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The Evolution of Values:  
Introducing an IT/IS Strategic Perspective on Cultural Factors

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Abstract: This paper complements and extends present research on the theory of cultural values evolution. It does so by focusing on the synergistic interaction of Chinese and Western problem solving influences of a strategic nature. It establishes the implications of such interactions and explains their nature at international boundaries. We thus contribute an additional theoretical foundation for further empirical research into the integration of culture and international economic variables applicable to IT/IS practice.

Keywords: China, strategic theory, cultural values evolution.

1 INTRODUCTION

Strategy emerges from problem solving and the related solutions which allow the individual manager to survive in the competitive world of international business with strategic responses culturally differentiated [1], [2]. Personalities, culture, environmental factors, and institutional factors – the many personal, political and relational issues that consciously and unconsciously bear on an individual’s managerial aims ultimately result in a strategic decision, a human-made response, affecting managerial choice and survival [3].

A strategic perspective in the IT/IS field, with internet related business projects and international business catering for the present period of rapid change (the 2008/09 financial crisis is an example) forces practitioners to act quickly and practically to solve economic and business problems for their organizations arising from a changing environment [4]. Preis and Seitz note in [5] that this period of rapid change requires data management and warehousing of a hybrid and integrated nature. Such integration would assist the evolutionary process in which both Kuhn [6] and Popper [7] argue that successful actions evolve and become established because they are subject to an evolutionary process with paradigm survival and evolutionary adaptation dependent upon the outcome of problem solving. Our paper argues that such an evolutionary process, the synergistic and integrated interaction, is thus an important problem solving focus in seeking to answer the cultural factor challenges posed by Witt [8] and Ralston [9].

We propose, therefore, that individual managers, when resolving strategic problems for survival within the ecology of a business society (the markets and institutions in which managers trade and are regulated such as IT/IS), adopt a weighted mix of internalised cultural solutions and external business solutions - similar to the concept of internal integration and external adaptation proposed by Schein [10]. The evolution of ‘new and unique values systems’ (see [11] p. 29) could then occur by an alteration in the weightings of the relative importance of internal and external core problem solutions – not necessarily from change in the actual values themselves. This would explain why core values are retained but why their weightings, their dimensional differences, can alter between categories of individuals across national borders [12]. A unique value system may then evolve (or not) according to the successful (or unsuccessful) output of the problem solving systems specific to the individual. The evolution, therefore, of successful IT/IS solutions to business problems requires consideration of basic value evolution.

Our focus on the interactive dynamics in value evolution through cultural factors seeks to understand the synergies in the process and we do this by, firstly, identifying distinct cultures differentiated by problem solving methods. Rather than argue over narrow national cultural differences or overlapping ideologies such as Chinese capitalism and British socialism (or even Italian communism), we decided to ethnically differentiate on a global scale thus allowing us to consider distinct managerial problem solving not artificially defined by national passport or political boundary. The second problem is to focus on dynamic system interaction rather than an empirical comparison of the initial influences with the evolved values. A system focus provides an understanding of change through prior experience and feedback processes (e.g. culture) and complex cognitive trials and feedback (e.g. uncertain business forecasts) all of which affect problem solutions [13]. The present rapid expansion of Chinese interests overseas, evident in their increasing outward direct investment [14] suggests that Chinese managers operating in a Western environment should be subject to considerable feedback and problem solving adjustment at their cultural and business boundaries. Investigating Chinese managers does
create a formidable challenge [15] but would provide a robust interpretation for any purely Western theory on crossverging values evolution. The final problem, from a theoretical perspective, is advancing our explanations into strategic predictions.

Our paper is structured as follows: We introduce the principles of a dynamic system and apply them to three established concepts of economic and strategic theory, identifying their correspondence across the Sino-Western boundaries. We thus avoid extensive discussion on separate cultural dimensions and disparate economic ideologies. We combine the cultural values discussion with the identified economic and strategic correspondence and derive basic propositions to explain the processes of cultural values evolution and associated cultural factors.

The paper finishes with a brief conclusion, limitations and future outlook.

2 DEVELOPING AN INTERACTIVE SYSTEM

In deriving an interactive system, we have been concerned that Western theory does not automatically apply to Asian practices and that cross-cultural caveats are necessary [16]. For West and East to converge, diverge or crossverse, there needs to be common interpretation across the boundary. One major cultural caveat is the difference in the holistic cognitive processes of the Asian mind which contrast sharply with Western analytical techniques [17]. This ethnic difference transcends national cultural dimensions and is a cognitive difference related to problem solving. Tayeh [18] recommends that theoretical considerations should be holistic in nature and we follow this recommendation in our comparison between the ethnically differentiated problem solving systems of West and East.

The iterative value adjustments of Adler [19] indicate that any cultural value change involves a feedback from pattern generation. We take this a step further in terms of an evolutionary argument – if the patterns are not successful adaptations to the external environment then the values guiding problem solving will adjust and may be rejected. If successful then the values are reinforced and imitated into an established pattern and this position conforms to the linkages argued by Tang and Koveos [20]. To survive, the patterns after adaptation, the human-made responses, need to be successful in the existing ecology. Hofstede [21] notes that core values differentiate decision choice – yet culturally reinforced decisions can prove to be unsuccessful across cultural boundaries, forcing culture shock [22]. Trompenaars and Hampden-Turner ([23], p. 7) establish that repeated success creates the core assumptions in problem solving. Our main argument in developing a theoretical system on values evolution is that evolution of a surviving (unique or not) value system is one in which the system feedback iterates successful solutions into assumptions for future survival patterns used in problem solving. For the international IT/IS practitioner the success pattern is strategic across cultural and business borders – becoming a preferred method of cross-border management control [24].

A dynamic system iterates and generates patterns and is a simple mathematical concept which must incorporate the space of the system where change takes place, rules for change within the space, and time in which the change takes place ([25], p. 37-39). The space we posit is that of strategic problem solving. Crossvergence suggests that cultural values and economic ideology are two elemental influences which interact and we have defined the system space for the interaction. The speed of change in the interaction output is dictated by the time measured in the system. Our focus in this paper is on the interacting rules – the synergetic interaction dictating the output of the system and creating the evolutionary change. The time taken for change in the system will reflect in the longitudinal trends of value based dimensions. Mathematically, a functioning dynamic system tends towards a small number of control variables with any number of state or descriptive variables [26]. This also simplifies our argument as the number of spatial descriptive variables (the numerous types and categories of strategic problems, their varied solutions and subsequent dimensional patterns) is not under study and we can focus on the small number of rules. Socio-cultural values are considered a rule as they guide strategic decision choice through relational networks and economic ideologies rule through the institutional constraints of the markets in which that strategic decision is to be implemented [27].

In continuing our system interpretation of the synergetic interaction, we must now identify more clearly what the rules are and how the rules work together in terms of their evolutionary output. To recap, we have chosen to differentiate the cultural and economic problem solving influences along ethnic rather than national boundaries and are focusing on rules of a strategic nature. The literature indicates that Western business theory has a number of well established strategic rules: For instance, Griffith, Cavusgil, Shichun [28] identify the importance of transaction cost theory (e.g., [29]) and the resource-based view (e.g., [30], [31], and [32]) for strategy. Another major rule could be identified in real option theory (e.g., [33], [34]). In addition to the significance of these theories, scholars also argue a need for integration [35], [36]. Indeed, a lack of integration may explain the productivity paradox of Brynjolfsson [37] whereby IT/IS as a valuable organisational resource may not be dynamically active enough nor provide sufficient future options to improve productivity. Fukuyama ([38], p. 71) draws attention to the more transactional nature of Sinicite society in terms of economic activity. Is
Chinese strategic problem solving substantially different from Western practices after holistic integration? Chinese strategic patterns have been closely studied in the literature with the business rules established under the overall concept of Chinese guanxi (e.g., [39], [40], and [41]).

Two problems now arise. Are the rules compatible with each other or mutually exclusive and unable to interact synergistically? Is there a justifiable comparison between Western rules and Chinese rules? We must therefore consider strategic evolution using the set of Western strategic theories and the set of Chinese strategic guanxi. Our aim is to use Western theory to interpret Chinese practice and explain cross-border synergistic interaction where cultures, markets and institutions do differ. In doing so we seek to explain how values evolve at the boundary – where the interaction takes place.

2.1 Integrated Perspective

The initial problem in our system development is the avoidance of disparate rules. If there is a synergistic interaction then there must also be holistic integration of the three Western strategic theories – else there are only independent actions and the interaction concept is ambiguous. Leiblein [42] tackled the problem purely from a strategic perspective and notes that the integration is essential to avoid ambiguity in empirical findings. In reviewing the three theories we now summarise them in a simple format (the references provide considerably more detail) to explain the basic nature of the rules controlling individual managerial choices over business decisions:

- transaction cost theory governs and controls human opportunism (defined as self-interest seeking with guile),
- resource-base theory, develops competitive advantage through the creation of rare and difficult to imitate valuable resources, and
- real option theory, identifies choice in flexibility for future benefits beyond the initial business investment.

Our summary indicates no mutual exclusivity and conforms to Leiblein’s [43] holistic integration. Successful strategic decisions can thus encompass governance over opportunism, with increased resource heterogeneity and flexible options over future investments. Our interactive system iterates feedback of any success into the core value systems and institutions governing those decisions. However, the interactive integration clearly implies that a framework for the system to function efficiently and effectively must exist. The framework cannot be purely ideological or theoretical but must be practical in its reality with actual resolution of transactional disputes, valuable resource protection and consistency in realizing future benefits, all necessary conditions for strategic decision making and implementation in the resolution of strategic problems. Western institutions provide this framework [44].

We now argue that these three Western economic and strategic theories are sufficiently robust, from the cited literature, to transcend borders provided, and the provision is important, they are holistically integrated to compare and identify correspondence in Chinese system rules for strategic problem solving. If there is no correspondence then strategic problem solving patterns may always diverge. If there is correspondence then what is delaying a trend to convergence? For IT/IS systems and interactions to operate successfully there must be a dynamic trend towards international convergence.

2.2 A Chinese Correspondence: The Concept of Guanxi

In seeking a justifiable comparison, our focus shifts to the considerable Chinese cultural influences throughout the Asian region, demonstrated by Haley and Tan [45] to contain trial and error, intuitive and holistic decision making practices. The nature of this homogeneity is embodied within a Chinese dynamic and relational network – guanxi [46]. Studies into guanxi have indicated that it is prevalent throughout Chinese society and that it is multifaceted [47]. Guanxi has governance mechanisms and operates in China in a unique fashion. Primary guanxi facets, identified by [48] through empirical research, control opportunism yet ease decision making under conditions of heightened uncertainty. The practical facets of guanxi enable transactions to be controlled within a poorly defined and limited legal framework [49]. Trusting relationships within these networks are important [50] with Ying [51] arguing that the relationships will tend to decrease as open markets increase. These descriptions of guanxi correspond with Williamson’s [52] concept of governance over opportunistic behavior and confirm practical links to decision making in the face of complexity and uncertainty.

From a resource-base perspective, guanxi enables the transfer of knowledge and information to develop, in an ethical manner, suitable alternatives for decision making purposes [53]. In doing so, the transferable nature of guanxi is clearly economic with specific intended application and closely networked [54]. Traditionally, guanxi is used to create and trade in resources, resulting in a gain or loss, and the transfer of social status through face [55]. The development and trading of valuable (or rare) network resources is well embedded in guanxi and contributes to firms’ growth [56]. The unique nature of each guanxi network also make imitation and substitution difficult, thus corresponding with Barney’s [57] arguments on resource-base theory.

In their empirical study of guanxi in Southern China, Wong and Leung [58] argue that joining a guanxi network is a costly process which can be long and drawn-out. High trust levels within the network [59], [60] are necessary to establish renqing, a system of decision making designed to create future obligations. These
obligations are ‘human feelings’ (a literal translation of the two Chinese characters making up renqing) and not contractual. In Chinese society they are stronger than merely being owed a favour and can be considered analogous to an open, or ‘put’, option in Western markets. They are, therefore, optional, but subject to speculative trade and Luo [61] confirms the increasingly corrupt and manipulative nature of such guanxi obligations when they transcend the family connection into business. Future, possibly onerous, options are maintained through the renqing of the guanxi network. The Chinese real options thus correspond to the dynamic system arguments of Scherperel [62].

Chinese relationships provide control over business transactions, resource-base development and flexibility in real options. The ethic comparison is shown in Table 1 and indicates the cross-cultural interpretation of the rules of the strategic systems through a one-to-one correspondence between West and East.

<table>
<thead>
<tr>
<th>Western Rules</th>
<th>Transaction Cost</th>
<th>Guanxi controls opportunism yet eases decision making under heightened uncertainty</th>
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<tr>
<td></td>
<td>Governance and control over human opportunism.</td>
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<tr>
<td>Resource Base</td>
<td>Sust. competitive advantage via valuable [...] resources.</td>
<td>Guanxi enables transfer of knowledge, information and resources (including ‘face’)</td>
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<tr>
<td>Real Options</td>
<td>Pot. future benefits beyond initial business investment</td>
<td>Guanxi est. renqing, a system of decision making designed to create future obligations</td>
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<tr>
<td>Chinese Rules</td>
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### Table 1 – The Universality of Theories and Practice

**2.3 A Dynamic Perspective**

Our conceptual discussion so far is creating a difficulty in the singular acceptance of convergence, divergence or crossvergence theories. The correspondence between strategic principles evidenced in Table 1 would indicate that there is a difference between Western and Eastern systems but that the contrast is primarily institutional versus relational; the former system having strong legal institutions to protect transactions, rare resources and real options, but the latter relying on relational trust for transactions, resource rarity in the form of closed networks, and human obligations for future options. North ([63], p. 152) argues historically that the latter was the case in Europe before inter-state trade required state enforced contract law across state boundaries. This would initially suggest that convergence or divergence is the ultimate strategic output of interactions across borders with modern institutional governance assisting convergence and ethnic and regional relational governance maintaining divergence. Our system derivation conforms to Leung’s [64] observations. An interim meso-level interaction is thus of strategic significance in explaining trends towards either pole in the convergence/divergence continuum.

Table 1 provides three strategic theories for both West and East to explain why managers may choose particular strategic solutions – to lower transaction costs, increase valuable resources, and retain flexibility in options. Adjusting the weighted mix of these three strategic influences will change patterns of behaviour and, through iteration and feedback, successful patterns of behaviour will evolve successful value adjustments. The system dynamics therefore imply that values acceptance or retention vary according to the strategic solutions within the problem solving spaces. Different forms of governance (e.g. institutional versus relational) can create tension in strategic decision making (choice between rules). In consequence, system assumptions need to be further advanced for space, rule and time with a dynamic system incorporating the space of the system where change occurs. There must be clear rules within the space defining how change occurs. There must be a time element defining when change occurs. An appropriate system description needs to incorporate strategic theory and relevant logics to resolve the integration of governing opportunism, gaining competitive advantage, and improving future options for IT/IS managers. Decision making requires dynamically interacting within the system and settling on the most acceptable choice for evolutionary advantage based on the strategic mix and rules of the space in which managerial success or failure is achieved (see Table 1).

The schematic nature of the cultural problem solving system can now be summarized as follows: The system rules enable individual managerial choice within the spaces defining the internal and external boundaries of problem solving. Choices are strategic and subject to successful or unsuccessful system outputs over time feeding back and iterating into more successful, possibly unique, rules governing managerial survival. Strategic
problem solving and decision-making systems generate evolving sets of solutions when ambiguity over time challenges the stability of system rules and affects the established past successes in problem solving. The IT/IS manager must bear these cultural factors in mind when structuring transnational solutions to entrepreneurial strategies.

Our theory argues that strategic rules interact synergistically over time to generate increased choice of potential solutions where ambiguity in output success exists. The synergistic interaction is not wasteful in energy terms as the possibly unique output is strategically specific and aimed at improved solutions to an externally changing ecology. Successful choice feeds back to iterate further strategic rules – and the process continues over time, constantly evolving improved solutions and future rules.

A qualitative study on Chinese managers’ problem solving [65] provides a partial explanation of intra-national trends in Chinese cultural dimensions and gives insights into changing Asian business practices. The study suggests that managerial choice is inherently unstable in periods of high ambiguity but settles to communally acceptable values, attitudes, behavior, and market controls when ambiguity is low – thus allowing cultural differentiation between managers [66].

3 PROPOSITIONS
To sum up, three propositions are developed for the context of IT/IS managers when solving problems at an international boundary. Following the previous discussion, evolution in problem solving system rules is explicable when there is a trend towards maximizing solution success through:

- the retention of traditional socio-cultural rules governing transactions. For example, Chinese retain high relational trust levels to decrease costs, but countered by
- an increased heterogeneity in resources to improve problem solving when different strategic problem solving spaces offer alternative system rules for competitive advantage
- with the system outputs tending over time to solutions which decrease ambiguity in the flexibility offered by real options.

4 PROPOSALS
We address the Western culture factor bias of some of the more widely applied strategic and economic theories like transaction costs and resource-base in a new light. Key arguments establish a correspondence between Western economic theories and Chinese management practices - thus identifying an explanatory interaction in the socio-cultural and business influences of strategic theory. However, we extend that theory by focusing on its synergistic interaction and considering values evolution as a strategic solution to issues arising from the international nature of IT/IS problem solving.

We acknowledge that our study has limitations which relate to theory advancement and seek proposals from conference colleagues on theory testing. The theoretical development is derived from basic principles of culture and economic theory and from our attempts to take an intuitive leap into Chinese practices. The universality of the system would benefit from further empirical research into this concept in a number of different contexts – especially in the fast moving and interactive world of entrepreneurially driven and emerging digital environments with new ways of communication, interacting among individuals, organizations and societies across a variety of cultures.

The dynamic system of cultural adjustment outlined in this brief paper seeks to contribute towards the future space, rules and time of the mathematical but fast changing structures, processes and operations in the eWorld. The new theoretical perspectives developed in our paper need empirical support based on solid constructs in order to ensure the predictive successes of holistic, integrated strategic theories for the eWorld. The socio-cultural rules need to be refined further and tested against the problem solving behaviors emanating from different national institutions and organizational cultures as they meet increased uncertainty at international boundaries. It is hoped that the opportunities presented in Wuhan, with its diverse mix of cultures and IT/IS expertise, will solidify the theory outlined in this paper.

REFERENCES