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Confucian principles in ICT Chinese practice: an exploratory model

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Abstract

The paper discusses culture, business culture and the influence of cultural values on managerial practice in general, and Information and Communications Technology (ICT) practice in particular. We argue that western ICT systems are based on optimization, underpinned by the positivism paradigm embedded in the western goal-seeking problem solving model. Eastern, in particular Chinese, ways of thinking, are based on a type of subjectivism that underlines a more intuitive, systemic way of viewing the world. The use of western-design ICT in an emergent business Chinese culture embedded in Confucian values reveals some misalignments. A model to explore these misalignments between ICT practice and Confucian Chinese business culture is advanced. Drawing from organizational theory models of national and business culture as premises, we propose a model containing a set of constructs to empirically investigate and confirm the processes involved in these misalignments.

Keywords: *national culture, positivism, ICT, systems thinking, Confucianism, cultural values*

1. Introduction

The issue of national cultural differences and their relevance in managerial practice, have attracted substantial attention over recent years. Research in the field of organizational studies and international management has been directed towards comparing managerial systems values in different countries; the argument being that it is possible to identify 'cultural dimensions' that prevail in certain national cultures (Hofstede, 1980). Other studies have focused the attention on outlining some differences on the philosophical issues underpinning cultural and managerial practices, Lessem and Neubaurer (1994).

This paper argues that the way Information and Communication Technologies (ICT) are understood and used has roots in cultural, and ultimately philosophical, differences between countries. The case of China's national managerial culture is presented. The paper reports on the theoretical and conceptual exploration of models of national and business culture of a country. We advance the argument that the ways ICT models are used greatly depends on values embedded in the national and business culture. By investigating the different paradigms underpinning the Western and Eastern ways of thinking, and in particular the case of China, the paper proposes a conceptual model to explore the mutual influence of Confucian ethics and practice embedded in the cultural values of the business culture in China and the use of ICT. A methodology to empirically research the mutual influence of 'Perceived ICT values' and 'Confucian-based cultural values' is advanced, together with an initial list of the cultural constructs and questions to be used in the empirical part of this on-going study.

The paper is organized as follows: (1) To set the background, based on Hofstede's 'cultural consequences' model, a model of culture, business values and the ICT subsystem is proposed; (2) Shein's organizational culture model is sketched, to illustrate the interaction of different levels of culture; (3) the positivist and interpretivist paradigm prevalent in the West and East respectively, and the implications for different approaches to problem solving and management is outlined; (4) the values of Confucianism embedded in the emerging business culture in China and ICT practice in a management context are discussed; (5) a model to explore the processes between the cultural constructs relevant to ICT use in China is advanced, and the set of constructs for its use suggested; and (6) some conclusions from the conceptual exploration and the proposed model are drawn.

2. National-business culture and Information and Communication Technologies (ICT)

National culture and business culture were first investigated by Hofstede, who proposes a model that contains mechanisms that allow for the maintenance and stability of cultural patterns across many generations (Hofstede, 1980, 1991). There is no space in this paper to explain fully Hofstede's model, but essentially he suggests that each national culture contains a different value system (societal values) and this is likely to persist and produce different ways of thinking (institutional consequences). Figure 1 shows the interrelationships between these factors. To the initial Hofstede model we have added 'Business values/attitudes', which we believe are part of 'societal values' in general and 'business practices/approaches to problem solving' which arguably is one of Hofstede's 'institutional consequences' of a particular society. It can also be argued that an extension of 'business practices/approaches to problem solving' is the so-called 'ICT practice'. These three elements (dotted line box in Figure 1) interact, and so the extended model enables vision of Hofstede's initial variables affecting the business culture of a country. For instance, amongst the 'Ecological Influences', the 'Historical' factors (philosophical roots on which the culture is shaped) clearly influence the 'managerial values' of a national culture through the 'societal values' which in turns are embedded in a 'business values/attitudes' as the arrows indicate in Figure 1. Business values will also have an influence on the 'business practice', which will be embedded in what we call the 'ICT practice subsystem'. In other words, in a particular country, ICT practice will then be a cultural result or a cultural consequence affecting a particular society; ICT tools and the use of them can be seen as cultural artifacts that a particular managerial culture would design, use or favor in a particular manner.

2.1 National Culture and the practice of Information and Communications Technology (ICT)

In the context of this paper, and to grasp the complexity of culture as social phenomena, we need to take different perspectives to understand the different levels at which culture is manifested. For our purpose, the model of levels of culture proposed by Schein (1993), seems to be a useful starting point. Schein suggests that to try to understand organizational culture, we need to uncover three levels of culture. Level is defined as follows:

> ... the term level refers to the degree to which the cultural phenomenon is visible to the observer… These levels range from the very tangible overt manifestations that can see and feel to the deeply embedded, unconscious basic assumptions that are the essence of culture. In between we have various espoused values, norms, and rules of behavior that members of the culture use as a way of depicting the culture to themselves and others, Schein (1993:16)

Artifacts: These include all the phenomena that one sees, hears, and feels; it is what other authors call explicit culture (external, observable reality: language, food, buildings, houses, monuments, technology, religion, art manifestations, etc.). In the context of the present study, the different sets of ICT can be seen as artefacts in the sense that they are expressions of management explicit 'managerial culture' of a particular country and at a particular time; but more importantly they are artefacts that contain the beliefs/values of its designers and creators.

Cultural values: Defined as assumptions about 'how things ought to be' in society; in that sense they are held at a preconscious level and in many cases they are not fully articulated; values have strong influence on behavior. They are held at preconscious levels, and in some ways are ingrained and are difficult to change. According to Schein's model, one must be careful when analyzing values, and try to distinguish those that are congruent with underlying assumptions and those that are, in effect, either rationalizations or only aspirations of the future. Very often the values are contradictory, and they are inconsistent with observed behavior. In order to gain a deeper understanding, we need to get to the category of basic assumptions.

3. Western positivism and Eastern interpretivism in management practice

The history of science and its method started with Classical Greece, but Descartes shapes modern conceptions. In the Western world, since Descartes visualized the universe as a large logical system, the dominant view has been that the natural world can be discovered through the use of reason. Empiricism, which later developed in Positivism, holds that knowledge must be based on our observations and experience of the world (Mingers, 1990). Empiricism has been the dominant view of the Anglo-Saxon world; this is ingrained in the objectivism and reductionism, which forms the large majority of western scientists. Reductionism, with logic and analysis as their main weapons, is still the prevailing characteristic of Western thought.

During the first half of the twentieth century, positivism, the epistemology used successfully in the natural sciences, has permeated management thinking and management practice in the western world. The view adopted by the hard systems tradition and their overtones of 'problem solving' and 'optimization' embodied in the assumptions of the Optimization Paradigm are a clear consequence of this influence. Almost all the methods and techniques included in Management Science, Operational Research, Systems Engineering and Systems Analysis clearly share a positivistic epistemology: knowledge can be revealed by deducing propositions, by searching for laws, which are perceived by an external, objective observer. Western-based positivism underpins most ICT models currently in use, simply because the vast majority of them have been created in the west by western designers.

In contrast to the empiricism and the reductionism ingrained in Western societies, the philosophical perspective assumed by Eastern cultures seems to correspond to a nominalist position expressed in a subjectivist view of the social world: "the social world is a product of human consciousness in which there is no 'real' structure to the world, only the artificial descriptions and names the humans agree to use as tools to make sense of the world and to negotiate their actions" Lane (1994:8).

In contrast to western philosophy, centered on knowledge and facts (Martinsons and Westwood, 1997), Chinese philosophy is grounded in an ethically-driven metaphysics of virtue-seeking influenced by Confucianism. In consequence, Chinese beliefs and values differ significantly from their western counterparts. Some examples are the Chinese belief that man should maintain harmony with nature (rather than control it), moderation in thought and action is encouraged to extend harmony and balance in nature and society, and man should accept and adapt the situation to the environment. Other principles include the belief that all things are inter-dependent; therefore, solutions and decisions should be based on knowledge distilled over many years, based on common sense, intuition and experiences, rather than using rational or formal analyses. Contrary to western culture, which stresses openness and spontaneity and is self-centered and individualistic, Chinese culture is group-oriented and situation-centered, and stresses harmony, conformance and reciprocal respect. The Chinese also employ a high-context communication format, where much communication is implicit and indirect, with a language full of abundant use of aphorisms, allusions, and suggestive illustrations in place of concrete ideas. Applying the above Chinese cultural values to the Chinese business context, western style IT-based systems are often in conflict with the Chinese business culture, where they undermine the richness of symbols and meanings that are implicit within the high-context and socially-centered Chinese environment. A software consultant commented that 'in today's China you can find a $30B multinational with virtually no IT functionality besides email and a marketing website', Saxenian, (2003: 21). Managers in Chinese companies are reluctant to purchase software because, historically, there has been little precedent for doing it (even domestically). As a result, Chinese managers are reluctant to rely on IT-based systems, and instead, prefer to draw from experience, intuition, and insights from personal connections to assess what steps are necessary in a given situation. Based on these constraints, it could be implied that western-style IT-based systems are poorly suited for the Chinese business context, because many of these Confucian cultural values are in conflict with the modern IT-based reporting and decision-making systems that arose in western cultures, Martinsons and Westwood (1997).

4. Confucianism and Chinese cultural values

Confucianism is a dominant influence on Eastern culture, and emphasizes collective thinking and relationship building. Confucian values exert powerful influence on many Eastern Asian countries such as Japan, Korean, and Singapore. However, China is the cradle of Confucius and Confucianism.

Confucianism is a belief system developed by Kong Fu Zi (Confucius) in China in the 5th century BC. It has been functioning as the basic social and political value system in China and other East Asian countries for over 2000 years. It is the fundamental philosophical system (often considered as religion) that has dominant influence on the Chinese cultural values, beliefs, and behaviors, and is the major indication of Chinese interpersonal relationship and communication patterns. Based on Samovar and Porter (1999, 2000), some important, traditional Chinese cultural values based on Confucianism are:

- Maintaining harmonious personal relationships is the most important thing in human communication.
- Leaders must be persons of character, sincerely devoted to the common good and possessed of the character that compels respect.
- It is essential to maintain a proper hierarchy in social relationships between family members, community, and superiors.
- Dependence on others is a necessary part of human relationships.
- Indirect communication is more proper, since it helps to prevent the embarrassment of rejection by the other person or disagreement among partners.
- It is always better to work cooperatively with other people than individually.

Even though the 10-year Cultural Revolution that in the 60's threw the Chinese value system into chaos, and despite the fact that the Chinese government has taken a position against Confucianism for 30 years, the influence of Confucianism is strongly ingrained into Chinese people's minds (Jacobs, *et al*, 1995). It is not only the one irreplaceable major root of Chinese Cultural values, it also forms the basis for which business relationships are handled and companies are managed. Some cross-cultural management studies pointed out that Confucianism has a significant influence on the communication styles and business culture in China (Huang and Trauth, 2007). Several studies have provided historical evidence including, Jacobs, *et al* (1995), Lin and Chi (2007). Also, in studies of Confucianism and Chinese business culture and management styles, there has been a debate as to whether Confucianism exerts positive or negative influence on business and management development in Eastern Asian countries. Jacobs, *et al*. (1995) showed that Confucianism has provided the fuel for the recent economic success of many East Asian countries. Lu (1997) explains why Confucianism is no longer a barrier but a driving force for modernization of Asian society. Even Hofstede, using his fifth cultural dimension- Confucian Dynamism, empirically proved that the recent surge in "four dragons" in Asia have the highest score on Confucianism, Hofstede and Bond (1988).

4.1 Confucianism and ICT practice: exploring the misalignments

Some studies have presented hidden problems, demonstrating that the road to successful business and management communication for China is not that smooth, especially in a world of global businesses in which China's presence is increasingly needed. Through empirical study, Ralston *et al*. (1997:200) found out that there is a paradox existing in modern Chinese society – that Chinese embrace capitalism while keeping their Confucian-based cultural values. Miles (2006) pointed out that Western values and corporate practices are often in conflict with Chinese Confucian values and beliefs. In a recent article, Lin and Chi (2007:195) presented the Confucianism based Chinese management philosophy. They implied that the primary concern of "life" in Chinese philosophy, the "benevolence" as core, and the pursuit of "harmony" of both knowledge and rationality, in Chinese Confucian philosophy make it

very different from Western philosophy that separates knowledge from rationality. In addition, they summarized that Confucianism management is "*humanistic management, the real equality, stability, harmony and with rationality as the evaluation standard"*; and it is based on a unique belief that *"an outstanding manager should know when confronting something, he should evaluate what is right and what is wrong, what is good and what is evil ……, make a decision of whether do this thing or not"*, Lin and Chi (2007:195). All these potentially present a challenge to whether a Western based scientific IT system can help a Chinese manager fulfill his/her managerial functions in the Chinese business world. Judeo-Christian religion has primary influence in the West, and thus the West emphasizes individual self-worth as work ethic, Ralston, *et al* (1997: 179). Berrell, *et al*. (2001) also demonstrated that Chinese managerial behaviors have a high context nature, which adds value on collective actions, external environment, relies on distinct situation, and ignores general policies and principle when dealing with conflict at work. This is often in contradiction to Western low-context managerial style that highlights individualism, universalism, and the "one best approach" in problem-solving.

It is increasingly evident that there are differences between Chinese and Western management styles; this coupled with the seemingly misalignments in ICT practice has been indicated and reported. Several studies, Hill *et al*. (1998) and Lock *et al* (2003) indicated that ICT designed and produced in industrialized countries is in favor of their cultural system, and is thus culturally biased. Therefore, we argue that IT systems introduced to China are inherently Western culturally biased, which is in contradiction to Chinese philosophy and cultural values, thus, Chinese ICT professionals have difficulties in the use of these IT systems.

In a more direct and detailed study, Martinsons and Westwood (1997) investigated the close relationship between Confucianism and Chinese organizations' use, or lack, of ICT, The authors noted that the fact that Chinese managers make little use of computer-based ICT systems, and this observation changes little when supporting institutional factors and easy access to ICT products and services are provided. They reasoned that this could be explained by underlying misalignments between Confucian Chinese business culture and the assumptions and strengths of ICT-based reporting and decision-making systems. These authors note that the creation of ICT-based reporting and decision-making is largely fostered by Anglo-American philosophical beliefs, which emphasize individual rights and the pursuit of private property of human beings. Some related western beliefs include the belief that the economic organizations should be formal, impersonal, and systematic. Furthermore, that when making decisions, quantitative analysis can by used to model complex relationships; man can control nature, and uncertainty can be reduced through data and analysis. These beliefs, in turn, give rise to the creation of formal, scientific, impersonal IT-based systems that use large quantities of data and abstract scientific management techniques to achieve the specific business goals of western managers, Martinsons and Westwood (1997).

5. Exploring Chinese business culture and ICT Chinese practice

To explore Chinese culture values and ICT use and practice, we advance a basic model depicted in Figure 2. The proposed model parallels Shein's model (as explained in Section 2.1) in that the three levels of organizational culture (artefacts, values and assumptions) are mirrored by ICT use and practice (artefacts); perceived ICT values (Espoused values); and Confucianism based cultural values (Basic underlying assumptions). The model depicts three processes that certainly come from the interaction of these three levels. The model is systemic in that the three entities presented above should actually work in a continuous circular fashion rather than linear one. From these processes, in the empirical part of the present study we plan to empirically examine *Process 1* and *Process 2* of the model that is: (a) how does Confucianism based Cultural values influence the perceived IT values; and (b) how do the perceived IT values influence the IT practice of Chinese people?. *Process 3*, (how do the IT practices transform the cultural values of Chinese people?) will requires longitudinal observation and is an area that we would like to incorporate in the future.

5.1 Investigating the cultural constructs relevant to ICT use: Research Questions

Huang and Trauth (2007) indicated that cultural factors are particularly important for ICT development, whose fast pace and changing features require both formal and ad hoc communication. The ICT environment is especially fast paced, requires international collaboration, and is a living lab for intensive interaction with ICT systems, thus, ICT professionals would be a good subject population for studying the Chinese cultural values and IS issues. This research aims to empirically study the basic ICT use of Chinese ICT professionals, and to explore the influence of Chinese cultural values on both the perceived ICT values and the basic ICT use of these ICT professionals. Specifically, we will explore the current degree of Confucian beliefs held by Chinese ICT professionals, in order to determine whether and to what degree these beliefs influence the use of ICT.

The following are the some of the research questions driving this study:

1) Do the majority of Chinese ICT professionals hold many of Confucian Chinese cultural values?
2) Do the Confucian Chinese cultural values of Chinese ICT professionals help shape a certain pattern of Perceived ICT values in them?
3) Do varied degrees of Chinese cultural values held by Chinese ICT professionals shape patterns of perceived ICT values among them?
4) Do various patterns of perceived IT values among Chinese ICT professionals reflect varied degrees of ICT system use?
5) Do the degrees of Confucian Chinese cultural values negatively influence the degree of ICT use among Chinese ICT professionals? (Do the Confucian Chinese cultural values encourage or impede ICT use?)

According to Ralston, *et al*. (1997), values systems of employees in the workplace remain largely unchanged, even if this country is under the condition of adopting capitalism. Terence (2002) also provided empirical evidence that China is not moving towards an achievement society, thus, Chinese cultural values are not easily changed in short term. Therefore, Confucianism cultural values will be used as the independent variable; perceived IT values will serve as both dependent variable (for Confucianism cultural values) and independent variable (for IT use); and IT use (the one that is least likely to change) will be the dependent variable.

5.2 Sample to be investigated

Chinese IT professionals from China and US will participate in the study. The use of overseas IT professionals will serve as a control variable for observing the varied degree of residue of Confucianism based values in Chinese people, and later we intend to carry out other comparisons. Ralston *et al*. (1996) suggest that rather than focusing on generic Chinese cultural traits, studies on Chinese culture should pay attention to regional and inter-generational differences, the second of which has characterized China over the past few decades (Ralston *et al*. 1996: 124). Therefore, we consider interviewing people of various age groups, from different regions in China.

A survey questionnaire has been designed, comprising constructs:

1) ***Biographical Information****:* This set of questions is to be designed to capture the basic biographical information of the subject and the general condition of computer and IT system and general company information.
2) ***Confucian Chinese cultural value construct****:* Confucianism is based on three major principles: *Jen* (humanism), *I* (faithfulness, loyalty, or justice), *Li* (propriety, rite, and respect for social forms). Four sets of questions were designed. The first set deals with traditional Chinese cultural values based on Confucianism, and the other three sets are about the three main principles of Confucianism: humanism, faithfulness, and propriety. Specifically, statements in the four sets of

questions involving Chinese cultural values, Respect for humanism, Adherence to Faithfulness, and Respect for propriety are extracted from descriptions about Confucianism, and indication of Chinese interpersonal relationship and communication patterns, influenced largely by Confucianism, Samovar and Porter (1999, 2000).

3) ***Perceived IT Values construct:*** We plan to use the multi-dimensional Cognitive Absorption (Temporal Dissociation; Focused Immersion; Heightened Enjoyment; Control; and Curiosity constructs) developed by Agarwal and Karahanna (2000)
4) ***Belief of IT Construct:*** The Technology Acceptance Model (TAM)) which assesses perceived usefulness (PU) of IT; and perceived ease of use of IT (PEOU) will be used to assist the design a set of survey questions, Davis (1989).

6. Initial conclusions

The paper reports on the theoretical and conceptual exploration of models of national and business culture of a country. The paper argues that the way ICT models are used depends very much on the values embedded in national and business culture. The different paradigms underpinning Western and Eastern ways of thinking are investigated, in particular in China. We proposed a conceptual model to explore the mutual influence of Confucianism ethics and practice embedded in the cultural values of the business culture in China and the usage of Information and Communication Technologies. We discussed the interaction between Confucian values embedded in the emerging business culture in China and ICT practice in a management context. A methodology to empirically research the mutual influences of '*Perceived ICT values'* and '*Confucianism-based cultural values'* is advanced together with a list of the cultural constructs and the possible questions to be used in the empirical part of the study.

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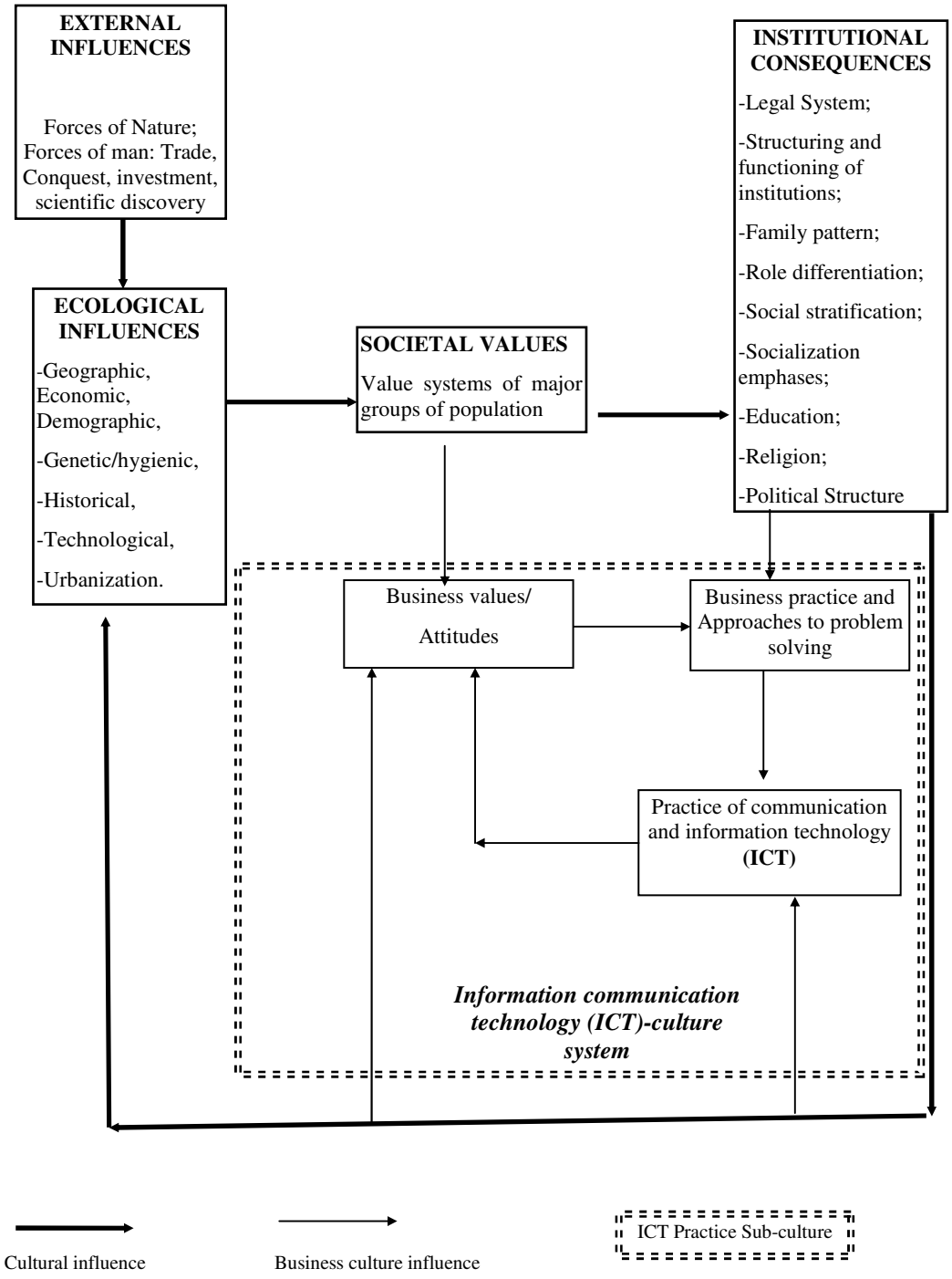

Figure 1. Culture, Societal Values and IT/IS practice (Adapted from Hofstede, 1980)

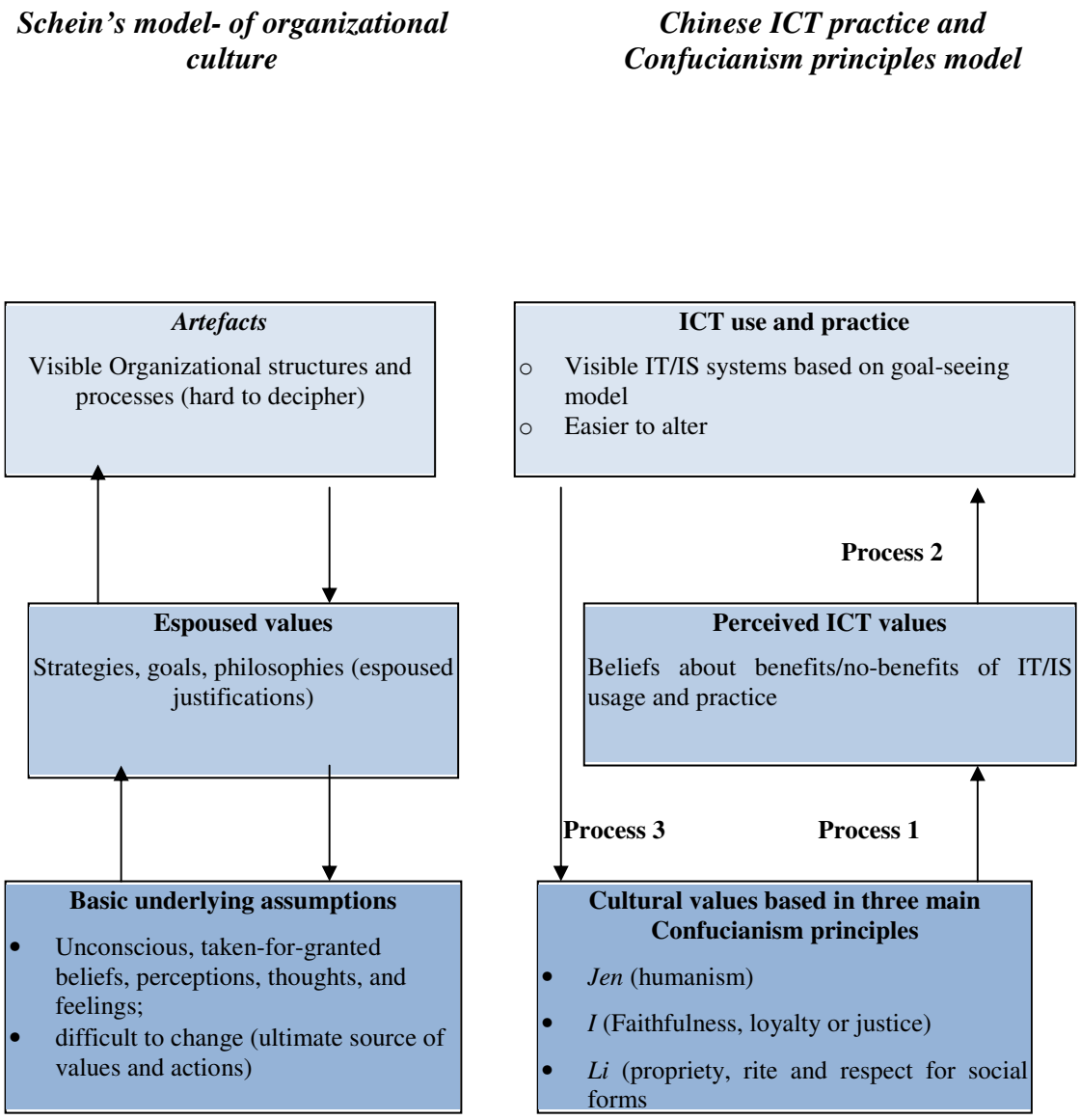

Figure 2. *Proposed model to explore Chinese business culture and ICT Chinese practice paralleling Shein's model of organisational culture*