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Abstract

The advent of E-commerce opens an opportunity for fostering an environment that promotes the globalisation of markets throughout the world, especially those in developing countries like Indonesia. The importance of trust as a key facilitator of E-commerce is increasingly being recognized in academic and practitioner communities. However, empirical research in this area has been overwhelmed by contradictory conceptions of the trust construct, while inadequate attention has been paid to the influence of trust constructs on E-commerce development in different cultural environments and settings. Within these constructs, a number of consumer characteristics – such as gender and age – potentially might affect trust levels. It is therefore this initial exploratory study examines whether consumer trust appears to vary by gender, and age on E-commerce development in Indonesia. A series of paired sample t-tests and ANOVA were carried out to determine whether there was any significant difference between levels of confidence (or any significant difference in the expected problems) between Indonesian and non-Indonesian websites. It is the author's intention to investigate other characteristics in future studies.

Keywords

E-commerce, Trust, Developing Countries

Disciplines

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ABSTRACT

The advent of E-commerce opens an opportunity for fostering an environment that promotes the globalisation of markets throughout the world, especially those in developing countries like Indonesia. The importance of trust as a key facilitator of E-commerce is increasingly being recognized in academic and practitioner communities. However, empirical research in this area has been overwhelmed by contradictory conceptions of the trust construct, while inadequate attention has been paid to the influence of trust constructs on E-commerce development in different cultural environments and settings. Within these constructs, a number of consumer characteristics – such as gender and age – potentially might affect trust levels. It is therefore this initial exploratory study examines whether consumer trust appears to vary by gender, and age on E-commerce development in Indonesia. A series of paired sample t-tests and ANOVA were carried out to determine whether there was any significant difference between levels of confidence (or any significant difference in the expected problems) between Indonesian and non-Indonesian websites. It is the author's intention to investigate other characteristics in future studies.

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INTRODUCTION

Electronic commerce (E-commerce), as one of the most expeditious achievements in Information Technology, is causing fundamental changes in way business is conducted. The rapid growth of E-commerce signals the advantages that E-commerce may offer to businesses. These advantages include diffusion of information, development of new technologies, the promotion and sales of products and services, and collaboration between those in a supply chain (Plant, 2000). E-commerce also opens an opportunity in fostering an environment that promotes the globalisation of markets throughout the world, especially those in developing countries like Indonesia.

The importance of trust as a key facilitator of E-commerce is increasingly being recognized in academic and practitioner communities. In E-commerce transactions, the consumers' perception of the business legitimacy and trustworthiness are critical, since transferring trust from the physical world to the electronic version is a process that requires an adequate trust infrastructure (Gritzalis and Gritzalis 2001). However, empirical research in this area has been overwhelmed by contradictory conceptions of the trust construct, while inadequate attention is paid to the influence of trust construct on E-commerce development in different cultural environments and settings. It is, therefore, the aim of this paper to address the gap by providing an exploratory study on the influence of trust to E-commerce development in Indonesia. The aim of this study was to determine whether gender and age of Indonesian E-commerce users had differing levels of confidence of Indonesian web-sites as compared to international web-sites.

E-COMMERCE IN DEVELOPING COUNTRIES

Developing countries are increasingly utilising Information Technology (IT) to solve their developmental problems. Lending for IT by the World Bank has been growing at six times

the growth rate of total Bank lending, and it is present in 90% of the Bank's lending operations (Kenny and Lewin, 2004). The extent of IT's impact on World Bank development efforts has been rated great or very great by 79% of projects (Hanna 1993, Kenny and Lewin 2004).

However, overall use of e-commerce in developing countries remains at a very lower level compare to developed countries. For example, International Telecommunications United has reported that in 2003, the personal computer ratio per 100 inhabitants in Asia Pacific countries is 52.18 for high-income, 40.67 for medium-income and 1.97 for low-income countries (International Telecommunication Union (ITU) 2004). Developed countries today 10.74 have internet hosts per 100 inhabitants compared to just 0.02 internet hosts per 100 people in developing countries. Teledensity (main lines per 100 inhabitants) is 54.59 for developed countries and 0.18 for the least developed countries (LDCs). There are also enormous differences in access to telecommunications both between and within developing countries. For instance, while in developing countries a considerable proportion and sometimes the majority of the population lives in rural areas, over 80 percent of the main telephone lines are located in urban areas (Chinn and Fairlie 2004).

IT AND E-COMMERCE IN INDONESIA

Indonesia, as the focus of this study, is regarded as one of the developing countries within Southeast Asia region also facing the typical problems in terms of IT development. For example, the latest information provided by World Bank (2004) shows that the total number of personal computers (PCs) per 1000 people in Indonesia is approximately 12 units, far below other neighbouring developing countries such as Malaysia and Thailand (Figure 1).

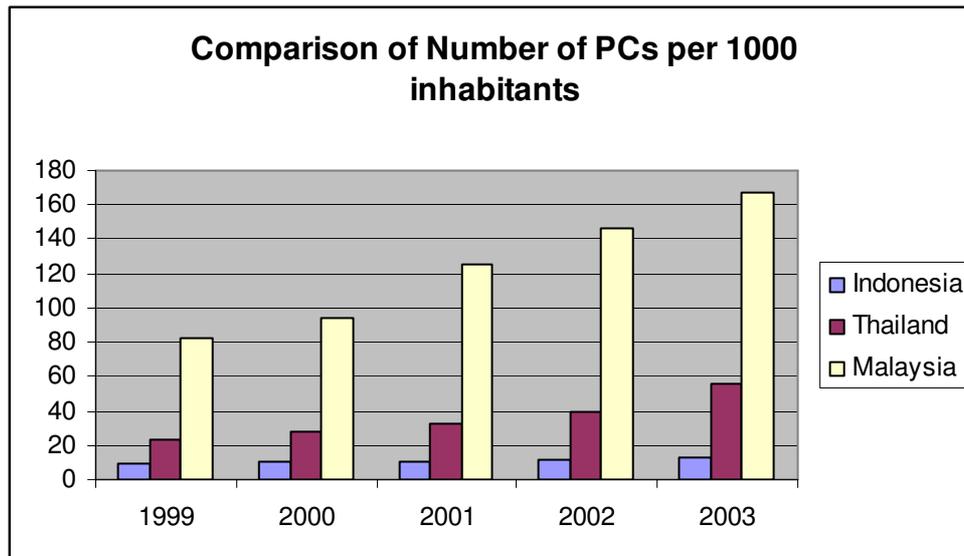


Figure 1. Number of PCs penetration in Indonesia, Thailand and Malaysia

(Source: World Bank Group, 2004)

In order to overcome low computer penetration rate problems in Indonesia, the government has proposed a new policy to stop importing used PCs in order to give opportunities for Indonesian entrepreneurs to assemble PCs at reasonable prices (Anonymous, 2004). It is the aim of this policy to support the development of SMEs in Indonesia as well as act as an encouragement for creating a new environment that is conducive to promoting the use of IT in Indonesia.

Indonesia can be said to be slowly joining the information superhighway. Dial-up connections are still the predominant method for consumers seeking to connect to internet. For Indonesia to achieve real benefit from internet, the nation must not only bring the internet to its vast rural population, but use the internet to bridge the many hundreds of islands. By doing so, Essential educational, medical, and agricultural information could be distributed from the urban core to remote destinations via internet terminals in central locations. However, due to the geographically condition of Indonesia as an archipelago country, development of fiber-optic-based backbones remains a difficult hurdle to overcome.

Therefore, before the E-commerce can have a meaningful impact, Indonesia must first overcome a weak infrastructure.

Furthermore, the commercial use of internet in Indonesia is growing slowly. One of the greatest impediments to E-commerce is the limited number of Indonesians with credit cards. Also, for those who have cards, many banks require the card owner's permission (via telephone call prior to each internet purchase) to avoid credit card fraud.

TRUST IN E-COMMERCE

The studies on trust have been crossing a wide variety of disciplines. While customer trust has been studied extensively by marketing and management researchers and psychologists, it has also become relevant to researchers and marketers who study Information Technology, with e-commerce in particular. Shapiro et al (1992) suggested that while trust included grounded knowledge of business partners and mutual empathy, a necessary first step was that all parties needed to have trust in the infrastructure being used in business dealings. Further studies (Keen 2000, Ratnasingham 1998) suggest that trust in the infrastructure and technology of E-commerce is mandatory in order to allay fears of security breaches etc. Indeed, these studies have shown that failure of technology has an immediate impact both on the level of interaction as well as the level of enthusiasm to conduct business.

USER CHARACTERISTICS: THE RESEARCH PROPOSITIONS

Proposition 1: One's age significantly influence his/her trust on purchasing online

For many years, researchers argued that aging had impact on one's perception about technology (Morris and Venkatesh 2000). Further study conducted by Chen and Dhillon (2003) also supported the above idea by including age as one of customer characteristics that significantly impact the development of trust in e-commerce.

Proposition 2: One's gender significantly influence his/her trust on purchasing online

While numerous previous studies have examined the impact of one's gender impact on online trust in developed world (Chen and Dhillon 2003, Kolsaker and Payne 2002, Lee and Turban 2001, Slyke et al. 2004), few have sought its phenomenon in developing countries like Indonesia. Furthermore, an earlier study conducted by Wells and Chen (1999) explained gender differences in trust and scepticism toward online shopping. In their study, they found that men have greater trust in internet shopping and perceived the internet as a more convenient shopping outlet than women.

METHODOLOGY AND PROCEDURES

As indicated, the primary focus of the study was to determine whether user's age and gender had an impact in the level of trust, by Indonesian internet users, between websites within Indonesia and websites elsewhere. As such, the sample population were current users of the internet. A questionnaire was developed. The questionnaire asked whether the respondent had purchased from any website at all. For those that have purchased over the internet, respondents were asked to rate their own trust in Indonesian websites and International websites across a 5 point Likert scale, the answers being 1- I strongly agree with putting my trust in the website and 5- I strongly disagree that I can put my trust in the websites.

The questionnaire was sent by e-mail to 450 Indonesian university students and graduates. The e-mail stated the purpose of the research and included a list of questions of the questionnaire.

RESULT

Responses were obtained from 155 individuals, giving a response rate of 34 percent. 106 respondents indicated that they had purchased using the internet, and figure 2 indicates the

demography of the respondents. An examination of the responses showed that all of the respondents that had purchased through the internet had answered the questions concerning trust of the e-commerce. The data was exported to the SPSS statistical package.

Age	25 and below	26 - 30	31 - 35	36 and above	
	22	59	42	32	
Gender		Male		Female	
		100		55	
Number of hours on Internet	< 3	4-10	11-20	21-30	>31
	14	34	35	37	35
Purchased on internet		Yes		No	
		106		49	

Figure 2. Demography of the Participants

For each of the website groupings (Indonesian and non-Indonesian websites), respondents were asked their level of confidence and their expectation of problems across a 5 point Likert scale. In order to provide a general overview of the response, figure 3 shows the differences in the level of confidence between Indonesian website usage and non-Indonesian website usage using a paired sample t-test.

Indonesian website usage	Std. Deviation	Non-Indonesian website usage	Std. Deviation	t	Sig.
Mean		Mean			
3.29	1.075	2.55	0.994	-6.913	0.000

Figure 2. Response on Confidence

Furthermore, a series of analysis of variance (ANOVA) was carried out to determine response differences in the confidence level based upon gender in purchasing from Indonesian versus non-Indonesian websites.

Figure 4 shows the differences in male and females' level of confidence between Indonesian website usage and non-Indonesian website usage.

	Male	Female	F	Sig.	Interpretation
Indonesian Website	3.25	3.36	4.544	.035	Significant
Non-Indonesian Website	2.43	2.78	.458	.531	Not Significant

Figure 4. Gender Response on Confidence

Finally, in relation to the influence of customer's age influence on level of confidence between Indonesian and non-Indonesian website usage, figure 4 shows the result of the analysis. The finding shows that significant relationships between customer's age and their level of confidence in the website usage exist both for Indonesian and non-Indonesian website.

		Mean	F	Sig.	Interpretation
<i>Confidence on Indonesian Websites</i>	25 and below	2.73	5.115	.033	Significant
	26 - 30	3.19			
	31-35	3.33			
	36 and above	3.81			
	Total	3.29			
<i>Confidence on Non-Indonesian Websites</i>	25 and below	2.64	2.984	.002	Significant
	26 - 30	2.31			
	31-35	2.57			
	36 and above	2.94			
	Total	2.55			

Figure 5. Age Response on Confidence

DISCUSSION

An examination of figure 3 shows that there is a high statistically significant difference of trust between the Indonesian website and non-Indonesian website use.

Reported in figure 4, there is no significant relationship between gender and confidence level on non-Indonesian website usage is evident and this finding is inconsistent with the previous studies which indicate that one's gender is significantly influence his/her trust in purchasing online (Wells and Chen 1999). However, a significant relationship found in Indonesian website usage and this would suggest that there are differences between Indonesian male and female level of confidence in using the Indonesian website. Interestingly, the figure shows that the mean for both male and female are above the median value of 3. This reflects the lack of trust of Indonesian users in purchasing product from Indonesian company over the internet, compared to those from non-Indonesian website which shows the mean below median value of 3.

In contrast with the finding above, figure 5 shows significant relationship between one's age and his/her level of confidence both in Indonesian and non-Indonesian website usage. This is similar to the Morris and Venkatesh (2000) as well as Chen and Dhillon (2003) findings on online trust. However, it is interesting to note that the lowest level of confidence is differing between Indonesian and non-Indonesian website usage. For Indonesian website usage, the lowest mean falls within the group age of 25 years old and below. While for the non-Indonesian website usage, the lowest mean falls within the group age of 26 to 30 years old, which is the group of age that have the highest number of respondents had purchased from internet.

Furthermore, an early study by Evers & Day (1997) concluded that users were more inclined to use technology that was adapted to their culture. While this study is in no way attempting

to reconstruct the Evers and Day approach to Indonesian E-commerce users, the study does show that fundamental to any E-commerce activity is the need for online trust. Clearly, despite Indonesian websites being developed for the Indonesian user, inherent problems both with technology as well as the business culture have reduced the impact and trust in the use of those sites.

While the survey did not look specifically at other problems - such as credit card use, number of computer use in Indonesia and so on - it is obvious that the average Indonesian user of E-commerce does encounter serious problems purchasing from Indonesian websites compared to non-Indonesian website.

Finally, it appears that the perception by Indonesian users of international websites is that they have a better infrastructure both in terms technology as well as legal/financial frameworks providing a greater level of confidence in E-commerce usage. This would tend to support the views of Tillquist (1997) and Rose and Straub (1998) who suggest that cultural biases play a role in technology acceptance.

CONCLUSIONS

This paper has presented a preliminary study examining the influence of customer characteristics - that is age and gender- influence on online trust on E-commerce development in Indonesia through a series of paired sample t-tests and ANOVA. The findings suggest that there appears to be differences in the level of trust in infrastructure of Indonesian websites compared to international websites. This is reflected through the analysis of the confidence and expected problems gathered from the questionnaire's responses.

Furthermore, the quantitative analysis of the survey also found that there is no significant influence of gender on Indonesian level of confidence in purchasing product from non-Indonesian website. This findings in contradict to the previous studies on gender and online

trust on e-commerce. However, in contrast with the findings on gender, the study found to be aligned with previous study on age and online trust that claims one's age does significantly influence on his/her level of confidence in purchasing online.

The results of this study are useful not only for government bodies but also for businesses, in developing countries such as Indonesia, which have economic reasons to be concerned with the development of Ecommerce for businesses.

In moving forward, further studies need to be done to examine other factors – such as education, number of hours on internet, sector of business and so on - that may affect trust in the infrastructure of E-commerce in Indonesia. Furthermore, a comprehensive set of standard measures should be developed for each factor, allowing for fair comparisons among countries.

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