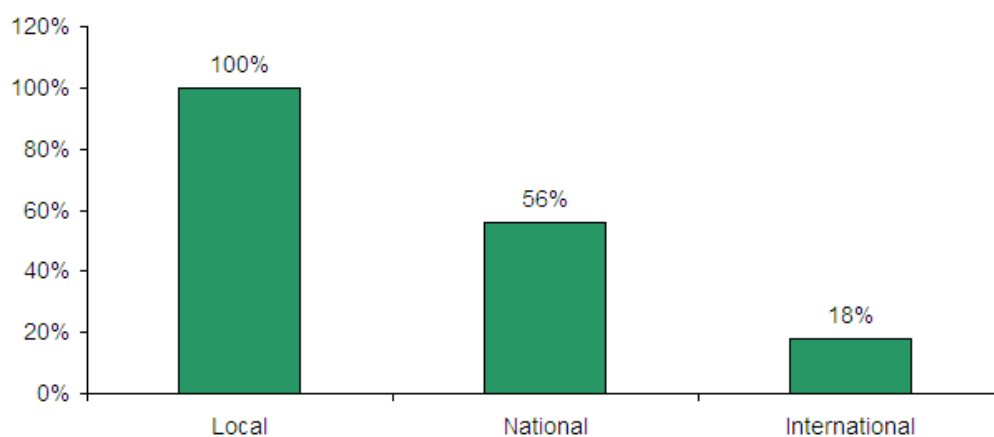


to 5 labours which accounted for high proportion as compared with total labourers of that sector could be found from mat weaving and pottery (100%), rattan (93.1%), and conical hat (95.2%).

The survey also found that 64% of labourers in handicraft businesses at Thua Thien Hue province had average income below VND 2 million. Remarkably, only copper casting and wood carving sectors could offer high income for labourers (> VND 5 million) as compared to other handicraft sectors.

As for market access, more than half and nearly one-fifth of them showed that their products could reach the markets at national and international levels (Figure 4). One of the positives for the market access of handicraft businesses in Thua Thien Hue province was that their products could be on-site exported to tourists, thus reaching national and international markets. Besides, products of some villages such as Pho Trach mat weaving village, Bao La rattan village and A Luoi Zeng weaving (Brocade) village were indirectly exported.

**Figure 4. Market access of handicraft businesses in Thua Thien Hue province**

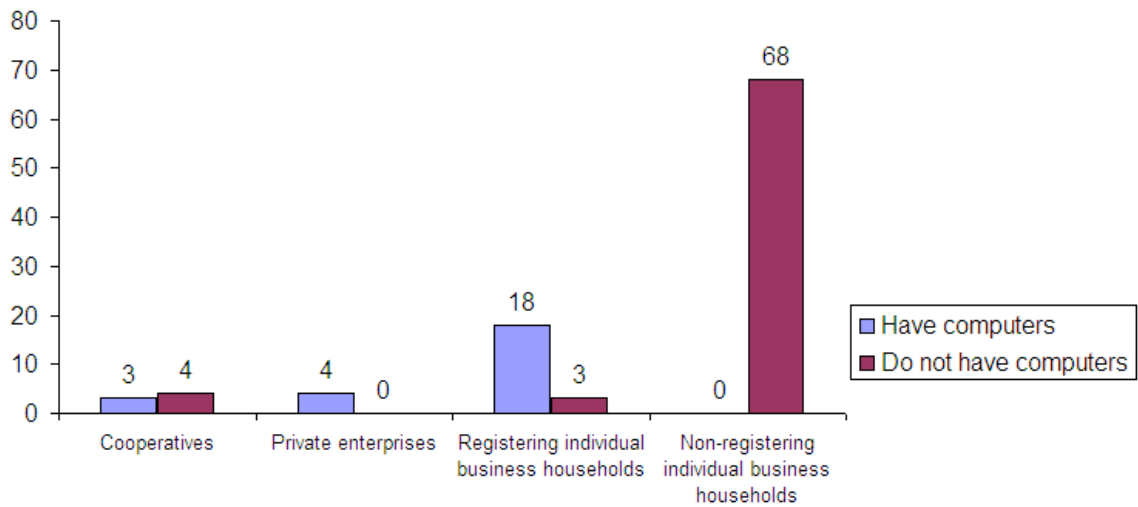


(Source: Interview data analysis, 2015)

**4.2. The readiness level for e-commerce adoption in handicraft businesses**

According to the survey results, 75% of the businesses participating in the survey did not equip with computers while the remaining 25% of the businesses with computers went to cooperatives, private enterprises and registering individual business households.

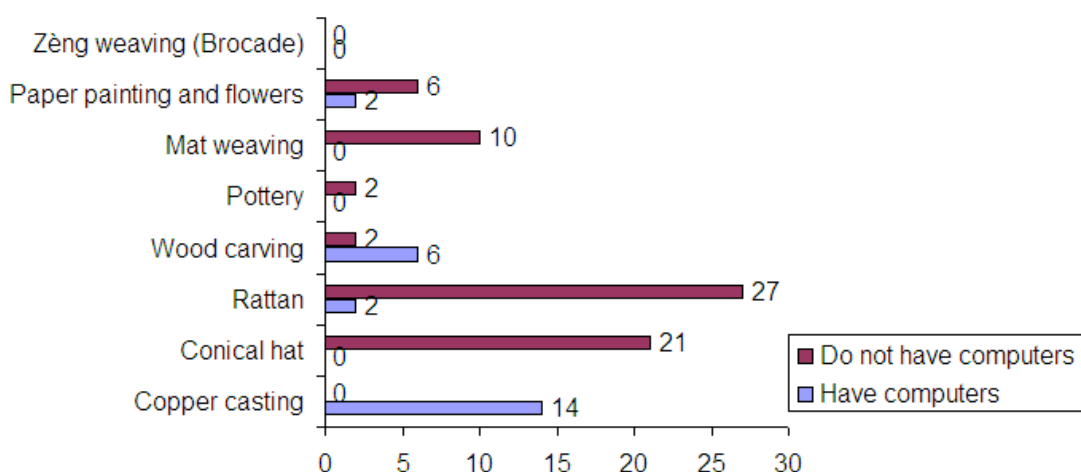
**Figure 5. Number of computers in handicraft businesses**



(Source: Interview data analysis, 2015)

Figure 5 indicates that all of non-registering individual business households fell into the category of not having computers. Among 7 cooperatives in the survey, the four participants without computers were from A Luoi district, a mountainous area of Thua Thien Hue province. As for registering individual business households, there were only three of them from pottery villages and conical hat villages but they did not equip with computers. One of the reasons for not having computers in these businesses was that most of workers in the craft villages were the old and the female who lacked of skills as well as knowledge about IT and e-commerce.

**Figure 6. Number of computers in handicraft businesses by product categories**



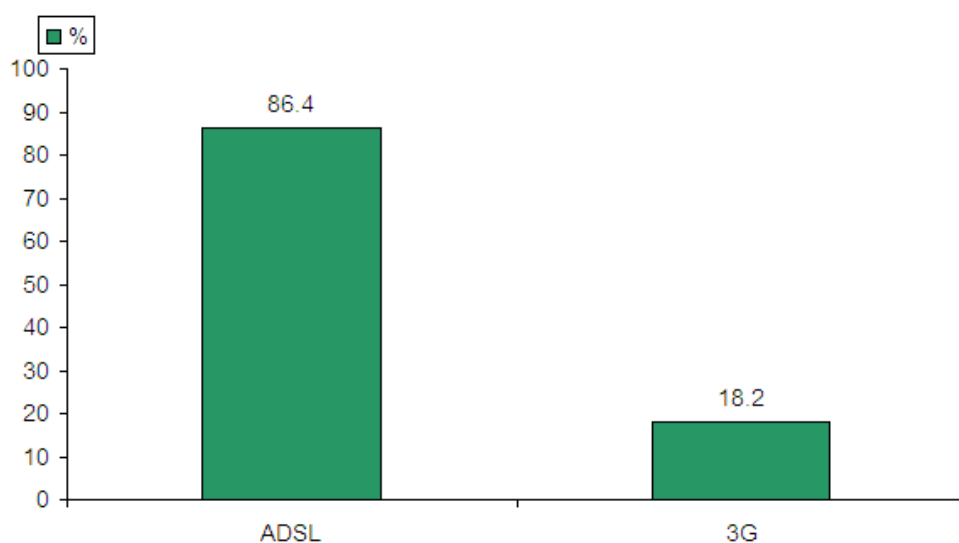
(Source: Interview data analysis, 2015)

As can be seen from Figure 6, handicraft businesses having computers came mainly from five villages, namely Thanh Tien flowers village, My Xuyen wood carving village, Bao La and Thuy Lap rattan villages and Phuong Duc copper casting village.

Among a quarter of respondents whose businesses equipped with computers, each had 1.8 computers on average. This number was a good sign of the readiness level for e-commerce adoption of handicraft businesses in Thua Thien Hue province because they did not lag behind the other craft businesses in Vietnam when the report of VCCI-ITB (2013) showed that each had 1.9 computers on average.

In conformity with the findings, only 22 respondents used Internet (accounting for 22%). The most popular method of Internet connection was ADSL (86,4%), followed by 3G (18,2%) (Figure 7). From that point onward, the analysis of e-commerce adoption at handicraft businesses in Thua Thien Hue province were concentrated on these 22 respondents.

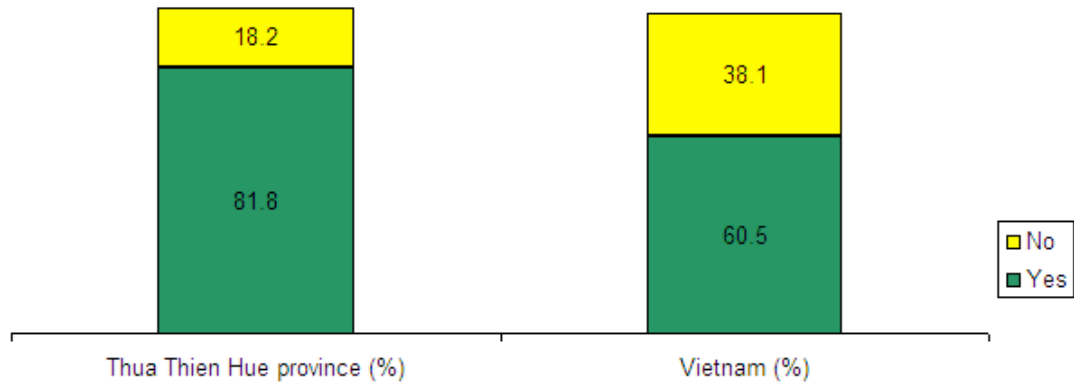
**Figure 7. Internet connection methods in handicraft businesses**



*(Source: Interview data analysis, 2015)*

As seen in Figure 8, 81,8% of establishments used email for their business purpose, 29,4% higher than that of handicraft businesses in the whole country (VCCI-ITB, 2014).

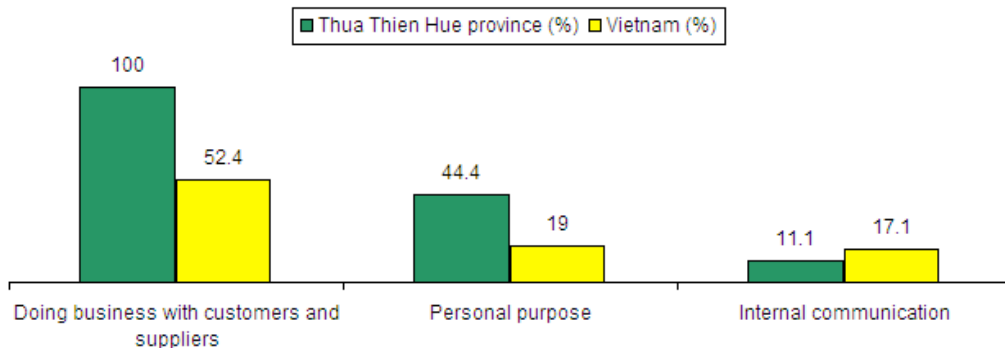
**Figure 8. The use of email in handicraft businesses**



*(Source: Interview data analysis, 2015)*

Regarding the purposes of using email, the rate of handicraft businesses in Thua Thien Hue province using email for doing business with customers and suppliers accounted for the highest figure at 100%, which nearly doubled of that in Vietnam (52.4%). Followers were personal purpose and internal communication at 44,4% and 11,1% respectively.

**Figure 9. The usage of email for business purposes in handicraft businesses**



*(Source: Interview data analysis, 2015)*

Table 2 shows that only half of respondents said yes to methods of information security and data privacy. In particular, 50% of them used anti-virus software, followed by 18,2% using data backup routine, 13,6% using firewalls and 4,5% using digital signature applications.

**Table 2. Methods of information security and data privacy in handicraft businesses**

No.	Methods	Yes	No	Do not know
1	Firewall	3	6	2
2	Anti-virus	11	0	0
3	Hardware (IDS)	0	9	2
4	Digital signature, digital certificate	1	8	2
5	Data backup routine	4	6	1

(Source: Interview data analysis, 2015)

Table 3 shows approximately 60% of respondents did not have any e-commerce specialized staffs. The remaining answered yes but their staffs were actually accountants who also took the roles of IT staffs. The average number of staffs for e-commerce per establishment both in Thua Thien Hue province and in Vietnam was very low at 0.14 and 0.2 in the order given.

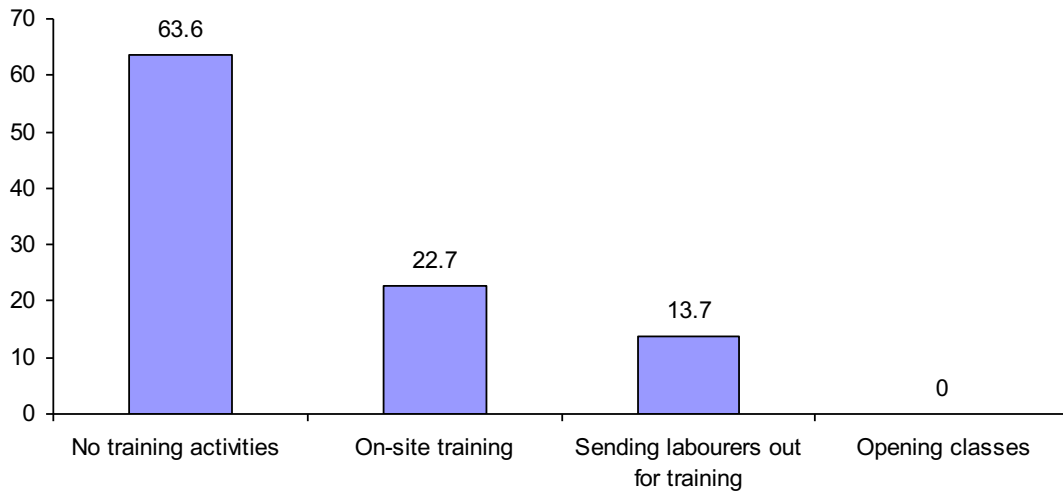
**Table 3. Staffing for e-commerce in handicraft businesses**

No.	Thua Thien Hue province		Vietnam	
	Details	%	Details	%
1	Maximum: 2 staffs	4.54	Maximum: 5 staffs	0.2
2	Average: 0.14 staff	-	Average: 0.2 staff	-
3	Minimum: 0 staff	59.1	Minimum: 0 staff	81.9

(Source: Interview data analysis, 2015; VCCI-ITB, 2014)

According to the survey results in Figure 10, 63% of the producers questioned answered that there were no training activities related to IT and e-commerce for their labourers, leaving the remaining 36,4% of the respondents for training provision. It is worth noting that the most common training method was the on-site training with the highest rate of 23% while 14% of establishments chose to send labourers out for training.

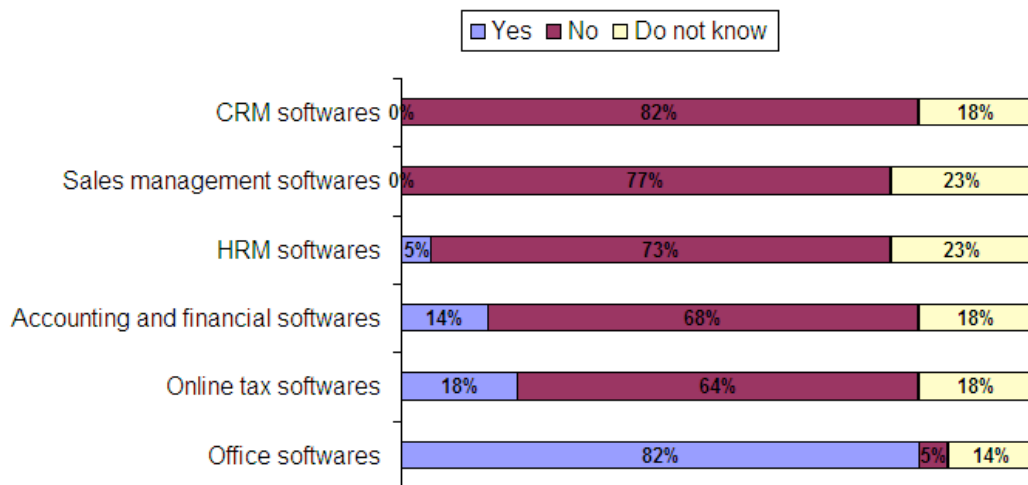
**Figure 10. IT and e-commerce training methods for labourers**



*(Source: Interview data analysis, 2015)*

**4.3. The current situation of e-commerce adoption in handicraft businesses**

**Figure 11. Rate of handicraft businesses applying softwares**

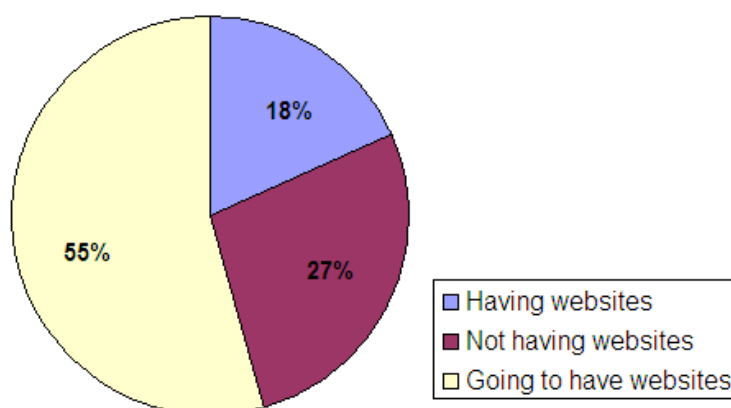


*(Source: Interview data analysis, 2015)*

It is clear from Figure 11 that office softwares was the most commonly used in business which accounted for 82%, followed by online tax softwares and accounting and financial softwares at 18% and 14% respectively. HRM softwares had the lowest rate of 5%. Two groups of softwares including sales management and CRM were not popular in handicraft businesses in Thua Thien Hue province.

Figure 12 shows that the proportion of establishments owning websites accounted for 18% and the proportion of establishments expected to build their websites accounted for 27%.

**Figure 12. Rate of handicraft businesses owning websites**



*(Source: Interview data analysis, 2015)*

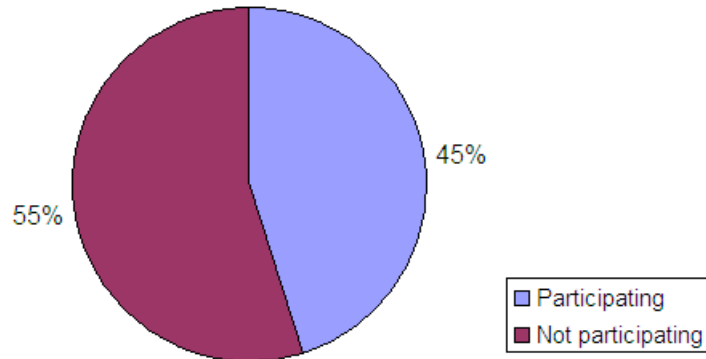
Particularly, among 22 establishments in the survey which initially adopted e-commerce for their business, there were only 4 of them owned websites. However, only the website of Bao La rattan cooperative was still active at present while the others were closed. Functions of the website were still simple including establishment introduction and product introduction. Other advanced functions such as online orders, online payments, online customer service or recruitment did not exist on the website.

To sum up, the number of handicraft businesses in Thua Thien Hue province owning websites was very rare. In fact, local authority and departments such as Thua Thien Hue Trade and Industry Department, Thua Thien Hue Cooperative Alliance and Thua Thien Hue Culture, Sports and Tourism Department have carried out some programs to support handicraft businesses in building websites for them or adding general information on the history or products of handicraft businesses to the websites of local authorities. Some typical examples could be seen from the websites <http://mynghedacsanhue.com.vn>, <http://langcophuoctich.org.vn>, <http://huefestival.com> and so on. In this situation, exploiting websites effectively and making them to become useful tools need time and active participation from handicraft businesses.

In overall, Figure 13 reflects that the rate of handicraft businesses participating in e-marketplaces was still limited, at about 45%, in which three-quarter of them reported that <http://facebook.com> was their only destination in participating in e-marketplaces. 18% of establishments in the survey joined local e-marketplace namely <http://mynghedacsanhue.com.vn> but some of them did not know that because this was a support from local authorities. Especially, <http://thamhue.com.vn> was a popular e-

marketplace in Thua Thien Hue province, thus attracting the participation from some establishments from Phuong Duc copper casting village.

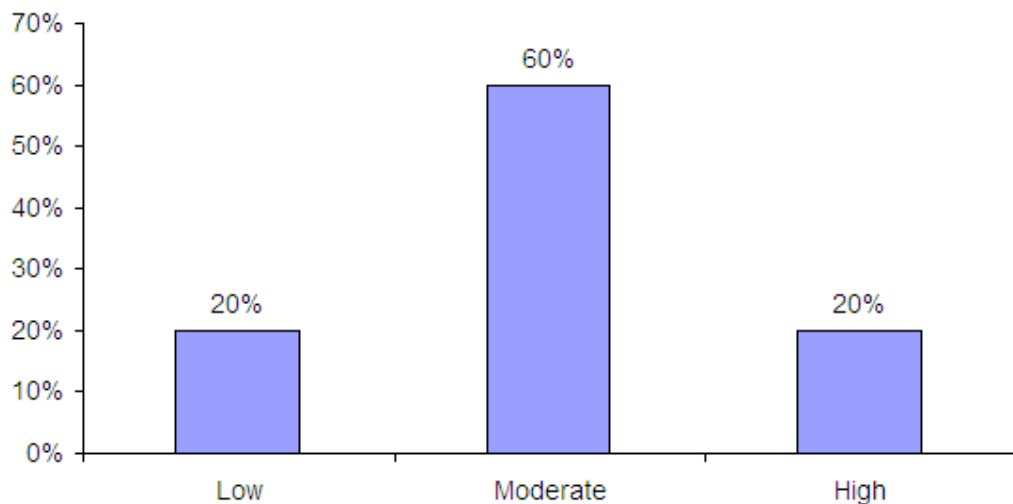
**Figure 13. Rate of handicraft businesses participating in e-marketplaces**



*(Source: Interview data analysis, 2015)*

In terms of effectiveness of participating in e-marketplaces, 80% of establishments answered the efficiencies of participating e-marketplaces were moderate or good levels and 20% of respondents evaluated these efficiencies in low level. These findings indicate that handicraft businesses have benefited from e-commerce for their business activities.

**Figure 14. Effectiveness of participating in e-marketplaces**



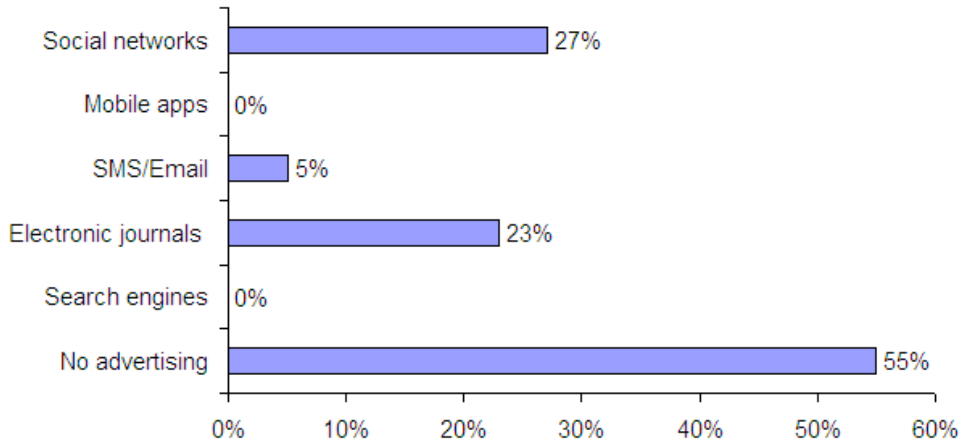
*(Source: Interview data analysis, 2015)*

As seen clearly from Figure 15, 55% of producers in the survey did not carry on any online advertising methods, leaving the remaining 44% of them used to advertise their products or services online. Among many online advertising methods, social networks with some advantages such as high users and low prices became to be effective methods for handicraft businesses in Thua Thien Hue province to choose



when they wanted to advertise their products or services (27%). The following methods were electronic journals (23%) and SMS/Email (5%).

**Figure 15: Online advertising methods for handicraft businesses**

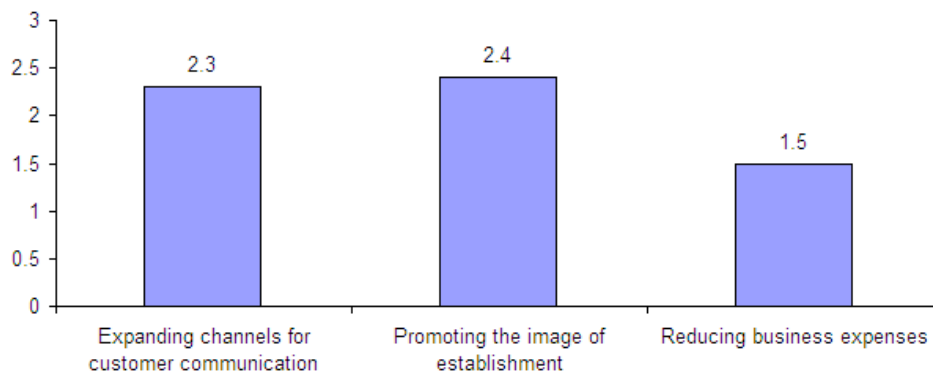


*(Source: Interview data analysis, 2015)*

**4.4. The effectiveness of e-commerce adoption in handicraft businesses**

Surveyed handicraft businesses were asked to answer three questions in order to evaluate the efficiencies of e-commerce application: 1) Expanding channels for customer communication; 2) Promoting the image of establishment; 3) Reducing business expenses. The point scaling for each criterion is from 0 (not efficient at all) to 4 (very efficient).

**Figure 16. Efficiency of e-commerce application of handicraft businesses**

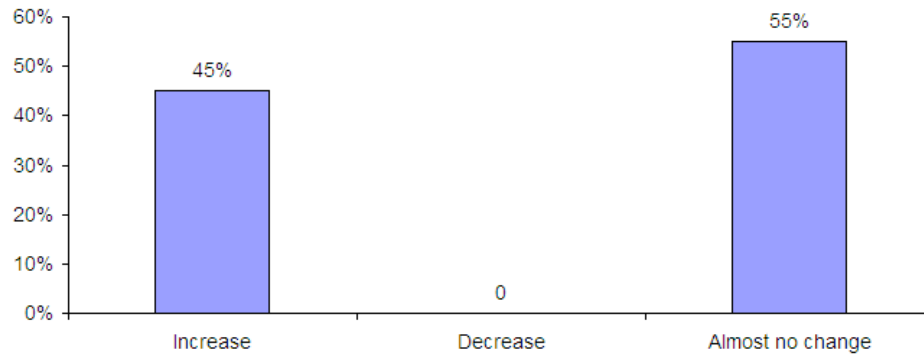


*(Source: Interview data analysis, 2015)*

As seen from Figure 17, handicraft businesses in Thua Thien Hue province self evaluated that efficiencies of their e-commerce application currently remained at average level. Noticeably, 73% of the participants in the questionnaire said that it was really difficult to see the reduction in their business expenses as their e-commerce

application was still very limited. As a result, they judged the criterion of reducing business expenses at low level (average point of 1.5).

**Figure 17. The revenue of goods and services via e-commerce channels**



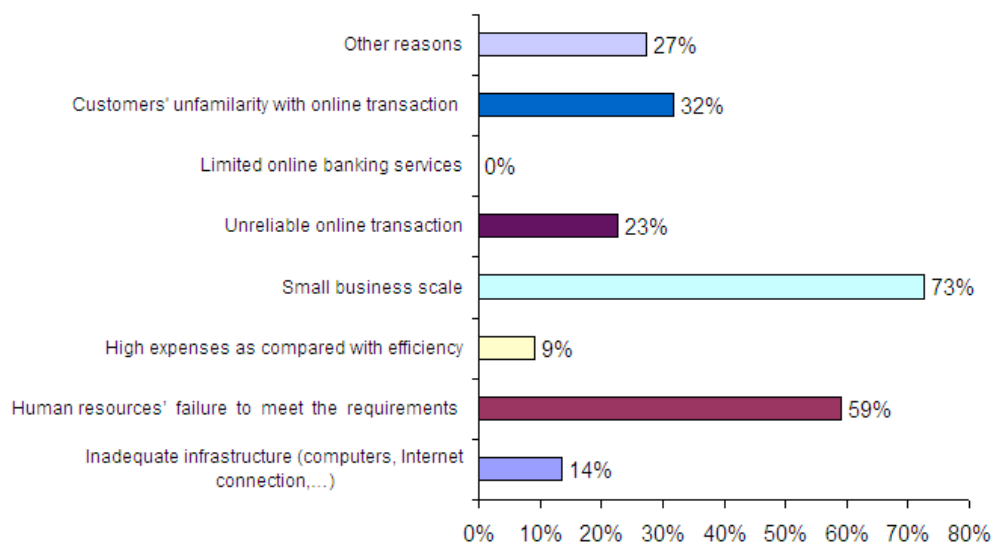
*(Source: Interview data analysis, 2015)*

As Figure 17 shows, 45% of surveyed establishments having revenue of goods and services via e-commerce channels in 2014 increased, comparing with 2013, while 55% of respondents said this revenue experienced almost no change. No respondents had decreased revenue. The results highlight that the trends of revenue from electronic means were relatively positive.

#### ***4.5. The constraints of e-commerce adoption in handicraft businesses***

Figure 18 shows the percentage of handicraft producers in Thua Thien Hue province who were surveyed to state about the different barriers leading to their low level of e-commerce adoption.

**Figure 18. Constraints of e-commerce adoption in handicraft businesses**



*(Source: Interview data analysis, 2015)*

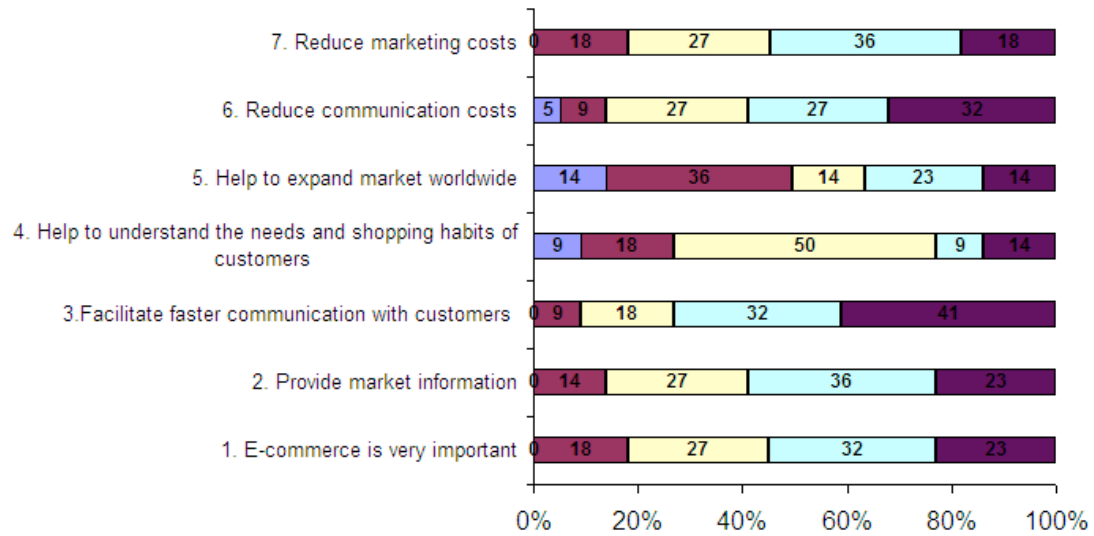
As indicated in the graph, the most popular obstacle was small business scale, which was mentioned by 73% of respondents. The followers were human resources' failure to meet the requirements and customers' unfamiliarity with online transaction being stated by 59% and 32% of establishments respectively. As for other factors, 27% of the participants replied that their business did not involve e-commerce because handicraft business needed person-to-person communication or they did not meet difficulties for their markets. The remaining constraints making up the negative reasons were unreliable online transaction, inadequate infrastructure and high expenses as compared with efficiency with 23%, 14% and 9% of respondents respectively.

#### ***4.6. Establishments' awareness of e-commerce application***

The level of awareness of establishments will have positive impacts on e-commerce application to enhance market access for their products. The current situation of establishments' awareness of e-commerce application was described in Figure 19.

According survey results on the opinions of establishments on 7 criteria, Facilitate faster communication with customers was the most popular benefit for handicraft businesses as 76% of respondents agreed with this opinion. Noticeably, there were no differences in the statements of other benefits of e-commerce such as Provide market information, Reduce communication costs and Reduce marketing costs when approximately 60% of the producers in the questionnaire agreed or strongly agreed. On the contrary, the two opinions of Help to understand the needs and shopping habits of customers and Help to expand market worldwide received the highest rate of disagreement and uncertainty, making up 77% and 64% respectively. These were resulted from the fact that handicraft producers in Thua Thien Hue province initially adopted e-commerce, thus some advanced benefits about understanding the needs and shopping habits of customers and expanding market worldwide were far from being fulfilled. In overall, just over a half of respondents agreed that e-commerce was very important for their business.

**Figure 19. Opinions of establishments about the role of e-commerce application**



(Source: Interview data analysis, 2015)

#### 4.7. Assessment of e-commerce adoption in handicraft businesses

E-commerce has the potential to promote handicrafts in Thua Thien Hue province to cross border transactions as it stimulates new market access, new business partners and benefits from lower prices and increase choices. However, the current state of e-commerce adoption in Thua Thien Hue handicraft businesses clearly indicates that the potential of e-commerce was still low.

First of all, there was a low readiness level of e-commerce adoption in handicraft businesses. Remarkably, handicraft businesses having computers came mainly from cooperatives, private enterprises and registering individual business households. This indicates that the small business scale was a significant factor affecting the readiness level. The fact is that most of traditional craft villages in Vietnam in general and in Thua Thien Hue province in particular are operating at household levels. They are widely diverse and many rely on outdated technology, thus restricting them from e-commerce adoption. For those who operate their businesses with Internet access, 81.8% of them used email but only half of them had methods of information security and data privacy. Last but not least, staffing for e-commerce in handicraft businesses was also a limitation to the level of readiness. In addition to the small business scale, the workforce including the old and the female who dominate the craft industry and are not tech-savvy at all was another negative issue.

As for the current situation of e-commerce adoption in handicraft businesses, results for e-commerce software application highlighted that there was a limited investment of handicraft businesses on softwares when three most popular softwares

used by handicraft businesses were office softwares, online tax softwares and accounting and financial softwares. Furthermore, 4 handicraft businesses owned websites among 22 establishments in the survey but only the website of Ba La rattan cooperative was still active. Although, the number of handicraft businesses joining e-marketplaces was modest in which Facebook was the most popular choice, handicraft businesses reported that they were benefited from them. Remarkably, 44% of producers in the survey used to carry on online advertising methods. These findings indicated that handicraft businesses in Thua Thien Hue province have initially adopted e-commerce for their business but the lack of IT infrastructure and human resources and poor investment restrained their efforts.

In overall, self-evaluation of handicraft businesses about efficiencies of e-commerce application demonstrated that the points of expanding channels for customer communication, promoting the image of establishment and reducing business expenses are at average levels. The trends of revenue from electronic means were relatively positive as 45% of surveyed businesses witnessed an increase in 2014 as compared with 2013. In line with the findings so far, the most popular obstacle for handicraft businesses in deploying e-commerce to enhance their market access was small business scale, following by human resources' failure to meet the requirements and customers' unfamiliarity with online transaction. This result implicated that their constraints came mainly from internal factors rather than external factors.

Finally, the low level of awareness for e-commerce application of handicraft businesses in Thua Thien Hue province was another factor which contributed to their inactiveness of taking advantages of e-commerce. As compared with other handicraft businesses in Vietnam, they were slightly better in the awareness level of e-commerce role for doing business. At present, Vietnam Chamber of Commerce and Industry has carried out the project "Support program for craft villages and enterprises in Vietnam on e-commerce adoption for sales and export enhancement". However, this program is still out of reach of many handicraft businesses in Thua Thien Hue province.

## **5. Conclusions and policy implications**

This study is conducted with the objectives of describing and analysing the current situation of e-commerce adoption in handicraft businesses from traditional craft villages in Thua Thien Hue province. Based on secondary data and primary data collected from a survey of 100 handicraft businesses from 11 traditional craft villages in Thua Thien Hue province, the main findings of the study show that they have initially adopted e-commerce for their business but the lack of IT infrastructure and human resources and poor investment resulted in the low levels for both readiness and awareness of e-commerce adoption. There were other important reasons for these low levels including small business scale and the workforce of the old and the female.

To follow up the findings outlined above, the researchers propose six interventions on promoting e-commerce adoption for handicraft businesses from traditional craft villages below:

(1) *The intervention of the government:* Researchers have pointed out that the national e-readiness plays a significant role in promoting e-commerce adoption of all stakeholders in the country (Martinsons, 2008). In addition to the role in policy formulation and regulation, the government should propagandize programs to raise awareness of handicraft businesses on e-commerce adoption. These programs should emphasize on the benefits of using e-commerce for doing business. A typical example for these programs is the project “Support program for craft villages and enterprises in Vietnam on e-commerce adoption for sales and export enhancement” of VCCI (VCCI-ITB, 2013; 2014). However, a barrier for both VCCI and craft businesses in e-commerce adoption is that craft businesses are still afraid of these supports as they do not have full information as well as the vision of the program. Therefore, VCCI should provide training courses on e-commerce for craft businesses and collaborate with them in promoting e-commerce adoption.

(2) *At provincial level:* First, authorities of Thua Thien Hue province should go hands in hands with the e-commerce strategy of the government. Secondly, to overcome the constraints of e-commerce development namely failure to gain reliability from customers and quality assurance of the products, Thua Thien Hue province should apply the successful models of encouraging traditional craft villages to adopt e-commerce in Vietnam such as the project 1102 of Ha Noi city called “digital passport”. In project 1102, the products which can be promoted in the project's distribution channels involve an evaluation process of three steps: by artisans, by the Council of the project and by the assessment and evaluation under the laws of each country in terms of quality and safety.

(3) *At local level:* Traditional craft villages should be encouraged and guided to participate in e-commerce. They should be supported with *finance* and *technology* to be able to produce high quality products, not only for domestic consumption, but also for export and selling to foreign tourists. As the readiness level and awareness level of e-commerce adoption of handicraft businesses in Thua Thien Hue province are still low, they need to be empowered with both *knowledge* and *confidence* so that they can control e-commerce activities in their business. The technical guidance should be given to the communities by the government, universities and NGOs. Meanwhile, handicraft businesses which choose to be involved in e-commerce need to have an active and equitable manner.

(4) *Human resource development policies:* At present, there are some difficulties in human resource development for e-commerce in traditional craft villages as the young people are not interested in working in rural areas and traditional crafts because

of low incomes and working conditions. However, they are the only ones who can easily master IT skills and advanced knowledge about e-commerce which are so uncomfortable for the elderly and the female who dominate the craft industry. The human resource development policies should aim at the young and try to inspire them about the needs of cultural preservation, poverty alleviation and socio-economic development in rural areas.

(5) *Formation of large scale businesses*: According to the survey results, one of the biggest challenges for handicraft businesses in Thua Thien Hue province in adopting e-commerce is their small business scale. Business entities such as cooperatives, private enterprises, registering individual business households tend to have better awareness level of e-commerce adoption for their businesses than non-registering individual business households. Therefore, local authorities should encourage and direct the formation of large scale businesses such as group of producers, cooperatives, etc.

(6) *Implementation of “One Computer One Village” program*: This program comes from Thailand where has successfully applied information technology and e-commerce to the Craft Creative Industries. In details, the OTOP project has a database ([www.thaitambon.com](http://www.thaitambon.com)) that contains general information from every tambon in Thailand, gives information on the OTOP project and can be used to facilitate sale-purchase procedures and e-commerce. Furthermore, a programme termed “One Computer one Tambon” is being implemented with the purpose of familiarizing villagers with the use of computers, the Internet and websites, thus helping rural communities to exchange information and ideas concerning raw materials, prices and markets (UNIDO, 2007). In light of the same program called “One Village One Product” which has showed its potential in Vietnam, the government should take into account the possibilities of deploying the “One Computer One Village” program at national level.

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