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CASE STUDY

The level of adoption of E-commerce by small-medium scale industries

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ABSTRACT

The empowerment of small medium scale industries must be carried out thoroughly through the provision of business development opportunities to the greatest extent so as to be able to increase the role and potential of the industries. The purpose of this study was to analyze the internal influence of the human resources competencies on technology and the organizational readiness to the level of adoption of e-commerce in craft small medium industries. The analysis used by researchers to determine the effect of each variable using multiple linear regression analysis techniques. This study shows that 79 percent of human resources owned by small medium scale industries have the expertise to operate computers and have adaptability that is fast with changes in information technology but from an organizational perspective 70 percent of them do not provide adequate information technology devices (computers/smartphones and internet networks) even though craft small medium scale industries who are respondents 100 percent understand technological change and development.

INTRODUCTION

The use of information technology in business activities is an innovative way of doing company activities to enter the market in cyberspace which is referred to as electronic business and electronic commerce (e-business and e-commerce) (Setiawati *et al.,* 2014). E-commerce is technology that mediates exchanges between individuals and organizations based on technology both outside and within the organization (Rayport *et al.,* 2003). E-commerce can provide different opportunities for small and medium industries and help them relate to the use of information technology (Al-Qirim 2007). There are accelerating trends for the implementation of

electronic commerce (e-commerce) as an extra marketing channel for selling products globally via the access of the Internet (Abukhader *et al.,* 2003). Consumers can identify the important attributes of a search goods based on an information search over the internet (Cao, 2012). The empowerment of Small and Medium Industries needs to be carried out through the widest possible development of small and medium industries so as to increase the role and potential. The presence of e-commerce specifically for businesses and small and medium industries in the city of Denpasar aims to reduce operational costs and reach a wider market so that it can compete in the current industrial revolution 4.0 era. Various benefits besides being able to reduce operational costs, encourage business growth, expand marketing networks, promotional

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facilities do not always attract the interest of small and medium industries owners in Denpasar City to utilize e-commerce. Readiness to change is believed to be important for organization in order to develop for continuity and prosperity and changes in the business environment. The core issue of organizational change is not emphasized in strategy, structure, culture or system, but on employee behavior (Jermias, 2001). Appropriate use of information technology and supported by the expertise of the personnel who operate it can improve company performance and the performance of the individual concerned (Syahroni, 2014). More higher the information technology competency of an employee, it will be able to encourage the use of technology in a company. Individual competencies are a combination of knowledge, expertise and habits that affect their performance (Moulton, 2003). Given the large opportunity for local small medium scale industries in the region to touch national and international markets, it is necessary to do research on the level of adoption of e-commerce and whether the technological competencies possessed by human resources have a positive and significant effect on the level of adoption of e-commerce in craft-specific small medium scale industries in Denpasar City. Because local craft-specific small medium scale industries, especially in Denpasar City, must be able to take advantage of the opportunities for e-commerce to seize opportunities from the digital economy era. This study was conducted in Denpasar City in 2018. The results of this study are expected to contribute ideas and input and considerations for the management of local craft-specific small medium scale industries and can be used as a study and contribution of thought for related parties in the efforts to develop and empower local craft-specific small medium scale industries in Denpasar City.

MATERIALS AND METHODS

E-commerce has changed the way companies do business, in e-commerce activities it actually implies a relationship between seller and buyer, transactions between business people, and internal processes that support transactions with companies (Javalgi *et al.,* 2001). This study aims to analyze

analyze the influence of technological competencies and organizational readiness on the adoption of e-commerce. The adoption of e-commerce by users both individuals and companies can be categorized at the lowest to the highest level, namely the level of beginners / developers / searchers where a user adopts e-commerce only to search for information, level communicators where a user adopts e-commerce only uses e-mail to communicate with business partners, a level web presence where a user adopts e-commerce using a company's website for business activities carried out at the communicator level to the highest level or transactors where a user adopts e-commerce using a company's website to all business transactions such as payment, online ordering. The respondents who were sampled in this study are 100 craft-specific small medium industries. The main requirements for measuring viable samples in the study are 30 to 500 (Sugiyono, 2013). If calculated by the Slovin formula the number of samples in this study are as Eq. 1

$$n = \frac{N}{1 + Ne^2} \tag{1}$$

$$n = \frac{816}{1 + 816(01)^2} = 99{,}877 = 100$$

Where,
n = number of samples
N = population
e = error tolerance limit (error tolerance)

The variables to be measured are described as indicators of variables, then the indicators are used as starting points for compiling instrument items that can be statements or questions (Setiawati *et al.,* 2014). The technology competency variable (X1) states that competence towards technology significantly influences the use of technological applications in the company (Seyal *et al.,* 2002). The higher the IT competency, the more in line with the intensity of its utilization. The organizational readiness variable (X2) includes adequate computer system infrastructure in a company to access the internet without problems (Seyal *et al.,* 2002). Table 1 shows the research variables and indicators.

Table 1: Research variables and indicators

Variable		Indicator
Technology competency (X1)	1.	Knowledge about computer
	2.	Knowledge about *e-commerce* benefits
	3.	Aadaptability ability of human resources
Organizational readiness (X2)	1.	Understanding of technology
	2.	Financial resources
	3.	Adequate technological devices
	4.	Readiness accepts risk
E-commerce adoption (Y)	1.	Searching business information over the internet
	2.	Communicator
	3.	Use of websites for marketing
	4.	Transactions via the internet

Table 2: Assessment variable competence technology

No.	Statement	Percentage
1	Human resources has expertise (knowledge and ability) to operate computer	79
2	Human resources has adequate knowledge about *e-commerce*	70
3	Human resources has ability rapid adaptablity with change technology information	41

Table 3: Assessment variable organization readiness

No.	Statement	Percentage
1	craft-specific small medium scale industries understands change and development technology	31
2	craft-specific small medium scale industries has adequacy financial resources for adopt e-commerce	23
3	craft-specific small medium scale industries provides device of technology information that is adequate	30
4	craft-specific small medium scale industries is ready receive risk posed by e-commerce adoption	32

Table 4: Assessment variable adoption of E-commerce

No.	Adoption level	Percentage (%)
1	communicates with consumer and *supplier* through *e-mail*	89
2	markets product through *website*	40
3	Activity booking and payment do through the internet	40

RESULTS AND DISCUSSION

In accordance with Weltevreden *et al.* (2011) retailers at city district centres should take a more proactive stance towards e-commerce. Based on Table 2. Human resources technology competencies possessed by craft-specific small medium scale industries in Denpasar City in operating computers is 79 percent but the ability to adapt to changes in information technology is low at 41 percent. The assessment of technology competency variables shows that the majority of craft-specific small medium scale industries have human resources who have the knowledge and ability to operate computers and have adequate knowledge of e-commerce even though not 100 percent.

Based on Table 3, organizational readiness of craft-specific small medium scale industries in Denpasar City in understanding technological change and development is equal to 31 percent. Craft-specific small medium scale industries that have financial resources to adopt e-commerce are only as big as 23 percent. Sequentially by 30 percent of craft-specific small medium scale industries that provide an adequate technological devices and 32 percent of craft-specific small medium scale industries is ready to accept the risk posed by the adoption of *e-commerce.*

Table 5: Results of regression analysis and hypothesis testing

	Coefficients[a]					
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-, 603	, 877		-, 687	, 494
	Technology Competency	, 605	, 120	, 423	5,021	.000
	Organizational Readiness	, 329	, 058	, 476	5,647	.000

a. Dependent Variable: Level of Adoption

			Model summary	
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	, 845 [a]	, 714	, 708	1,369

a. Predictors: (Constant), Readiness organization, competence Technology

Based on Table 4 after processing the data to get an assessment of the level of e-commerce adoption in craft-specific small medium industries, it is known that from the whole craft-specific small medium scale industries 89 percent communicate with consumers and suppliers via email. This means that the majority of respondents answered strongly agree if they had used e-mail to communicate with consumers and suppliers precisely 89 percent while the remaining 11 percent was explained by other variables outside the research model. Then each 40 percent of craft-specific small medium scale industries markets products through the website and conduct ordering and payment activities through the internet.

The influence of technology competency and organizational readiness on e-commerce adoption rates is based on Table 5, the coefficients show that human resources technology competencies and organizational readiness have a significance value of 0,000 with a significance degree of 0.1 (0,000 <0,1) which means there is a significant influence of competency technology possessed by human resources and organizational readiness of craft-specific small medium scale industries on the variable level of adoption of e-commerce. Based on the results of inferential analysis, in this study based on Table 5 it can be explained that if technological competencies are getting better, they will increase adoption. The coefficient of determination (R square) aims to find out how much the ability of independent variables explains. The dependent

variable. However for multiple linear regression, using the coefficient of determination that has been adjusted, because it is adjusted to the number of independent variables used in the study. In Table 5, the adjusted R square value is 0.708. This means that the magnitude of the influence of technology competency variables and organizational readiness on the level of ecommerce adoption rate is 70.8 percent and the remaining 29.2 percent is explained by other variables outside the variables used in this study.

CONCLUSION

The influence of the technology competency variables of human resources owned by craft-specific small medium scale industries and organizational readiness from craft-specific small medium scale industries to the level of e-commerce adoption was 70.8 percent, this value is obtained based on SPSS output where the coefficient of determination has been adjusted is 0.708. The adoption rate of craft-specific small medium scale industries e-commerce in Denpasar City is still at the level communicators. Not a few craft-specific small medium scale industries expressed an interest in e-commerce but it did not mean that they decided to adopt it, gathering information about how an innovation might affect existing processes and operations needs to be carried out by the local government. Programs training for craft-specific small medium scale industries in using technology will be very useful. However, the first step that needs to be

taken in order the increase in e-commerce adoption by craft-specific small medium scale industries is by provide awareness of the potential of e-commerce in support business processes. With this awareness, then other activities will be able to run easily and successfully.

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CONFLICT OF INTEREST

The author declares that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy have been completely observed by the authors.

ABBREVIATIONS

X1	Technology competency
X2	Organizational readiness
Y	E-commerce adoption
R	the correlation between the predicted values and the observed values of Y
R square	Coefficient determination
Std. Error	Standard error
T	Test statistic
Sig.	Statistical significance
%	Percentage

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