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Abstract

Organizational culture is an important factor in organization development process. This paper explores the culture issue in the new technology age. Adopting Ruppel's new culture framework developed from traditional perspective on culture the paper tested the culture difference between organization with intranet and without intranet. Using Confirmatory Factor Analysis method with Lisrel the paper explored the research area on culture and extended the usage of Lisrel into MIS area. The result showed that organizational culture in the traditional and E-commerce Company is different in the ethical value. The research result showed that the culture is changing in the process of adopting new technology in organization, which may raise the attention of changing the management methods due to differences in culture.

1. Introduction

Internet and e-commerce can be claimed as the greatest changes in the 90th. "Starting from basically zero in 1995, total electronic commerce is estimated at some $26 billion for 1997; it is predicted to reach$330 billion in 2001-02 (near term) and $1 trillion in 2003-05 (future)" [18]. Till now e-commerce keeps growing and penetrating in almost every perspective of social and the business area. In line with the fast growth of information technology and internet, more and more company has adopted or is exploring the feasibility of adopting the advanced information technology to enhance the enterprise knowledge management and hence the performance of the company. IT has become the major success factor of the corporations in the turbulent competitive business environment. Peter Drucker predicted in 1988 "The typical large business 20 from now, will have half the levels of management and one-third the managers of its counterpart today"; "Businesses have little choice but to become information-based" [4].

With the development of e-commerce many concerns come out either to produce the hinder the process of electronic business. Since e-commerce penetrates into many aspects of the industry many factors will be influenced by electronic commerce. On the definition of e-commerce, different party has different perspective,

"Depending on whom you ask, electronic commerce has different definitions…" [14]. According to Dow Johns definition about e-commerce, an e-commerce company is different from traditional companies mostly on how much part of its revenue comes from electronic transactions [10]. But there should be other things that are different from revenue since an e-commerce company is different from a traditional company in many ways. These differences will affect the unseen factors under a company or organization. Organization culture is one factor that gains a lot of attention in recent years [15] [3] [11][8][16]. Though many researches devoted to identify out the relationship between organization growth and organization culture, few have paid attention to the culture in the newborn e-commerce company. Some researches have discussed the role of organization culture in the process of adopting advanced technology, such as intranet [3], TQM [2], and other technologies [8]. In Rupple's discussion, Setting up an Intranet within the organization will not only save the cost of transaction within organization but also enhance the efficiency of communication and expand the extent of communication within organization. Thus Intranet will reduce the hierarchy of the organization and influence the culture of the organization. But culture in turn will influence the adoption of Intranet. "Without a match between the culture of an organization and the cultural assumptions embedded in an IT innovation, a costly implementation failure is likely to occur" [22]. Since human's behavior in face- to- face environment is different from the virtual environment, the employee's behavior in e-commerce company environment will be different from the common company environment. For instance, evidence shows that people in non-face-to-face environment will more willingly to tell the talker truth, which mean that the communication within a virtual community will more real and effective. Thus the culture of the e-commerce organization will be different too. Due to Internet and e-commerce some aspects inner the organization must have been changed but what's been changed and what's not, and if some aspects changed how to identify such changes are also a question. Intranet changes the communication style among people and enhanced the effectiveness of communication among people too. In one aspect it must have some effect on culture. Ruppel pointed out that culture within the organization will first

affect the implementation and operation of Intranet then in turn will be affected by Intranet after successfully implementing the Intranet [9]. Such phenomenon raises the questions as what the culture difference is between e-commerce companies and traditional companies. What kind of culture is more obvious and thus helpful in e-commerce companies? How to find out the difference and what kind of difference between e-commerce organizations and traditional one? Answers to such questions are meaningful for managers in e-commerce companies. Identify out how and in what way the electronic transactions mode will affect an organization's culture structure will be very beneficial to those who want to manage their companies well and those who want to setup their business in electronic commerce area.

Thus this paper try to find out the culture dimensions in the e-commerce companies and compare the culture difference between e-commerce companies and traditional companies. Gordon used CFA (Confirmatory Factor Analysis) to compare self-other disagreement between self-rating and other-rating score and give a useful and easy approach in comparing two groups or two sources. This approach can also be applied to compare any form of disagreement between two sources [6]. This paper is to identify the difference of the culture in e-commerce companies and show a new method from different aspect to do research on cross-group research. Also this method is new to MIS research. Our two sources here are e-commerce companies and traditional companies.

2. Literature Review

To illustrate our discussion, we first need to make clear what's our subject to be involved, that is, we first must make a clear definition on electronic company companies. They are many definitions about e-commerce since the first time it come.

"Depending on whom you ask, electronic commerce has different definition.

From a communications perspective, Electronic commerce is the delivery of information, products/services, or payment over telephone lines, computer networks, or any other electronic means.

From a business process perspective, electronic commerce is the application of technology toward the automation of business transactions and workflows.

From a service perspective, electronic is a tool that addresses the desire of firms, consumers, and management to cut service costs while improving the quality of goods and increasing the speed of service delivery.

From an online perspective, electronic commerce provides the capability of buying and selling products and information on the Internet and other online services" [14, p.3]. Turban put up with the definition

pure versus partial electronic commerce [5, p.5]. A more attractive view is from Dow John index, according to its definition, "It will include only companies that generate a minimum of 50 percent of their revenue from the Internet. The DJII will be made of two subindexes: "Internet Commerce" and "Internet Services." These 40 stocks represent 80 percent of the market capitalization of Internet stocks." According to this definition, only 25 companies in services section and 15 in commerce section. Though it is only restricted into the companies with initial publishing the definition could be extended to companies that didn't not have initial publishing but will have 50% or more of their annual revenue comes from Internet.

Culture concept played a key variable in the success or failure of organizational innovations and will enter its third decade of active life in the field of organizational studies [11]. On the reviewing of recent literature on organization we could find many on implementation issues of organizational culture. A lot of researchers linked the culture with the innovation in the organization. Some of them directly discussed the role of culture in the process of technology implementation or technology transfer or organizational performances. Ben and Rabi discussed the influence of the culture on the process of the technology transferring and pointed out that organizations with similar culture is easy to transfer technology inter-organizations [2]. Ruppel point out that on the process of sharing knowledge through intranet organizational culture has an important effect in the initial state of implementing intranet. [3]. James and Roger wrote a paper on the current organizational culture dimensions that occurred in recent organizational culture literature and identified out 8 dimensions [11]. Gregory and Christopher pointed out that though it doesn't have a direct effective in the implementing advanced manufacturing technology, organizational culture do act and have an effect in the long run during the process of technology implementation [8]. Ruppel [3] did some research on culture's effect on the success implementation of Intranet and pointed out that trusting and ethical culture is very important on the encouragement of sharing tacit knowledge over Intranet, which implied the success of the implementation of Intranet. Ruppel also suggested that that the people-based issues such as culture are increasingly important, and they represent a significant potential barrier to effective use despite the adoption of the technology. In his study he validates the need for the study of organizational culture as a factor in the adoption and implementation of IT innovations such as Intranets, as well as other types of innovations designed to facilitate communication. Even after implementing the Intranet successfully, mismatches in culture will still reduce the effect of the Intranet [3]. When talking about the relationship between organization design, organization culture and AMT (Advanced Manufacturing Technologies), Zammuto and

O'Connoh think the AMT failure is concerned with organization design and culture serve as a constrain. Given all these literature on organizational culture and technology aspect of organizations we can conclude that culture have relationship with the technology aspect of an organization. Turning the view to the E-commerce companies, which relies highly on Internet to conduct business, it isn't hard to relate organizational culture with electronic companies. My concern is a) will the organizational culture in E-commerce companies be different from the traditional companies? b) if different, in what aspect or what dimension will it be different? Except above literature, in psychology and management field, there are many research on cross-culture research and cross-group research at organizational level. They provide very good methodological framework in conducting research or culture or cross-culture research [21] [6] [7]. This paper will use the cross-group research methods to compare and identify the culture difference between E-commerce companies and traditional companies.

In the definition of culture there are voices from many researchers [9][13]. "Careless utilization of the concept, for instance, refers the sharing of language, nationality, race, religion, and so on…" [9, p.110]. "Culture exists at three levels of abstraction: assumptions, values, and artifacts. The essence of culture is the set of basic assumptions that people share regarding such things as human nature, social relationships, and relationships among social institutions and their environment. " [13]. Researchers conducted analysis about culture at three levels, and values are more accessible than assumptions and more reliable than artifacts [13]. Wiener pointed out that shared values system is one of core measurable components of organizational culture [23]. Culture can be conceptualized and quantified as shared values in organization environment. Values in culture represent symbols, norms, and other culture activities around them [12]. When conducting empirical researches or organizational culture, lots of researchers analyze it at values level [15][3][11][8][17][20]. The most useful model for organizational culture at values level is the Competing Values Model (CVM) developed by Quinn, R.E and Rohrbaugh in 1983 [19]. Though there are other dimensions or frameworks for organizational culture analysis, for instance, in Chatman and Karen's paper, 7 dimensions of organizational culture, innovation, stability, people orientation, outcome orientation, easygoingness, detail orientation, team orientation [12], based on extant literature on organizational culture, Schroeder and Mauriel synthesized 8 dimensions for organizational culture, the basis of truth and rationality in the organization, the nature of time and time horizon, motivation, stability versus change/innovation/personal

growth, orientation to task & coworkers, isolation versus collaboration/cooperation, control, coordination, and responsibility, and orientation and focus – internal and /or external [11], these dimensions are reflected that dimension in competing value model and is not so structured as CVM, which experienced content and construct validity [3]. So we will use CVM model as the basis of our analysis. Next section we will briefly introduce the competing values model.

2.1 Competing Values Model

Quinn's competing values model is initially developed for the organizational effectiveness [19]. While conducting research on effective organizations Quinn found out that there are two dimensions similarly exist underlying effective organizations. The first dimension is flexibility-control and the second is internal-external. Flexibility –control axis focus on the changes in the organization and varies along the axis from flexible to controlled or structured mechanism. Internal-External dimension is related to organizational focus and is concerned with activities existing internally or externally. Internal focus emphasizes the changes in the existing organization and the external focus emphasizes the reaction to the competition, adaptation and interaction with the external environment. A quadrant organizational type is generated through crossing these two dimensions at the center (Figure 1). Each quadrant has its own means and ends. "Quinn and Kimberly subsequently argued that the competing values model could be used to 'explore the deep structures of organizational culture, the basic assumptions that are made about such things as the means to compliance, motives, leadership, decision making, effectiveness values and organizational forms'" [20, p.711].

The above quadrant will exist in organizations. An organization couldn't have only one dimension. When the organization maintains a balance among four quadrants it will maximize its effectiveness. Though this four dimension measures the culture well but it may miss something that Internet-based culture have. For instance trust between employees "openness and honesty, sincere service attitude toward membership," and a "high trust culture for shared learning" dimension of ethical work climate, with respect to Intranets and the organizational culture [3]. Ruppel developed a new measurement framework that includes ethics and trust measurement within organization. Hence we have a five-dimension culture construct. Figure 2 shows the dimensions of organizational culture from Rupple's model. In Rupple's model an additional dimension Ethical is added to values the culture with openness and trust.
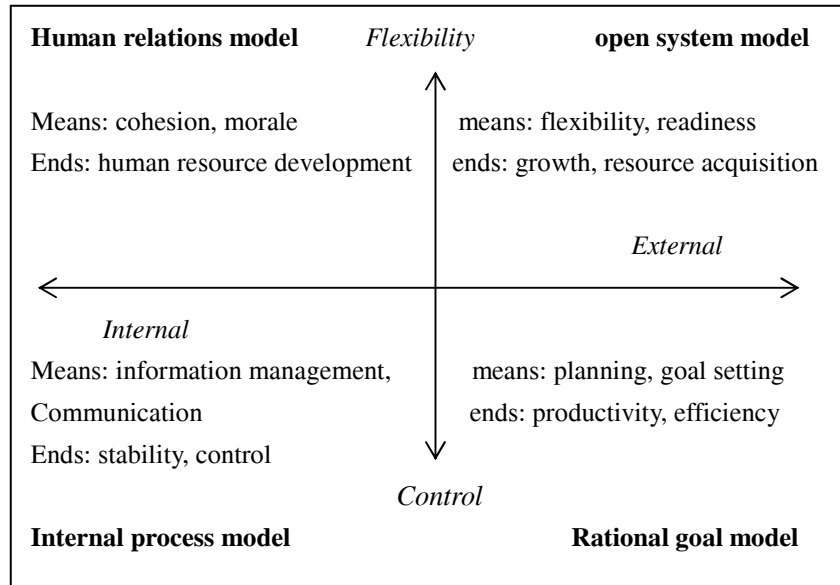
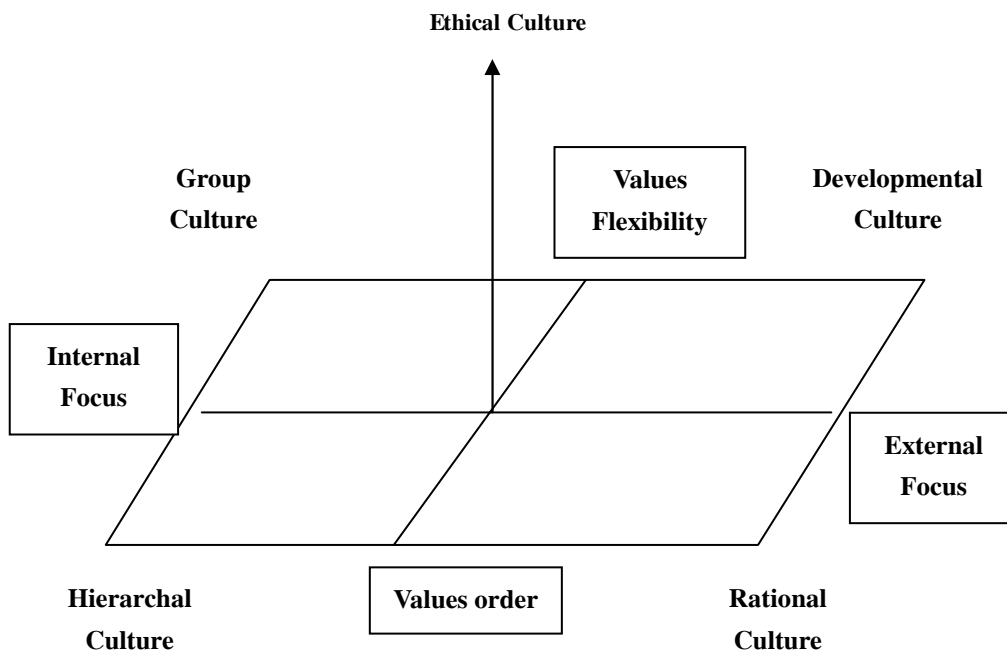Figure 1. Competing Values Model: Organizational Effectiveness

Figure 2.   Rupple's culture dimension extended from Competing Values Model

In above figure e-commerce companies have five dimensions to measure organizational culture A development culture is a culture values flexibility and external focus [3]. An organization showing strong developmental culture will be adapted and change to external environment flexibly when face turbulent and complex external environment. A group culture values flexibility and have an internal focus. An organizational showing strong group culture will focus on the human resource development, cohesive alliance between organizational members, organizational development. A hierarchical culture is control-based and has an internal focus. An organization showing strong hierarchical culture will values structural systems, policies and rules in organization and it will not adapted rapidly to the change in the outside environment. A rational culture is control oriented and has an internal focus. An organization showing strong rational culture values order and rightness of organization action. The managers in rational culture organization will always adopt actions

that will lead the organization to maximize the profits or productivity of organization. Though group culture reflects some kind trust between organizational members it could not replace the position of ethical culture. "While the competing values framework describes values often used for decision making, it does not include specific measures for trust and an ethical work environment" [3]. Thus our organizational culture will have five dimensions to measure E-commerce companies. Figure 3 is the measurement model of the new organizational culture.
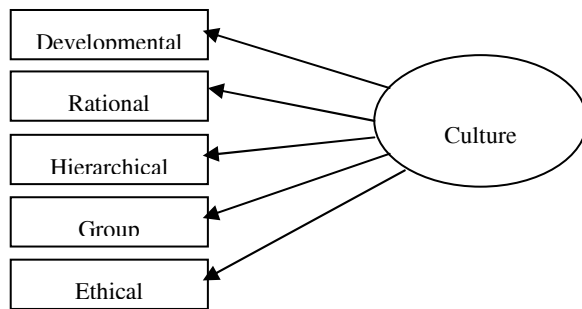

Figure 3 the culture dimensions

3. Hypothesis

Through the literature review we know that for an organization to maximize its effective the organization will have a balance in all the five dimensions. An organization couldn't have only one culture type. And different organization will show different degree of culture types to maximize its performance [17]. In Rupple's empirical studies during developmental culture and ethical culture have an positive effect during the process of intranet implementation. Group culture, rational culture and hierarchical culture have no direct effect to facilitate the process of intranet implementation. According to Rupple's explanation the group culture's effective will appear in the long run. This point is the same as the result of Stock [8], who conducted an empirical study on the role of organizational culture for external focus culture will be strong in E-commerce companies. Thus we will give our hypothesis 1 & 2.

H1: Developmental culture in E-commerce is different from those in the traditional companies.internet, an environment that is changeable, flexible and technology oriented. Also through internet it must have

H2: Group culture in E-commerce is different from those in the traditional companies. the AMT (Advanced Manufacturing Technology). E-commerce companies conduct business through rich communications with outside world. That means an

At the same time, Internet will values trust when conducting business since people interact with each other through a virtual channel instead of face to face. Thus we give our hypothesis 3.

H3: Ethical culture in E-commerce companies is different from those in traditional companies.
For rational culture and hierarchical culture studies related with technology implementations showed that it is not very strong in organizations values innovation and technology and creation. Thus we give our Hypothesis 4 and 5.

H4: rational culture in E-commerce companies is the same as those in traditional companies.
and technology and creation. Thus we give our Hypothesis 4 and 5.

H5: Hierarchical culture in E-commerce companies is the same as those in traditional companies.

4. Research Methodology

In this study we first use sample survey to conduct the data collection, then use CFA-based (Confirmatory Factor Analysis) analytical procedure to compare the culture difference between E-commerce and traditional companies.

4.1 Measurement & Questionnaire
The measurement framework of the five constructs extended from Ruppel [11] is as following. According to Rupple's illustration. The measurement model is through content and validity test.

4.1.1 Development Culture (item 1, 2, 3, 4)
1. The glue that holds my group together is commitment to innovation and development.
2. There's an emphasis on being first with products and services.
3. My group emphasizes on growth through developing new ideas.
4. Developing new products or services is important.

4.1.2 Rational Culture (item 5-10)
5. The relationship with our customers and suppliers can best described as cooperation and trust.
6. I have found that my employees are usually dependable, especially when it comes to things important to me.
7. My department is a very product oriented place.
8. People are concerned with getting job done.
9. The glue that holds my group together is emphasis on task and goal accomplishments.
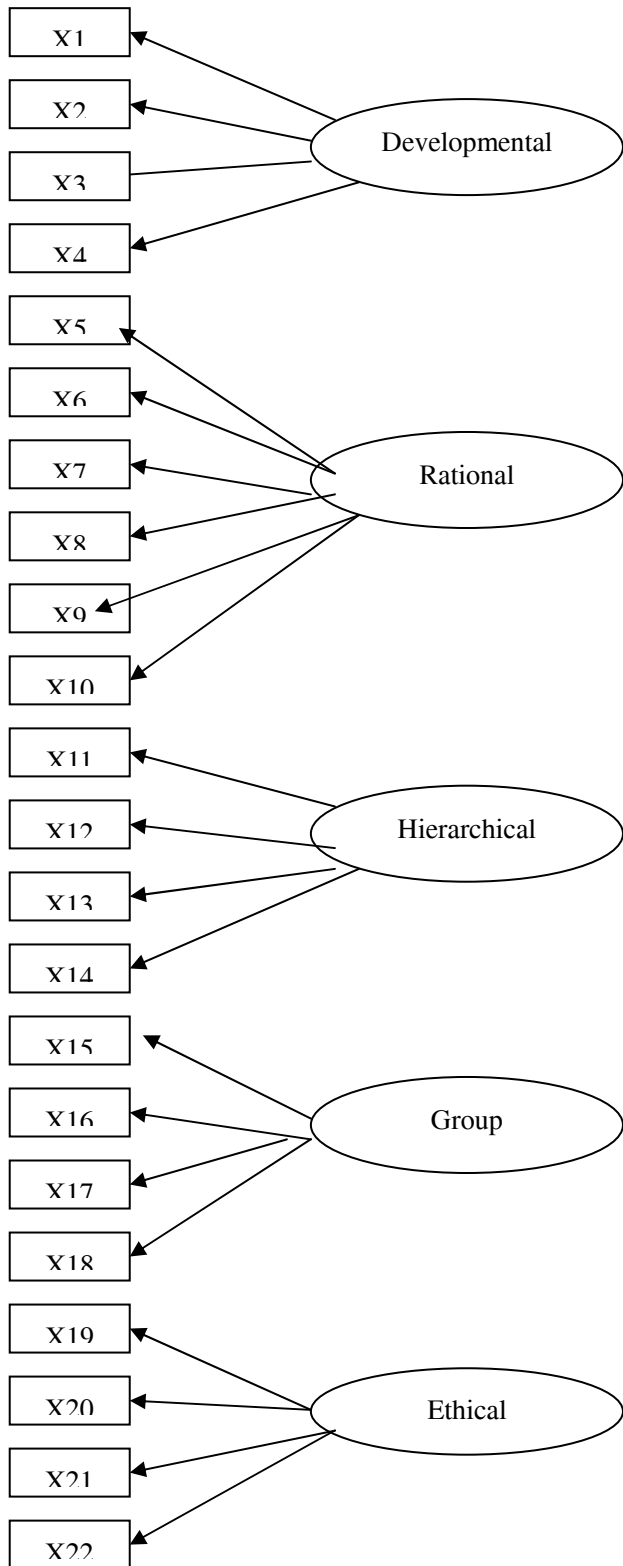10. A production and achievement orientation is shared.

Figure 4. The CFA model

4.1.3 Hierarchical Culture (item 11-14)

11. My department is a very formal and structured place.
12. People pay attention to procedures to get things done.
13. The glue that holds my group together is formal rules and policies.

14. Following rules is important.

4.1.4 Group Culture (item 15-18)

15. My department is a very personal place like an extended family.
16. People seem to share a lot among themselves.
17. My group focuses on human resource.
18. Morale is very important.

4.1.5 Ethical Culture (item 19-22)

19. In this organization people are mostly out for themselves.
20. Our major concern in this organization is always what is the best for other person.
21. The atmosphere within this organization is best described as one of mutual confidence and trust.
22. The environment is largely ignored. With upper management interest focused on inward attempting to maintain the stability and equilibrium of the organization. In order to attain these goals managers focus on measurement, documentation and information management.

4.2 Research Method and sample frame

We use sample survey to collect data of the two groups in this paper. Confirmatory factor analysis (CFA) will be used in this paper. We identify two groups as E-commerce companies and traditional companies. For each group we focus on the culture aspect of the organization on research. Ruppel's new frame of culture with 5 dimensions will be used in this paper as the research object. For each dimension of culture we have several items to measure. In this paper we can compare the measurement model of the culture to find out the difference between organization with Intranet and without Intranet. Gordon pointed out that there are two kind of disagreement between two groups, conceptual disagreement and psychometric disagreement [6]. We will analysis this two kind of disagreement to identify the culture difference between two groups.

4.2.1 Sample frame

For the ideal situation, we can first get the directory of the enterprise in Hong Kong from Hong Kong industry Bureau and give them a phone call first to ask them whether they have Intranet How did you define "an organization with an Intranet"? . Then we identify those who have Intranet from all. The next step is to select the 500 companies each with random sample method from those who have Intranet and those who haven't. Then we send questionnaire to these 1000 companies and explain our research purpose and guarantee that we will give them the result of the result to get a high rate of feedback. The questionnaire will be sent to 2 senior managers and one IT manager or CIO How different are the views of the senior managers and the IT manager? For these two groups we get the raw data and can use these data to make a CFA analysis.

4.3 Analysis

After collecting data we use Lisrel to conduct a CFA analysis to compare the culture difference between E-commerce and traditional companies. In above discussion we ave our model with 5 dimensions and 22 items.

4.3.1 Conceptual Disagreement

Conceptual disagreement exists when people in E-commerce and traditional companies use different conceptual form or different reference to conceptualize culture. For example people in E-commerce may conceptualize culture with 5 dimensions but people in the traditional companies may conceptualize it only with 4 dimensions. Or people in E-commerce use four items to conceptualize developmental culture while people in traditional companies culture may use 3 or 2 items. Even people in Intranet-based-organization and non-Intranet-based use the same item to measure the same dimension they may give the same item of the same dimension different loading. All of the above difference belongs to the conceptual difference.

4.3.1.1 Difference in Factor form

The culture will display factor form equivalence if people use the same dimension to measure culture in E-commerce and traditional companies on condition that each dimension in both groups has the same item. In the absence of factor form equivalence the difference of culture between E-commerce and traditional companies due to the way people concept the culture. This difference can be referred to facilitate the management and enhancement of the performance of Intranet.

4.3.1.2 Difference in Factor loading

Factor form equivalence exists means that people use the same dimensions and the same numbers of items to measure culture or people in the two groups conceptualize the culture with the same pattern. But factor form equivalence is only a necessary but not sufficient condition for comparing the equivalence of culture across the model. Even people conceptualize culture with the same pattern they may give the same item different weight. For example people in E-commerce may put more emphasis on the group culture and give items of group culture more weight and its countpart may not. Difference in factor form is known as factor form invariance.

4.3.2 Psychometric Disagreement

Psychometric disagreement exists when people in the two groups agree conceptually on the culture but may respond to the scale in different ways. Differences may be manifested as source-specific biases. For example even though people in Intranet-based and traditional companies may conceptually agree on the culture but they be different in variability within group or random measurement errors. Five sources of psychometric disagreement will be examined here. They are (a) difference in random error, (b) difference in the variability of latent factors (culture dimension), (c) difference in correlations among latent factors, (d) differences in latent means, and (e) difference in starting value of latent factors. For future information about these 5 disagreements please further reference [6].

4.3.2.1 Difference in Random Errors

Difference in random errors is related with the reliability issue. An observed item score consists of a hypothetical true score plus random measurement error. They are two sources of errors, system error and random error. Random error may be attributable to the following people's characteristics: unfamiliarity with scale items, inexperienced with the question format, informational constraints, errors in marking responses, carelessness, and so on [6]. In culture context measurement random error may be due to people in Intranet-based and non-Intranet-based culture understand the question in different extent.

4.3.2.2 Difference in Latent Factor Variability

Difference in latent factor variability exists when people in Intranet-based and traditional companies have a large within group difference. For example people in E-commerce have a large variability for group culture dimension means that some people in E-commerce give a very high score for group culture and some people may give it a very low score. If the variability difference is large it means that people in the two groups have a very high difference between in conceptualize the culture.

4.3.2.3 Difference in Correlations Among Latent Factors

Correlations among latent factors measure the interaction effect between dimensions. Halo effect, which is the tendency to generalize the score of culture across dimension, can be operationalized as correlations among latent factors. Because halo inflates correlations among different dimensions the high correlation is affected by greater halo effect. When differences in correlations among latent factors exist, people in Intranet-based and traditional companies have different halo effect.

4.3.2.4 Difference in Starting Value of latent factor

Though people may conceptualize the culture in the same way with equal factor loadings they may also have different perspective on the starting value of the construct. For example people in both groups may think group culture is low but one group may give low value as 3 and another group may just give it as 1. So the difference in starting value of the latent factor is required to compare latent means. If people couldn't have the same starting value of latent factor they couldn't compare at the same level and the comparison will be no sense.

4.3.2.5 Difference in Latent Means

To compare latent means we have the conditions that people in the two groups conceptualize the culture in the same pattern and with equal factor loadings on the constructs. At the same time equivalence in starting value of the latent factors is required. If all these conditions are fulfilled we can compare the latent mean score of culture to see if people in Intranet-based and traditional

companies are different in culture. If the difference does exist we have conclusion that culture in E-commerce and traditional companies are different.

5. Analysis Result

A total of 117-finished questionnaires were collected, 71 of which have intranet and 46 of which don't have. Following seven disagreement tests and after running Lisrel we get the following test results. One thing need to be noticed is that due to small sample size we only do two steps test till the factor-loading difference. From the average score of the performance questions asked we find out that organization with intranet have better performance than those who doesn't have. In the following section we first introduced the result from Lisrel then discussed the results.

5.1 Factor form Invariance Test
From the result from table 1 we can see that Chi-Square of stacked model equals to the summation of the Chi-Square of both groups. So we can't reject the fact form invariance. The χ^2 of the stacked model are called as χ^2_{uncon} and will be used in the subsequent test.

5.2 Factorial Invariance Test
To see if there's any other difference between two groups we need to do the factorial invariance test to check if the factor loadings are the same for both groups. The purpose of this test is to check whether people in the two groups give each item of the constructs the same importance given that they conceptualize the construct in

the same way. If there is a factorial loading difference between groups it means that the measurement models between two groups are different. For this particular test if the factorial invariance exist it is due to the people in intranet-base organization and non-intranet-based organization give the item of 5 culture dimensions different importance. If we want to do further comparison we need to find out which dimension, developmental, group, Rational, Hierarchical or Ethical, contributes to the significance of the difference. Even fourthly we can find out on which item people give different importance. This is done by test the factor ratio invariance test item by item. This test can tell us the detail information of the difference between the two groups. If the factorial invariance exists between two groups we need to do further test to see if there's any other difference such as, theta-delta test, intercept difference between groups. To check the factor loadings on the five constructs we first constrain all the parameters and see if there is any difference between the groups then make a comparison between the unconstrained baseline model to see if it is significant. Since the five constructs are independent in this model we need to constrain single construct one by one to check if the factor loadings of the five constructs are the same. Table 2 shows the results of the factorial test. For example for construct one we constrain factors of construct 1 of intranet-based organization the same as non-intranet-based organization, that is $\lambda_{2,1}^{(1)} = \lambda_{2,1}^{(2)} \lambda_{3,1}^{(1)} = \lambda_{3,1}^{(2)} \lambda_{4,1}^{(1)} = \lambda_{4,1}^{(2)}$ and free all other parameters. The same is true for the other four constructs.

Table 1 Result of Fact form Invariance Test

	Chi-Square	df	RMSEA	CFI	NNFI	IFI
Intranet	1.85	199	0.00	0.93	0.70	0.83
Without Intranet	1.31	199	0.0	0.97	0.53	0.61
Stacked Model	3.16	398	0.0	0.95	0.91	0.94

Table 2 Results of factorial invariance test

Test	Model	χ^2	df	$\Delta\chi^2$	Δdf	TLI	CFI	RMSEA
1	Unconstrained baseline model	3.16	398			.91	.95	0.0
2	Fully constrained model	15.83	415	12.67	17	.91	.77	0.0
3.1	Loadings on construct1 (ξ_1) constrained	4.22	401	1.06	3	.91	.94	0.0
3.2	Loadings on construct2 (ξ_2) constrained	5.23	403	2.07	5	.92	.92	0.0
3.3	Loadings on construct3 (ξ_3) constrained	4.05	401	0.89	3	.94	.94	0.0
3.4	Loadings on construct4 (ξ_3) constrained	3.78	401	0.62	3	.96	.94	0.0
3.5	Loadings on construct5 (ξ_3) constrained	11.72	401	8.56**	3	.91	.83	0.0

[**]Note: P<0.05

Through the factorial invariance test construct by construct we can see that construct 5 is significant. This means that people in intranet-based organization and those in non-intranet-based organization use the same item to measure culture dimension but they give ethical culture different importance. In general perspective, people in two groups use same way to think culture. But they have different value on ethical culture. For the other four culture dimensions, they have the same values. This result reveals the culture dimension we discussed earlier in this paper. Ethical culture is special issues in new network environment which change the way people communicate.

So the model stops in this step because we find the difference between two groups. Since the further disagreement test is based on a factorial invariance test model we didn't do further test here. But through fixing the model we can either use a partial factorial invariance model or just remove the significant construct or just interpret the non-invariant items as data. How different are the two groups on the ethical culture dimension?

6. Contribution, Conclusion and Future Study

This paper explores the culture issue in the new technology age. Adopting Ruppel's new culture framework developed from traditional perspective on culture the paper tested the culture difference between organization with intranet and without intranet. Using Confirmatory Factor Analysis method with Lisrel the paper explored the research area on culture and extended the usage of Lisrel into MIS area.

The research result showed that the culture is changing in the process of adopting new technology in organization, which may raise the attention of changing the management methods due to differences in culture. But the paper only make the very first step in analyzing the differences between two groups. More detail study such as psychometric disagreement analysis should be studied in the future. In addition, detail research can be done to investigate to what extent intranet can affect company's performance. The study on other technologies', such as the effect of Internet on customers, effect on culture also can be done in the future.

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