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JOURNAL OF INTERNATIONAL BUSINESS RESEARCH

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LETTER FROM THE EDITOR

Welcome to the first edition of the *Journal of International Business Research*. The Allied Academies, Inc., is a non profit association of scholars whose purpose is to encourage and support the advancement and exchange of knowledge, understanding and teaching throughout the world. The *JIBR* is a principal vehicle for achieving the objectives of the organization. The editorial mission of this journal is to publish empirical and theoretical manuscripts which advance the discipline of International Business Studies.

The Academy is particularly grateful for the financial support provided by Sam Houston State University which was instrumental in making this new journal possible. The Sam Houston faculty is active in international business research and the institution is making a name for itself as a leader in this discipline, as well as in other areas of business research. The Academy welcomes Sam Houston as a sponsor and offers this volume of outstanding work as evidence of its interest in providing additional outlets for the research efforts of scientists in the international arena from around the world.

As has been the case with all of the journals supported by the Allied Academies, the articles contained in this volume have been double blind refereed. The acceptance rate for manuscripts in this issue, 25%, conforms to our editorial policies.

The Editor of this Journal will continue to welcome different viewpoints because in differences we find learning; in differences we develop understanding; in differences we gain knowledge and in differences we develop the discipline into a more comprehensive, less esoteric, and dynamic metier.

Information about the Allied Academies, parent organization of the *ASIB*, the *JIBR*, and the other journals published by the Academy, as well as calls for conferences, are published on our web site. In addition, we keep the web site updated with the latest activities of the organization. Please visit our site and know that we welcome hearing from you at any time.

Bala Maniam
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ABOUT THE SPONSOR



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Manuscripts

ECOLOGICAL SUSTAINABILITY PROGRAMS VIEWED THROUGH THE LENS OF CULTURE: PROSPECTS FOR SWEDEN'S THE NATURAL STEP IN THE UNITED STATES

Drew L. Harris, Longwood College
Melanie B. Marks, Longwood College

ABSTRACT

In response to global concerns about sustainability, The Natural Step (TNS) was born in Sweden and has raised global consciousness about sustainability. TNS provides four conditions for sustainability – three "scientific" conditions and one sociological condition. They also offer an implementation process of deep dialogue and inquiry for firms to explore the implications and applications of their four conditions. TNS conditions and their application are demonstrated as rooted in, and highly compatible with, Swedish culture and therefore not necessarily transferable to very different cultures such as in the U.S. U.S. cultural analysis suggests alternative approaches to engage the U.S. society as a whole. Although TNS appears broadly incompatible with U.S. culture, some U.S. firms may find strategic advantage in applying TNS conditions and processes. For successful application of TNS among U.S. firms the TNS process must be modified to include a business case analysis. By modifying approaches such as TNS to fit other cultures and by developing frameworks that are culturally sensitive we may find multiple paths to ecological sustainability.

INTRODUCTION

On June 14, 1992, more than 10,000 representatives from over 170 nations met in Rio de Janeiro, Brazil to address environmental concerns on a global scale. The purpose of the summit was to negotiate a global plan to guide nations in protecting the earth's resources and develop a blueprint that would stimulate local action. Out of this conference, the concept of "sustainable development" was born.

Many have struggled with the defining sustainability. Out of this search for meaning Dr. Karl-Hendrick Robert developed The Natural Step (TNS), which has guided Sweden in its quest for countrywide sustainable development efforts. Organizations engaging in TNS use processes of inquiry and dialogue that encourage consensus building, often identified as key processes in learning organizations (e.g., Senge, 1990). The TNS framework applies systems thinking, focusing on first-order principles at the beginning of cause-effect relationships. It recognizes that what happens in one part of a system affects every other part, and often in unexpected ways. TNS claims its framework (consulting process): "...is a guide to thinking and acting in harmony with the earth's cyclical processes. It provides a pragmatic framework which [sic] can be used to guide social,

environmental, and economic actions. It acts like a compass that can point individuals and organizations in the direction they want to go." For a more complete discussion of TNS see their web page at www.naturalstep.org, and Malcolm (1998).

Through 1999 in Sweden, over 25 large companies, 17 local authorities (governmental bodies), and several national authorities have adopted or aligned their strategies and at least some of their practices with the conditions specified by TNS (Bradbury & Clair, 1999). In addition, companies in other European nations and in the U.S. have begun evaluating and applying TNS for use in their strategies.

However, organizational theorists have doubts about the applicability of TNS outside of Sweden. Because TNS is grounded in Swedish culture, its approach may mitigate against potential success in producing ecological sustainability in other countries, such as the United States, that have a different culture and different environmental attitudes. This raises the central question of this inquiry: "How important is culture in developing national approaches to sustainability?" TNS approach suggests three components to this question: the role of cultural orientation to ecological sustainability, the role of economics in setting the foundation for a successful sustainable development program, and the process by which people come to agree on programs aimed at sustainability.

This study begins with a discussion of the concept of sustainability and then reviews TNS conditions and processes for implementing sustainable practices. We then explore the cultural dimensions of Sweden and the United States, using Hofstede's (1980, 1993) cultural dimension scale, in order to make connections between the approach to ecological sustainability and a country's cultural attributes. Next we explore the importance of having sustainable development programs and policies incorporate the values of society by addressing the prospects for TNS in the United States. We conclude that an important step in making TNS appealing to American firms is the development of the "business case" for sustainability.

SUSTAINABLE DEVELOPMENT

Presumably, in the absence of humans, ecological systems would function in a state of homeostasis. Human dominance and consumption of the rest of the ecosystem appear as the primary threats to the balance in the natural environment (and perhaps our own existence). Humans have rapidly accelerated the consumption of nature, in part, because we have developed social systems that increased our population and our collective, consumptive desire. In parallel, we have advanced knowledge, technology, and productive capability.

Were this not true, we would have played out Malthus's predictions and died as a species some time ago. Thomas Malthus's "An essay on the principles of population as it affects the future improvement of society" greatly influenced 19th Century economists and social theorists with his prediction that human population would always tend to outgrow human populations' technical ability to feed and otherwise sustain itself. Henry George (1880/1992) provided a scathing critique of Malthus that slowed popular belief and scholarly pursuit of Malthus's theory. One key flaw in Malthus's reasoning was his underestimation of human learning.

Modern concerns over sustainability, while paralleling Malthus in some regards, differ in that the question has shifted away from humans' technical ability to produce adequate food stocks to nature's ability to withstand the shock of human technical ability and regenerate at a sustainable pace. For example, the 50 scientists who developed The Natural Step principles agreed that our present pattern of growth and consumption are unsustainable (Bradbury & Clair, 1999), as did the 1500 scientists who called for a curb on global climate change before the 1997 global summit meeting on climate change in Kyoto, Japan.

The solution to current sustainability may be the same as the solution to Malthus's overpopulation concerns – finding more technically efficient (and therefore less environmentally impactful) ways to sustain human population through growth in knowledge, technology, and production. So, we seek greater knowledge, technology, productivity, and, perhaps, measures of restraint in hopes of finding a sustainable pattern of living.

Sustainable development requires that the world manage its natural and environmental resources to meet the needs of the present generation while preserving resources so that the needs of future generations can be met. Though the phrase "sustainable development" is relatively new, the idea behind it is not. Native American cultures held a similar concept. The Iroquois Confederation required that members consider the impact of their actions on the next seven generations. Agricultural practices such as crop rotation illustrate thinking long term with respect to environmental resources.

Some think that the phrase sustainable development is an oxymoron, that economic development exploits resources and therefore cannot be sustainable. However, focus on sustainable development has led to an appreciation for the relationship between multiple and sometimes conflicting goals, including environmental protection, economic efficiency, and social stability. For example, the United Nations Commission on Sustainable Development has identified 134 indicators with which to track the health of the environmental, the economy, and social stability, including income inequality, population growth rate, energy consumption, and ratio of average house price to average income (Farrell & Hart, 1998; www.un.org/esa/sustdev). While no one has developed a formal theory that integrates and resolves the conflict among these relationships, many understand the relationships exist, and those relationships may hold the key to true sustainability.

While an admirable goal, the idea of sustainability has lacked a blueprint for translating objectives into practice. Participants at the 1992 Earth Summit developed Agenda 21 so that countries would have guidelines to help chart their course of sustainable development. The document laid out environmental, economic, and social objectives; country representatives agreed to these with the intention of each country developing a plan for achieving the goals of Agenda 21 (For a thorough discussion of the goals and objectives of Agenda 21, see www.iol.ie/~isp/agenda21/agenda21.htm). One of the most aggressive countries in addressing the challenges of Agenda 21 was Sweden, with all 288 municipalities having produced supportive documents within five years of the summit (Larsson, 1999). Out of this commitment to sustainability, The Natural Step, a framework for developing and applying a sustainable plan, was born.

THE NATURAL STEP

Swedish oncologist Dr. Karl-Hendrick Robert developed The Natural Step (TNS) after noticing an upsurge in the number of child leukemia cases and growing increasingly concerned about the impact of toxins on human health. Dr. Robert wanted a practical model that addressed the causes of environmental problems, not just methods for handling existing ones.

TNS Conditions For Sustainability

Through a Delphic process with 50 Swedish scientists (of various disciplines and political orientations) Robert arrived at the four principles for sustainable human behavior (www.naturalstep.org) listed in Table 1.

Table 1 The Natural Step Conditions for Sustainability	
1	Substances extracted from the earth's crust, such as oil and metals, must not systematically increase in the ecosphere.
2	Substances produced by society, such as plastic, also must not systematically increase.
3	The physical basis for the productivity and diversity of nature must not be systematically diminished.
4	Global sustainability requires fair and efficient uses of resources to meet human needs.

The first condition addresses concerns such as increased greenhouse gases leading to global warming, contamination of surface and ground water, and metal toxicity. In order to meet this condition, resources must be used efficiently, consumption must be redirected towards resources that are less scarce, and dependence on environmentally damaging sources of energy such as fossil fuels must be reduced. The second condition addresses the increasing volume of synthetic materials in our environment. TNS requires that consumption be substituted towards those compounds that are "normally abundant" or break down into their components more easily in nature. The third condition acts to remind us of the value of biodiversity and its role in sustaining life. TNS requires that we exercise caution when human activity results in modifications to the natural environment.

Finally, the fourth condition addresses the inequalities that exist throughout the globe, keeping in mind that increased equity lends itself to greater social stability and the ability to address global environmental concerns. According to TNS organizations, achieving the first three conditions of TNS while addressing global concerns such as population growth and providing for basic human needs in all corners of the globe will satisfy this condition. While we agree that this condition flows naturally from the first three conditions, the path may be difficult to find.

"Fair And Efficient Resource Use" Through Scientific Analysis?

Conditions (1) through (3) are based on scientific principles. Condition (4) is more complex and hints at an important point—that it is impossible for people to embrace an environmental ethic when their basic needs are not met. It is hard to place an intrinsic value on resources such as forests and living trees when those same resources can provide fuel and shelter. For this reason, sustainability requires economic development so that standards of living increase, allowing economic resources to be allocated towards the achievement of sustainability.

For example, the Rainforest Action Network estimates that two and a half acres of Peruvian Amazon could be worth \$7,000 per year if the intact forest is harvested for fruits, latex, and timber. This is compared to the \$1,000 if the same area was clear-cut for timber or the \$148 if the land is used for cattle pasture (for details see Rainforest Action Network at www.ran.org). The tradeoffs in the decision to harvest rainforests illustrate the relationship between the TNS conditions. By eliminating inefficiency (TNS condition 1) and recognizing the importance of biodiversity (TNS condition 3), citizens can better satisfy basic human needs (TNS condition 4).

At the same time, there may be political and economic impediments to sustainability, such as policies that distort incentives and encourage development. Such has been the case in Brazil, where tax policies acted to encourage rainforest destruction in the Amazon (where land is not good for agriculture and farming incomes low) by making development in this area artificially profitable.

Land that was not particularly suited to agricultural production was being developed because agricultural activities received substantial tax deductions. Furthermore, subsidized commercial loans encouraged the establishment of large-scale cattle ranches in areas where land was not well suited for grazing. High and unpredictable inflation (933% in 1988) compounded the problem by encouraging investment in land, a more stable commodity (The Economist, 1989).

Squatters' rights have also created perverse incentives since government-determined land prices are artificially low and entitlements often based on how many acres have been cleared. (Theoretically the squatter must bid on the land in an auction process but in reality squatters are rarely challenged.) Squatters can accumulate even more land in some areas by submitting claims in the names of family members, qualify for up to 3,000 hectares (The Economist, 1989). Furthermore, squatters act as a threat to landowners by making land tenure insecure. In order to limit risks, landowners harvest trees to create cattle farms, since cattle can be moved to new property (and trees cannot) in the event of a land dispute (The Economist, 1998).

Finally, there are not enough resources put towards protection of the Amazon rainforest. Guards have little resources with which to do their jobs. And, low incomes make it easy for guards to be bribed (The Economist, 1989). Fines are not being collected and it has been determined that, despite strict laws, a great deal of illegal timber harvesting takes place (The Economist, 1998).

While many countries exploit their environmental resources for short-term gain, Brazil's situation has been different. "The destruction of the Amazon is different from most acts of ecological degradation such as, say, the hole in the ozone layer. In that case, the short-term interests of developing countries are in conflict with the long-term interest of all mankind (because poor nations want to produce CFCs in order to have a better life). But in the Amazon this is not the case.

A proper economic analysis suggests that it is not even in Brazil's short-term interest to destroy the jungle." (The Economist, 1989, p. 111)

Brazil's situation, prior to reforms, was not unlike that of many other countries. Government policies (tax codes) that distorted the pricing and profitability of unsustainable practices, combined with cultural aspects (low incomes, squatters rights) prevented the country from practicing conservation. While Brazil's policies could be seen as pursuing a level of fairness economic opportunities, analysis shows them inefficient in resource use and ineffective in creating a more equal and fair economy. A country like Brazil might do well to use the TNS process of deep inquiry and dialogue (described below), but start with condition 4: What are basic human needs, and how would a country truly construct policies to meet those needs while being fair and efficient in its use of resources?

The Process Of TNS

Through the system conditions discussed above, the leaders of TNS movement sought an operational definition for sustainability. However, they did not develop a specific model for achieving TNS. Instead, they developed a methodology based on scientific principles that acts as a "compass" for businesses, agencies, communities, and individuals interested in making their activities more sustainable. The process might begin with "Backcasting," - envisioning and articulating a highly desired future then framing goals in order to create that future. The next step introduces "Systems Thinking" where deeply exploring the principles of TNS for first- and second-order implications and side effects allows firms and agencies to incorporate them into practice. Through practice and reflection, people master the concepts and become increasingly skilled at applying them to their activities. Focus on the principles helps keep their practice on track. Finally, TNS advocates a "Step-By-Step" approach where changes are implemented to generate short-term benefits while keeping in mind the long-term goals. A firm or agency might map out steps that will move them towards their goal of sustainability, but they would first pick the "low hanging fruit"—those activities that are easiest to implement and provide visible benefits.

Organizations working with TNS use consensus building and dialogue to explore organization-specific applications that will move them down the path of sustainability. Throughout Sweden, "study groups" (Pike, Sheath & Carey, 1995) of ordinary citizens, business leaders, government leaders, and social activists meet and discuss the implications of the conditions for sustainability and how those might be implemented in daily life. Through inquiry, TNS leaders challenge participants to assess their assumptions and theories-in-use to generate double-loop learning (Argyris, Putnam & Smith, 1985) about themselves and their relationship to sustainability. Dialogue and consensus building reduce concerns about a "one-size-fits-all" or "one-right-way" approach to sustainability that the four guidelines might suggest.

Perhaps the strength of TNS is the inquiry and self-examination it generates. If this is the case, the principles themselves are less important (scientifically) than the self-assessment, learning, and consciousness-raising involved in the process. Soderbaum (2000) argued that breakthroughs in sustainability would only happen with a shift in schema or mental frameworks with which people view sustainability.

Winn (1999: 104) offered this description of a crucial shift in perspective that might support efforts toward sustainability: "In this vision, the meaning of sustainability is fundamentally reconceptualized, from an end-state to a process. Sustainability in this perspective would not be thought up by sustainability experts; rather, it would be the result of multiple, ongoing, collective processes of stakeholder negotiations and mediations. In such dialogue, ecology, economy, society, and justice become yardsticks by which key representatives of societal groups actively and explicitly sculpt the meaning of sustainability. The dialogue itself becomes sustainability unfolding."

TNS may touch on both approaches to achieving sustainability: expertly defined conditions that serve as seeds for deep dialogue and organizational learning.

HOFSTEDE'S CULTURAL DIMENSIONS

We argue that a successful sustainable development approach must be sensitive to the culture of the communities in which it is implemented. This paper relies on Hofstede's (1980, 1993) cultural dimensions for analyzing each national culture. Hofstede (1993) called culture "collective programming of the mind." As a construct, culture is accessed through inferences and applied as generalizing statements. When Hofstede "discovered" five (originally four) dimensions of culture, he made inference by way of statistical tools applied to questionnaire responses. Though he had a very large database (over 100,000 responses from over 50 countries), he reminds us that his concepts should not be reified and that they explain only 49% of variation between countries (with the remaining 51% attributable to country specific situations).

Table 1 provides an explanation of Hofstede's dimensions. Each dimension represents a polar continuum (high-low, Masculine-Feminine, etc). These have often been summarized more briefly as follows: Power Distance is the degree to which people accept unequal power relationships as normal. Individualism/collectivism represent the degree to which people rely on, respond to and trust either themselves or a group. Masculinity expresses the preference to "live for work" while the Feminine approaches work to support a better life. Uncertainty Avoidance indicates how comfortable people are with ambiguity and uncertainty and how much structure they prefer.

We recognize that other cultural models could be used, and each might suggest alternative analysis and actions. For example, Trompenaars (1994) and Kluckhohn & Strodtbeck (1961) explicitly included humans' relationships with nature among their dimensions of culture. We chose Hofstede's (1980, 1993) cultural dimensions for the following reasons. First, Hofstede's original research encompassed 53 countries, including those that are industrialized and developing, and has since been extended to other countries; this creates the potential for widespread use of our analysis. Second, Hofstede derived his dimensions by factor analysis not a priori assumption; therefore, they represent separate and distinguishable constructs. Third, these dimensions have been validated through correlation with other, independently derived indexes (Gordon, 1976; Kogut & Singh, 1988; McClelland, 1961; Shane, 1992, 1994) and through others replicating Hofstede's findings (Hoppe, 1990; Shackleton & Ali, 1990). Finally, we do not intend to make the definitive interpretation of culturally sensitive sustainability programs, but instead we intend to demonstrate the importance of culture in programs, such as TNS, that call for substantial changes in behavior across a nation.

Table 2 Hofstede's Cultural Dimensions	
Dimension	Description
Uncertainty Avoidance	The degree to which people prefer structured over unstructured situations. In cultures with high uncertainty avoidance people want clear rules on how to behave, they tend to show more nervous energy, and an attitude of "what is different is dangerous" prevails. Low uncertainty avoidance signals more flexibility, openness, and a greater ease with the unknown.
Power Distance	The degree of inequality among people that the population of a country consider as normal. Low scores indicate people tolerate very few differences; high scores mean people in the culture consider it normal to have steeply hierarchical relationships.
Individualism/Collectivism	Individualism is the degree to which people in a country prefer to act as individuals rather than as members of a group. In cultures with high Collectivism (low individualism) people grow up respecting groups to which they belong and to differentiate between in-group members and out-group members. They expect groups to care for and protect them and that they will reciprocate.
Masculine/Feminine	Highly masculine cultures value qualities like toughness, assertiveness, performance, success, and competition. High feminine cultures place more emphasis on quality of life, maintaining warm personal relationships, service, care for the weak, and solidarity.
Long-Term/Short-Term	Cultures with long-term orientation value the future through behaviors like thrift and persistence. Short-term orientation not only emphasizes immediate results, but it tends to look to the past in respecting traditions and fulfilling social obligations.
Adapted from Hofstede (1993)	

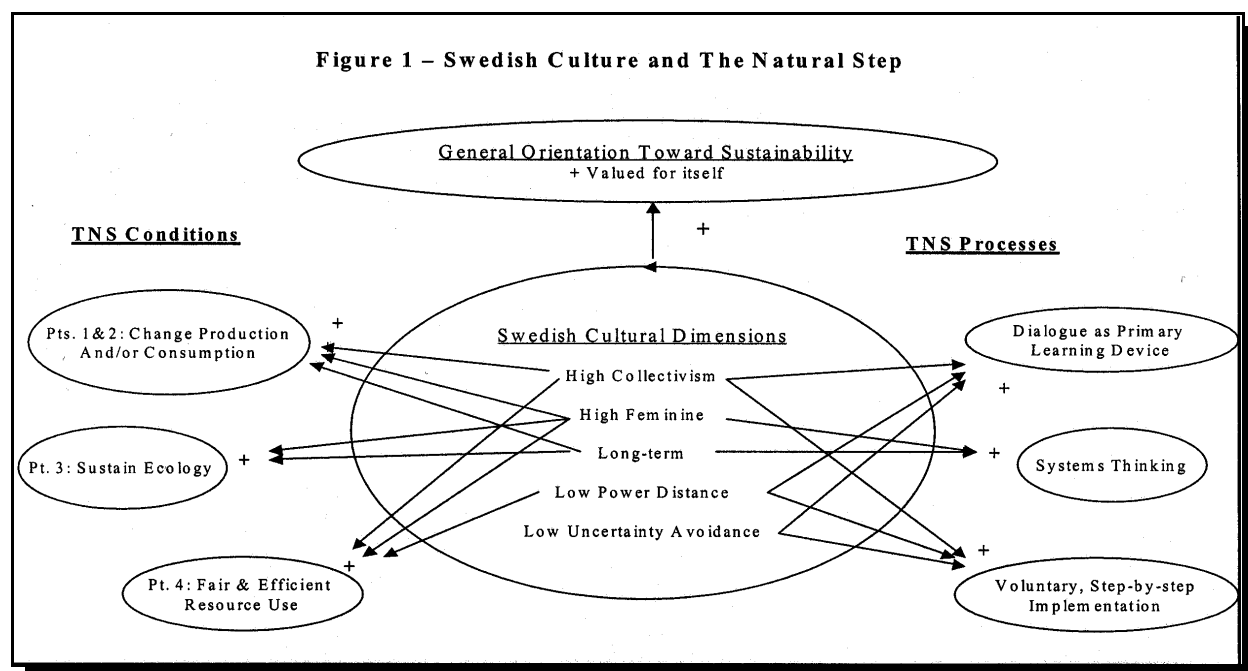
SWEDEN'S CULTURAL DIMENSIONS AS FOUNDATION FOR THE NATURAL STEP

Bradbury & Clair (1999) offered that, arising out of Sweden, TNS may reflect a national culture to such an extent that it might not work outside Sweden. Using Hofstede's cultural dimensions (1980, 1993), Bradbury and Clair pointed to Sweden's high Collectivism orientation (a willingness to act for the good of the whole over the good of the individual) as the key factor in TNS's ability to transform Swedish industry, government and society to embrace the four conditions for ecological sustainability. Through a strong launch that engaged leading corporations, media stars, radio and television, TNS gained national attention and awareness for their goal of creating a sustainable, healthier environment for all. With the King's endorsement, every household and school in Sweden received a brochure on TNS, an approach that allowed and encouraged all citizens to be involved in the process. The campaign appealed to the culture's broad desire for the collective good.

Building on Bradbury and Clair's analysis, we might review all of Hofstede's (1993) cultural dimensions to discern why TNS might be well suited to Swedish application. TNS provides a

framework for analysis by providing its conditions for satisfaction – a context and content for sustainability – and a method or process to be used in creating and applying practical sustainability knowledge.

We illustrate our analysis using Figure 1 (below). The center bubble contains Sweden's ratings on Hofstede's cultural dimensions (1993). We show Sweden's positive (+) relationship between its range of cultural dimensions and its general orientation toward sustainability (the top, center bubble). We also show relationships between particular aspects of Sweden's culture and the TNS Conditions for Sustainability (left bubbles) and the TNS process steps (right bubbles).



As figure one shows, Sweden's culture, especially its ratings on collectivism, long-term and feminine dimensions, provide a receptive context for valuing sustainability in its own right. Collectivism, long-term and feminine dimensions also support a willingness to consider changes in consumption or production implied by the first two TNS conditions. Sweden's high rating on feminine orientation combined with Long-Term view contributes to a context where Swedes might value the intrinsic (and extrinsic) values of biodiversity, sustainable resource use, and nature preservation implied by the third condition of TNS. Their high Collectivism and Feminine orientation along with low Power Distance provide a receptive context for discussing issues of equality and fairness in resource use and distribution.

Swedish culture also appears aligned with TNS implementation process. Their low Power-Distance contributes to a context where employees should be willing to speak across hierarchical boundaries (and citizens across bureaucratic layers) to join in the dialogue requested by TNS. Low Uncertainty Avoidance and high Collectivism also support dialogue and consensus

building as a method for building commitment and allows for the voluntary (and therefore unequal) application of steps towards sustainability. Their Feminine orientation (which includes concepts of wholeness) and Long-Term view provide a foundation for developing skill in systems thinking. Swedish orientation toward Collectivism and a Long-Term view of the world provide a receptive context for voluntary, gradual change towards sustainability

Cultural Dimensions As Seen In Swedish Practices

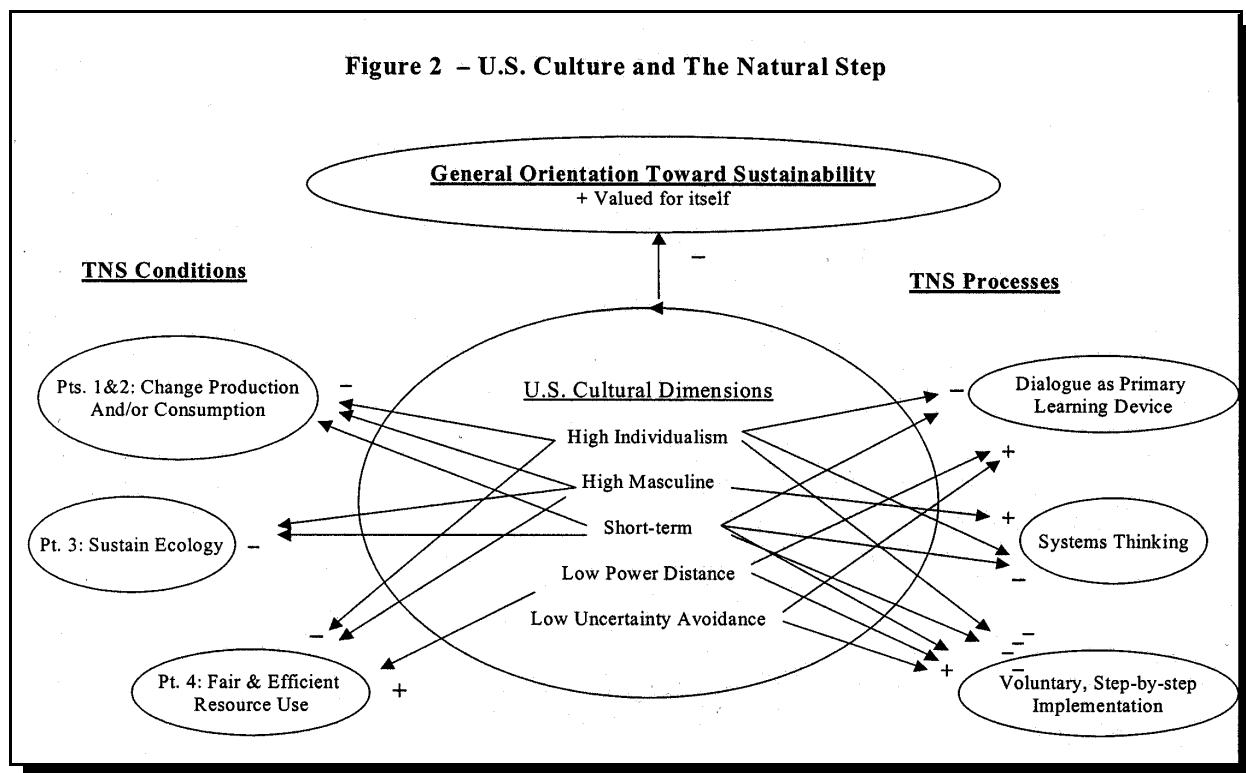
Anecdotal evidence suggests, and the idea is generally accepted, that Sweden has an environmental focus that is not matched by many countries. In Sweden, the focus is on the "good of the whole" and significant sacrifices are made in the name of environmental sustainability. Like many of its European counterparts, Sweden has mandatory recycling. But, the country has pulled itself ahead of the pack with its aggressive approach to decreasing the use of carbon fuels through substantial environmental taxes that surpass those implemented in Europe. In addition, Sweden has been one of the biggest contributors to United Nation efforts to address global sustainable development. This environmental commitment, combined with other cultural features, allows TNS to be successful in Sweden.

PROSPECTS FOR TNS IN THE UNITED STATES

Bradbury & Clair (1999) pointed to the distance between Sweden and the U.S. on Hofstede's Individualism-Collectivism dimension as the primary reason TNS might not be effective in the U.S. The U.S. scores high on Individualism – the inclination to focus on individual outcomes even at the expense of the collective good. An implied value expressed by TNS – voluntary participation for the common good – seems much less likely when the U.S. culture expresses a "me first" value.

Figure 2 (below) illustrates U.S. ratings on Hofstede's cultural dimensions and their positive (+) and negative (-) relationships with TNS General Orientation Toward Sustainability, TNS Conditions for Sustainability and TNS process steps. As with the negative overall relationship between U.S. culture and the TNS implied value of sustainability for its own good, specific U.S. cultural dimensions do not align well with TNS conditions and processes.

A high masculine orientation not only works against the appreciation of quality of life over work product, it also makes work superior to other aspects of life. This leads to a negative relationship with each of the TNS conditions for sustainability. Short-term orientation acts with masculine orientation to create a work-supportive myopia that reduces the likelihood of widespread embrace of the three scientific conditions of satisfaction. We see this combination expressed in higher-than-average levels of cigarette smoking among employees of tobacco companies (e.g., Drewry, 1997), and the denial of potential environmental causes of cancer among employees in high pollution areas (Begley, 1998). The American cultural need for and identification with work and the preference for short-term outcomes appear to limit perceptions of self-inflicted harm. While low power distance might provide cultural support for fair and efficient uses of resources, high individualism and high masculine orientation work might limit discussions of fairness to opportunities, not actually meeting basic human needs.



The prospects for the TNS process fair better than its conditions for sustainability. While high U.S. individualism works against dialogue-towards-consensus and systems thinking, it prefers choice (if not volunteerism) in implementation. Similarly short-term focus works against dialogue and systems thinking. The step-by-step, go-for-quick-early-results implementation process could leverage short-term thinking. However, TNS process calls for those short-term implementation steps to proceed in the service of long-term goals developed through dialogue and systems thinking. The U.S. masculine orientation would support systems thinking, and similar to Sweden, low power distance and low uncertainty avoidance support both dialogue and voluntary, experimental implementation. So, perhaps TNS process could be harnessed with only small modifications to work in the U.S. culture.

Cultural Dimensions As Seen In American Practices.

American's garbage situation illustrates the "me first" attitude and the cultural element of individualism. Americans are responsible for 19% of the world's waste, even though the U.S. population reflects only 5% of the world's population. Recycling rates are extremely low in the U.S., ranking the country 15th in the amount of paper it recycled (in 1997) and 19th in the amount of glass it recycled out of the 20 most industrialized nations (Horriagan and Motavalli, 1997). Lack of mandatory recycling in most communities and the willingness to "free ride" off of the efforts of

others explains why waste is high and voluntary recycling is low. Sweden, with a national recycling policy and a stronger environmental ethic, generated 440 kilograms of municipal waste per-capita (similar to that of other EU countries) as compared to the United States' 720 kilograms per-capita (The U.S. Bureau of the Census, Statistical Abstract of the United States: 1998 offers data on many countries in Table 1350, p. 833.). Some states, such as California, Maryland, and Virginia have regulations that require reductions in waste over short periods of time. Even so, recycling is still voluntary in those states.

Decisions about garbage and recycling have been left to individual states and communities, and there has been a resistance to force participation in programs. Authorities cite the high costs of recycling programs relative to landfills and the low demand for post-consumer materials. For example, when Philadelphia cut its curbside collection of plastic in 1994, the city was able to reduce expenditures by \$400,000 (Boerner and Chilton, 1994). Instead, some effective programs have focused on the cultural element of individualism and have harnessed economic incentives, such as the "Pay as You Throw" (PAYT) programs.

The objective of the PAYT program is to eliminate the flat fee structure involved with garbage collection. Instead, the program incorporates the "polluter pays" principles by charging by the bag (where households purchase special bags or stickers that must be displayed on ordinary bags) or by offering different sized garbage cans that have different monthly fees associated with them. While the number of communities using these types of variable fee structures is small, the successes speak for themselves. Garbage volumes are down in these communities and recycling rates are on the rise. (For a review of Pay As You Throw Programs see www.epa.gov/payt).

Innovative approaches to reducing air pollution also reflect the American culture. The Clean Air Act Amendments incorporate the use of tradable pollution allowances in the Acid Rain program (which sets more stringent standards than the National Ambient Air Quality Standards, NAAQS). Under the tradable allowance system, electric utility plants receive pollution allowances based on their history of fuel consumption and a specific rate of emissions. A firm must have one allowance for every ton of pollution it emits over a period of a year. Firms that can decrease their emissions in a cost-effective manner can sell allowances in the marketplace to firms that find it more cost-effective to purchase allowances. In this way, firms are given an economic incentive to reduce emissions. For example, the first exchange of pollution rights involved the Tennessee Valley Authority buying allowances from Wisconsin Power & Light (now part of a company called Alliant). TVA decided that the two or three million dollars that the purchase would cost them was better than the alternative of installing new technology (- The Nation, June 8, 1992).

It is important to understand that this innovative approach to reducing air pollution did not give firms the right to pollute an unrestricted amount. Firms are still required to meet the limits set under the Clean Air Act, regardless of how many allowances they can obtain. In addition, the government essentially controls the level of SO₂ emissions since it determines the number of permits that will be available in a given year (with the exception of allowances that are "banked" from prior years). This program gives firms an incentive to further decrease emissions (because allowances are sold for a profit) while giving firms a choice in how mandates are going to be met. The program simultaneously taps the cultural values of low uncertainty avoidance (since flexibility is being introduced), high individualism (by offering firms the opportunity to make individual

decisions), and short-term focus (by incorporating an economic incentive and harnessing the profit motive).

There are many other programs that exploit the American culture. Simple laws such as the bottle bills that require deposits on drink cans and bottles in many states harness the idea of rational self-interest and therefore have been effective in reducing litter and material waste. The approach also incorporates the characteristic of individualism since each person can make a choice about returning bottles or leaving them for someone else. The congestion toll is another innovation that harnesses the ideas of individualism and self-interest. With a congestion toll, the price charged for traveling on a particular road is a function of the level of traffic. During rush hour, when congestion would be particularly problematic, tolls are much higher, thereby diverting traffic to other roads or other, less congested times. In some areas, drivers of high occupancy vehicles can use the road for free, thereby encouraging carpooling.

GROUNDING SUSTAINABILITY EFFORTS IN U.S. CULTURE

Some firms have taken on sustainability as a matter of heartfelt commitment. Their strategic advantage probably arises from the deep self-examination required to truly operate as an agent of sustainability (Meyer, 2000). For firms such as Interface Inc, Stoneyfield Farms, and Xerox, pursuing environmental responsibility has led to full systems thinking, deep appreciation of production process, and penetrating insights into the true value that the firm adds (Meyer, 2000). Some U.S. organizations have applied TNS principles and methods, but those companies represent a small proportion of U.S. industry. Monsanto Chemicals has been the only large U.S. company to publicize its involvement with TNS (Malcolm, 1998).

While most firms have adopted conservation practices on some level, creating a top-down sustainability program requires a commitment that is rare. After Dow Chemical drastically reduced the level of toxic emission at their Midland, Michigan plant while generating an enormous financial return (174%) in the process, Linda Greer of the Natural Resource Defense Council wanted to share the knowledge with other firms. She sent letters to 35 of the biggest corporate polluters, inviting to use the process proved effective by Dow. However, the answer across the board was "no." According to Greer, "The fact that all said no strongly suggests there is a lot of shallow rhetoric out there (Amato, 2000)." Greer and her colleagues acknowledge that often pollution prevention solutions have a "nickel-and dime" characteristic, and that it is hard for firms to be motivated by small-scale projects.

THE BUSINESS CASE FOR SUSTAINABILITY

Environmental management systems such as TNS allow for a top-down program based on thorough evaluation of all processes, but companies have to be motivated to undertake the challenge. They must see large-scale benefits and a justification of the process. The bottom line is that for American firms to embrace TNS, they must build the "business case" for such an endeavor. In other words, there must be a convincing argument that TNS can help pursue goals other than the creation of a corporate environmental ethic—it must make sense from an accounting standpoint. Firms must

conduct an exercise of evaluating the potential costs and benefits, and even if the green approach does not yield higher profits or market shares, the tradeoff must be explicit.

An important component of the business case for sustainability is the potential for lowering costs. Savings can be generated through more efficient use of materials and by linking with partners who find that the "waste" from one process is valuable input to another. Catalytica Combustion Systems of California has found that its move toward catalytic converters for ultralow-emission gas turbines allows turbines to be located in areas that previously would not allow them. This has resulted in substantial savings. Companies such as 3M, with its Pollution Prevention Pays charter adopted in 1975, and Dow Chemical have also found that being environmentally responsible pays (Amato, 2000). Southwire Company also reports that they save money through the pollution prevention programs that it has implemented. (Graff, 1997). These isolated examples of specific practices give hope that a thorough, top-down approach to sustainability, combined with creativity, can result in a strategic cost advantage.

Another potential savings from participating in a TNS process is reduced liability with respect to fines and criminal penalties. Carol Browner, former Director of the EPA, explains that "Increasingly the courts have shown they are willing to punish willful polluters with stiff penalties or with criminal convictions, substantial fines and prison sentences. Fines have run as high as 22 million dollars (Browner, 1995)." Careful planning can reduce the probability of receiving such penalties or decrease financial liability when they are imposed. In a landmark case, penalties imposed on GTE were reduced from over \$2 million to just over \$50,000 because of the firm's practice of administering self-audits. Reduced liability can also lead to savings such as reduced insurance premiums (Graff, 1997). Sustainability programs also help firms better market to green consumers, thus giving firms a competitive advantage (Forte & Lamont, 1998). For example (Bradbury & Clair, 1999), IKEA became TNS's first business partner in response to customer requests that IKEA become more environmentally friendly. They met that demand, not by changing their core business, but by producing a new (additional) line of furniture that contained no metals or persistent glues, and was built from wood extracted from sustainable forestry. That product line has been a success, and has opened further discussions of how IKEA might apply TNS conditions to other parts of its business.

The idea of integrating environmental issues into the process and content of marketing strategy has moved into mainstream marketing consciousness over the last decade (Menon & Menon, 1997). However, labeling oneself "green" has become so commonplace and without specific meaning that a strategic advantage in that arena seems difficult to achieve. Further, abuse of such claims has led to negative publicity and loss of reputation when those abuses have been exposed (c.f., The Amicus Journal, 2001; West, 2000). Environmental management systems such as TNS, with an exhaustive top-down focus, can allow firms to distinguish themselves from others who promote a green messages; since TNS requires goal setting and self-examination, the environmental ethic will be implemented in a consistent method and practices will better hold up to scrutiny.

Adopting an environmental management system such as TNS can also give firms a competitive edge with respect to meeting new environmental regulations. That advantage could accrue to Swedish firm, OK Petroleum, which applied TNS principles to develop the world's

cleanest gasoline. While executives from OK recognized strict interpretation of TNS conditions might ultimately lead to phasing out gasoline production and consumption, their application of TNS conditions have created a competitive advantage with respect to anticipating more stringent regulations (especially with the focus on carbon taxes in Sweden).

Finally, individuals need to have a stake in the process of developing a sustainability program. Successful programs rely on the innovation of employees who are in a position to evaluate potential solutions. Dow has embraced this idea by offering incentives to workers to develop methods for preventing pollution "no matter how small they might seem to the accounting department (Amato, 2000)."

CONCLUSION

In response to global concerns about sustainability, The Natural Step (TNS) was born in Sweden and has raised global consciousness about sustainability. TNS has provided both a "compass" (with its four conditions of sustainability) and a call for deep dialogue into the meaning and value of sustainability. The process might begin with "Backcasting," the process of articulating a highly desired future and framing goals to create that future. The next step introduces "Systems Thinking," where deeply exploring the principles of TNS for first- and second-order implications and side effects allows firms and agencies to incorporate them into practice. Finally, a "Step by Step" approach can allow changes to be implemented to generate short-term benefits while keeping in mind long-term goals.

Three of the four TNS conditions are based on good science—limiting our consumption of scarce resources, decreasing the volume of synthetic materials in the natural environment, and valuing biodiversity. The fourth condition is more complex and addresses the need for increased equity, locally and globally, that lends itself to greater social stability and the ability to address environmental concerns. The TNS organization suggests that achieving the first three conditions, while simultaneously addressing population growth and basic human needs, generates the fourth condition. We suggest that there are economic and political impediments to achieving sustainability, as seen in countries such as Brazil, where tax codes and policies encouraged development and deforestation by making the activities artificially profitable. We claim that condition four addresses a potential limiting factor for TNS in developing countries unless those countries use that condition as their starting place. Policies that promote social stability, equity, and efficient resource use are necessary conditions for a successful program of sustainability.

Culture can also act as a limiting factor to TNS. In Sweden, the founders of TNS have raised that consciousness at a national level, influencing corporate, government, and citizen behaviors. However, much of the program's success appears to arise from strong alignment between the Natural Step content and process and Swedish national culture, where the environmental ethic is strong. Evaluating the country using Hofstede's cultural dimensions, Sweden has a high orientation toward collectivism, a long-term view of the world, and a high rating on feminine dimension ("work to live" as opposed to the masculine "live to work"). The Swedish culture provides a receptive context for valuing sustainability in its own right. The low power-distance contributes to a situation where

employees should be willing to speak across hierarchical boundaries and join in the dialogue. Low uncertainty avoidance further supports this.

As TNS gains momentum, organizations elsewhere have inquired into the potential to apply TNS conditions and methods. Thus far, the impact of TNS elsewhere has been minimal. We argue that the approach used by TNS is inconsistent with cultures that differ significantly from Sweden, for example, that of the United States. Analysis of the cultural dimensions of The United States suggests a need to address individualism and short-term focus by harnessing the concept of rational self-interest on the part of individuals and firms. A U.S. approach could leverage high individualism and masculine dimensions by providing economic incentives for compliance/participation and allowing flexibility in participation (which also taps low uncertainty avoidance). The influence of masculine orientation would also suggest support for measures that would provide broad economic benefits. One might expect various locations to experiment with programs, reflecting individualism's preference for unique, uneven short-term needs, and varying regional/local economic needs.

We argue that for U.S. firms to adopt TNS, they must add an implementation step of building a business case, evaluating the process from an accounting standpoint and formalizing the potential benefits and costs. The business case would include potential savings from more efficient use of resources and decreased financial and criminal liability. The processes of goal setting and self-examination can generate competitive advantages when targeting the green consumer, avoiding negative publicity, and anticipating new environmental regulations. Finally, we address the importance of having employees involved in the process, with incentives created to encourage and reward participation.

Our analysis suggests that in order to effect widespread change towards sustainability we need to look for culturally sensitive approaches adapted to each nation. We have used Hofstede's dimensions of culture and The Natural Step to show how some processes might work in some cultures and not in others. Proclamations, programs and agreements made at an international level must provide flexibility so that each nation may find a culturally appropriate way to work towards a sustainable world. By appreciating and leveraging our differences we may come to approaches that will sustain our common future.

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A COMPARISON OF ORGANIZATIONAL COMMITMENT BETWEEN NATIONAL AND EXPATRIATE EMPLOYEES IN PUBLIC AND PRIVATE SECTOR ORGANIZATIONS

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ABSTRACT

Research literature reveals that organizational commitment is a well-studied construct in Western organizational literature, but few studies have focused on organizational commitment in Arab (Persian) Gulf organizations. This study used data from 101 expatriate and national employees working in private and public sector organizations in the Sultanate of Oman to compare organizational commitment levels.

Because of cultural and individual differences between nationals and expatriates, we hypothesized that there would be differences between national and expatriate commitment levels in both private and public sector organizations. Allen and Meyer's (1990) three-component measure of organizational commitment was used. A questionnaire was developed to collect subject responses to commitment, satisfaction and demographic items.

Results provided only partial support for our hypotheses. Generally, no difference in organizational commitment was found between nationals working in the private versus public sectors. Further, nationals working in the private sector reported higher commitment than expatriates, while expatriates working in the public sector had the same overall commitment levels as nationals. These results and their implications for managers are discussed.

INTRODUCTION

Commitment of employees to their organizations has been a important area of organizational research for several decades in Western organizations. What makes commitment important to practitioners and scholars alike is its relationship to numerous organizational constructs of interest, including in-role (e.g. turnover, performance, and absenteeism) and extra-role behaviors (e.g. organization citizenship or prosocial behaviors). Several studies have examined the relationship between employee commitment and employee characteristics, such as perceived competence, age, gender, tenure, marital status, education, and salary (Mathieu and Zajac, 1990).

The relationship between commitment and organizational and job characteristics have also been heavily researched areas (Hackman & Lawler, 1971; Mathieu & Zajac, 1990). Furthermore, there has been a growing interest in comparative studies of different industries and sectors. One such area of interest to this study has been in comparative research between public and private sector organizational commitment (Balfour & Wechsler, 1991).

However, even with this growing research literature, there remains considerable uncertainty as to the relevance of much of the research to specific cultural contexts, namely those outside Western environments. Moreover, little research has compared commitment in private versus public organizations outside the U.S. Unlike Western contexts, in most developing countries the government is the primary employer of national employees, whereas the private sector employs mostly expatriates. This setting, combined with several other socio-cultural factors, suggest that significant differences in commitment can be expected between employees in both public and private sectors.

The purpose of the present study was to explore the issue of organizational commitment in Oman, a small country located on the Arabian Peninsula. Little previous work has been done in this important region of the world. Given the competitive market forces enveloping this region of the world, the need for enhanced organizational performance becomes a social and economic imperative.

CULTURAL BACKGROUND OF THE GULF COUNTRIES

The six Arab countries that make up the Gulf Cooperation Council (GCC) include Saudi Arabia, Oman, United Arab Emirates, Kuwait, Qatar and Bahrain. They are nations of an estimated 28.9 million residents of whom approximately 7.3 million (31%) are expatriate. Furthermore, these expatriates make up nearly 70% of the workforce in these countries (The Europa World Year Book, 1999). Islam is the dominant religion in the region and the monarchical form of government is the only administrative system.

These GCC countries have experienced much growth and change in their economic and social conditions over the past decades as a result of the vast revenues from oil. By the late 1970s, faced with the desire to gain national control over vital sections of their respective economies, many governments in the region adopted a policy of giving first priority to nationals in filling administrative/management positions. This was particularly emphasized in the government sector, where government mandates gave exclusive rights to nationals for these positions (Abdel-Halim & Ashour, 1995).

On the other hand, however, faced with the fact that the national workforce in the region was sorely under-skilled, governments had to utilize foreign workers to provide the skills necessary to support the established government goals for development. These non-national workers provided most of this diverse labor requirement, ranging from the least skilled laborers to managerial and technical skills. This resulted in expatriates becoming the real economic value in the private sector while the nationals were marginalized.

These two forces together have resulted in the public sector becoming the main, if not the only, employer of nationals. In the pursuit of nationalization of public sector jobs, oil revenues permitted governments to train nationals while sacrificing efficiency.

In the 1980s, oil prices plummeted and revenues from oil fell sharply from their peak levels. Along with the rapid population growth, governments in the region could not absorb the graduates coming out of their educational systems. Thus, the nativization policies began to focus on the private sector.

These initiatives have not been particularly successful. The private sector is not willing to provide the same compensation packages as the public sector does. Second, in the public sector people work fewer hours than in the private sector. Third, the organizational culture in the public sector is completely different than that of the private sector. In sum, working for the government means higher salaries, better hours and working conditions, social respect, prestige and better benefits than the private sector.

As a result of decades of policies favoring nationals' employment in the public sector, it is presently taken for granted by nationals that upon graduation from high school or college, they will join the public sector. Despite efforts to encourage nationals to work in the private sector, it remains a sector dominated by expatriates, especially in unskilled employment.

LITERATURE REVIEW

Organizational Commitment

Commitment has been conceptualized and operationalized in various ways in organizational literature. Generally, it has been defined as the psychological attachment felt by the person for the organization, a predisposition which reflects the degree to which the person internalizes or adopts the characteristics or perspectives of the organization. Allen and Meyer (1990) classified commitment into three general themes: (1) emotional or affective attachment; (2) perceived costs of leaving the organization or continuance; (3) and obligation or normative commitment.

Many studies have sought to link commitment with a variety of work behaviors, including voluntary turnover and absenteeism (Mowday, Porter & Steers, 1982), performance (Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989) and organizational citizenship (Shore & Wayne, 1993; Van Dyne & Ang, 1998). While evidence has generally supported these linkages, many of the relationships have been quite weak. For this study, Allen and Meyer's conceptualization of organizational commitment as a three-component construct is used. A brief discussion of these three components follows.

Affective Attachment	Porter and his colleagues defined commitment as "the relative strength of an individual's identification with and involvement in a particular organization (Mowday, Steers, & Porter, 1979). Conceptually, it can be characterized by at least three factors: a) a strong belief in and acceptance of the organization's goals and values; b) a willingness to exert considerable effort on behalf of the organization; and c) a strong desire to maintain membership in the organization (Mowday et al, 1982). Allen and Meyer (1990) labeled this kind of commitment as affective commitment, a form of emotional attachment to the organization.
Continuance Commitment	A second view characterizes commitment as a "calculated commitment" (Mathieu & Zajac, 1990). In this perspective of commitment, a person is seen to "engage in consistent lines of activities based on the individual's recognition of the cost (or lost side-bets) associated with discontinuing the activity" (p. 172). Allen and Meyer (1990) labeled this view of commitment as continuance commitment (i.e. commitment to continue a certain line of action).

Normative Commitment	A less common but equally viable approach has been to view commitment as a belief about one's responsibility to the organization. Wiener (1982) defined commitment as the "totality of internalized normative pressure to act in a way which meets organizational goals and interests' and suggests that individuals exhibit behaviors solely because they believe it is the 'right' and moral thing to do." (p. 421). This is Allen and Meyer's (1990) third component.
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Commitment Research in Arab (Persian) Gulf States

In reviewing commitment research conducted in the Arab Gulf, four studies were found and are discussed below. Alnajjar (1996) assessed satisfaction and job commitment of 171 employees (148 nationals) from various governmental agencies and private companies in the United Arab Emirates (UAE). Using the Job Satisfaction Questionnaire, he assessed job security, job status, relations with managers, and with colleagues. The desire to fulfill commitments related job requirements was tested using the scores on the Organizational Commitment Scale, which measures discipline (punctuality, obedience, meeting standards of performance and appearance) and concern (organizational climate, firm's social status, and worker loyalty). Satisfaction with their managers and colleagues, and job status, were significantly correlated with job commitment.

In the second study, Abdullah and Shaw (1999) examined the role of personal characteristics (i.e. nationality, gender, marital status, education, age, salary, tenure) on organizational commitment of 147 (44 nationals) employees of the Ministry of Health in the United Arab Emirates. Both affective and continuance commitment were assessed. Results indicated significant relationships between personal characteristics and commitment, with gender, marital status, and branch assignment most significantly related to continuance commitment. Marital status, age, and tenure were significant predictors of affective commitment. Further, the nationality of the employee interacted significantly with personal characteristics in predicting continuance and affective commitment. That is, UAE nationals exhibited higher levels of continuance commitment with higher levels of education, whereas the opposite was true for non-nationals.

Finally, Alnajjar (1999) analyzed psycho-social factors believed to influence the commitment of 476 employees (398 nationals) from various governmental agencies and private companies in the United Arab Emirates. Again, using the Organizational Commitment Scale, Alnajjar found that the discipline factor was found to be more dominant than the concern factor. However, motivation to update their skills and to develop their current organizations was found to be the least important commitment expressed. Also, the results revealed no relationship between age and years of service and commitment, while salary and educational level were significantly related. Satisfaction and commitment were positively related as well. One interesting finding was that subjects from firms that were managed by nationals were found to have higher commitment on the dimensions of discipline and concern than those that worked for expatriates. Also, employees getting higher salaries tended to be more committed. And finally, married employees were more disciplined (punctual, follow rules, etc.) than were unmarried employees.

Al-Meer (1989), using the Organizational Commitment Questionnaire, assessed the commitment of 239 employees engaged in managerial and non-managerial jobs in several types of organizations in Saudi Arabia. All were full-time employees from the United States, the United

Kingdom, Saudi Arabia, and six Asian countries: Bangladesh, India, Pakistan, the Philippines, Sri Lanka, and Thailand. In general, the results indicated that Asian workers expressed higher levels of organizational commitment than did Westerners or Saudis. For Saudi employees, positive relationships were found between organizational commitment and age and tenure.

Private Versus Public Organizations

Previous research on commitment in the public sector has yielded mixed results (Balfour & Wechsler, 1991; Choudry, 1989; Hoy & Sousa, 1984). Lower organizational commitment levels were found in government managers than were found in private firm executives (Buchanan, 1974). Moreover, using O'Reilly and Chatman's (1986) three-dimensional model of commitment, Balfour and Wechsler (1991) found a positive correlation between public employment and internalization (of organizational values) commitment, no correlation with compliance (to follow rules), and a negative correlation with identification (belief in organizational purpose and goals) commitment (Steinhaus & Perry, 1996). Using public-sector employees, Balfour and Wechsler (1991) found a correlation between commitment and employees' desire to remain with their organizations, but no correlation with a willingness to do extra work. In sum, studies have suggested that differences between public and private sector employee-commitment levels can be expected, and the types of commitments may differ as well.

HYPOTHESES

The present study examines organizational commitment in public and private sectors in the Sultanate of Oman. Based on the literature reviewed, and considering the unique features of the Gulf, we make two hypotheses regarding organizational commitment in Omani organizations.

Commitment in public versus private sectors. As noted in the literature review, commitment is expected to differ between public and private sector employees (Buchanan, 1974). Whereas in the US, where government employment is not viewed as so attractive an employment option, in the Gulf, it is quite the opposite. Government employment not only brings generally higher wages for the hours and work required, but also job security and increased status is given to people working in the public sector. As a result we would expect that not only would continuance commitment scores for nationals be higher in the public sector, but also affective commitment scores. No effect is expected for normative commitment.

Hypotheses #1 Nationals working in the public sector will express higher affective and continuance commitment than do nationals working in private sector.

Commitment in the private sector. Looking within the private sector workforce, particularly as it pertains to Oman, expatriate employees make up the greatest proportion of the workforce. Opportunities in the public sector for expatriates have been quite limited for some years now, being Omanized at levels somewhere over 90% in many government ministries. Therefore, most

expatriates come to the country expecting to work in the private sector. To stay in the country and continue to earn the relatively attractive wages an expatriate can earn in the Gulf, he must perform and his company must succeed. Therefore, it would be expected that his commitment levels would be relatively high, not only in a continuance sense, but also in an affective one.

However, for the national, to work in the private sector suggests that he/she could not get a job in the government, taking a job in the private sector as a last resort. While records are unavailable to establish the extent of this problem, turnover of nationals in private sector jobs is common. Most private sector jobs are more demanding in both time and effort and often don't pay proportionally more for such demands. As a result, many nationals continue to pursue public sector jobs, even though they are employed in the private sector.

As a result of these comparatively different expectations regarding private sector employment, we expect that expatriates working in the private sector will have higher affective and continuance, even normative commitment, than nationals. The high turnover rates suggest that nationals are generally less committed to these organizations.

Hypotheses #2 Within the private sector, national employees will express lower levels of affective, continuance and normative commitment than expatriate employees.

METHOD

Subjects and Procedures

Subjects. The sample for this study was taken from several organizations, both private and public sector, from the Sultanate of Oman. Public sector organizations sampled included hospitals, a government ministry, and education, while private sector organizations included manufacturing, education, and services. A total of 101 out of 120 surveys were returned, for a return rate of over 84%. Of the surveys returned, 58 (59%) were male, 52 (52%) were under 30 years of age, 60 (59%) were married, 61 (60%) were nationals, 79 (78%) with education levels above secondary school, and 54 (54%) worked in the public sector.

Procedures. Questionnaires were distributed to employees by the researchers using known connections within organizations, a common and necessary way to gain access to organizations in this part of the world. In essence, this is a convenience sampling technique, whereby the researcher gains access to the sample via the contact in the organization. However, the return of the questionnaires is generally assured, as evidenced by the unusually high return rates.

Accompanying each questionnaire was a letter explaining the general purpose of the study, assuring anonymity, and giving instructions as to what to do with the survey when completed. The questionnaire was translated into Arabic from English. The Arabic translation was first translated into Arabic from English by the native-speaking Arab researcher. Then, two colleagues fluent in Arabic and English were asked to retranslate the Arabic version back into English. With these colleagues, differences in translations were discussed and the final translations were produced. Both versions were provided to each respondent with instructions to complete only one.

Measures

Organizational Commitment. Allen & Meyer's (1990) three-component organizational commitment scale was adopted for this study. All 24 items were used reflecting the affective (affcom), continuance commitment (ccom) and normative (ncom) components. Seven-point Likert-like scales were used, with scale dimensions ranging from 1 = Strongly Disagree to 7 = Strongly Agree. Cronbach alphas for affcom, ccom, and ncom in this study were .63, .66, and .39, respectively, with the complete 24-item scale reliability at .68.

Satisfaction. As satisfaction is often found to be positively related to commitment, particularly affective commitment, it was measured using general satisfaction items developed for this study. Items such as "Generally speaking, I am very satisfied with this job," "Overall, I'm happy to work here" and "I like the people I work with on the job" were used. The six-item scale reliability was .54.

Demographics. Several items were developed to capture group differences in the sample. They included measures of sex, age, marital status, salary, education, organizational sector and nationality. All items were scaled as categorical data (eg. Age: 1= under 30, 2= 30-40, etc.).

RESULTS

Table 1 contains the mean scores for nationals (Omanis) and expatriates, in public and private organizations, on commitment and satisfaction. In looking at the means, it is evident that expatriate employees' overall commitment levels are noticeably lower than nationals in private sector organizations and from expatriates working in the public sector, whereas in the public sector means are the same for both nationals and expatriates. When looking at specific components of commitment, we see that these differences are largely manifested in the continuance commitment component. Satisfaction scores seem quite similar across groups with the exception of public sector expatriates scoring noticeably higher on satisfaction than the rest.

Variable	Omani		Expatriate	
	Public	Private	Public	Private
Commitment	109.47	110.36	110.53	99.71
Affective Commitment	36.41	38.27	38.89	34.56
Continuance Commitment	39.53	38.67	34.28	30.75
Normative Commitment	33.25	34.05	36.61	34.64
Satisfaction	29.71	29.57	34.68	28.60

Tables 2 and 3 contain, respectively, correlations and regressions of variables related to our hypotheses. Looking at Table 2, few correlations were significant at $p < .05$ for nationality (national vs expatriate) or organization (public vs private). The single exception for commitment was found between continuance commitment and nationality.

Table 2 : Pearson-Moment Correlations Independent and Dependent Variables														
Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
1 Commitment	108.2	15.8	1.00											
2 Affcom	37.4	7.6	.73**	1.00										
3 Ccom	36.5	8.7	.70**	.20	1.00									
4 Ncom	34.3	6.6	.66**	.32**	.19	1.00								
5 Satisfaction	30.8	5.9	.36**	.42**	.14	.25*	1.00							
6 Nationality	-	-	-.1	-.03	-.35*	.15	.17	1.00						
7 Org. Membership	-	-	-.1	-.01	-.14	-.02	-.18	.04	1.00					
8 Sex	-	-	.2	.07	-.01	.10	-.02	-.09	-.08	1.00				
9 Age	-	-	-.1	-.05	-.26*	.08	.25*	.46**	-.16	-.21*	1.00			
10 Marital Status	-	-	.0	.11	-.23*	.04	.36**	.32*	.07	-.19	.55**	1.00		
11 Salary	-	-	-.2*	-.08	-.22*	-.19	.02	-.08	-.40**	-.27**	.40**	.32**	1.00	
12 Education	-	-	-.2	-.05	-.37**	.01	.22*	.43**	-.31**	-.22*	.57**	.41**	.55**	1.00
* $p < .05$ ** $p < .01$														

Hypothesis 1 was only partially supported by this data. It was expected that nationals working in the public sector would report higher levels of affective and continuance commitment than nationals in the private sector. As already observed from Table 1 and 2, this expectation was not supported, as means for government-sector national employees were not significantly different from those of private-sector nationals. In fact, affective commitment scores were actually lower for public sector nationals than for private sector ones. Further, there was no relationship found between affective commitment and organizational membership. No effect for continuance commitment was observed when comparing nationals working in the public versus private sector, with no statistical difference noted at $p < .05$. Finally, there was no effect found for normative commitment, which was as expected.

Hypothesis 2 was generally not supported by this research. It was expected that nationals working in the private sector would be less committed than expatriates at all levels of commitment. From Table 1, we can see that generally nationals revealed higher commitment scores, especially in continuance commitment, which was statistically significant in t-tests at $p < .05$. This was contrary to our hypothesis.

Regression Analyses

Table 3 contains the results from regression analyses for organizational commitment. In order to remove any effects for the version of questionnaire used by the respondent, the version of the questionnaire was entered first as a control variable in all regressions. Using stepwise regression, overall commitment and commitment components were analyzed as dependent variables to test our hypotheses.

From the table, we see that satisfaction is generally the most consistent and strongest predictor of commitment scores. Affective commitment was most strongly related to satisfaction. This was expected. As mentioned earlier, satisfaction is commonly related to commitment and a major reason for it being included in this study (Mathieu and Zajac, 1990). Total variance explained across components is generally moderate, ranging from .17 for normative commitment (Ncom) to .32 for continuance commitment (Ccom).

Dependent Variable	Predictors	R2	Beta	B	SE B	t	Signif t
1 Commitment	Satisfaction	.26	.41	1.15	.29	4.03	.000
	Salary		-.25	-4.50	1.84	-2.45	.02
2 Affcom	Satisfaction	.21	.40	.53	.13	4.09	.000
3 Ccom	Satisfaction	.32	.26	.39	.14	2.70	.008
	Education		-.46	-2.82	.76	-3.73	.000
	Org. Membership		-.29	-4.97	1.72	-2.88	.005
4 Ncom	Salary	.17	-.28	-2.07	-.28	-2.66	.01
	Satisfaction		.25	.295	.25	2.41	.02

As observed from Tables 1 and 2 earlier, nationality significantly predicts continuance commitment, as does satisfaction and education. Nationality was significant, as hypothesized, but it was in the opposite direction from what was expected. Likewise, the finding that education was significantly related to continuance commitment might be expected as well. Previous research suggests that there is a negative correlation between continuance commitment and education, due to the belief that employees with higher education perceive that they have more options and thus, are not so likely to stay with the organization (Allen and Meyer, 1990). However, this suggestion seems to differ from the results of previously reviewed research in the GCC (eg. Abdullah and Shaw, 1999). Finally, normative commitment was predicted by salary and satisfaction. Salary was negatively related to normative commitment, meaning that the higher the salary, the lower the sense of loyalty to the company. It is not clear why this relationship is present. It would seem to be the opposite, with higher loyalty to an organization that takes good care of me, as opposed to less

loyalty. While the relationship is not strong, it is persistent, being related to overall commitment as well.

In conducting several post hoc tests, we ran separate means and correlations for each nationality group. In general, private-sector expatriate scores reveal consistently lower satisfaction and commitment. The correlation between organizational membership and satisfaction was $-.60$, meaning expatriates in private sector organizations are consistently more negative towards their organizations than public sector expatriates. There were no such effects in the data related to nationals.

Additionally, it is significant to notice from Table 2, that there was a significant positive correlation between education and nationality. This indicates that expatriates tended to have higher average education than nationals in these organizations. Further, in looking at mean scores for salary levels between expats and nationals, some interesting findings suggest a possible explanation for expatriate dissatisfaction. For expats in the private sector, approximately 85% of those with college degrees earn less than \$1500/month (45% earn less than \$700/month), whereas all nationals, the few in this sample in the private sector with college degrees, earn more than \$1500/month. Expatriates report basically the same income in the public sector as their counterparts in the private, but the working conditions are decidedly more positive in the public sector. Hence, the strong satisfaction scores for expatriates in this sector. This brings us to a discussion of what we learn from this study.

DISCUSSION

This study found limited support for the hypotheses tested. Contrary to expectations, national employees generally exhibited as high or higher organizational commitment than expatriates, whether in the public sector or private. This is an interesting finding worth additional investigation. Alnajjar (1999) and Abdullah and Shaw (1999) found some evidence in support of this finding. It is generally believed in this country that nationals are under-motivated and are not committed to work and thus, their organizations. This study found little support for this common stereotype. Omani employees reported relatively high levels of both satisfaction and commitment as compared to expatriate workers, particularly in the private sectors. Should these results be confirmed in future research, these findings are encouraging news for policy makers and employers alike, as Omanization programs proceed at a brisk pace in the Sultanate of Oman.

From this study, however, it does appear that Omanization efforts are not all good news. While it appears that from this data, nationals are more committed in the private sector than previously thought, the question remains as to why the expatriates are so negative. We'd pointed out a possible explanation in the previous section, which suggested that this difference may be due to the sense of mistreatment expatriates feel relative to the Omani. While the data is too thin to push this point to far, it does appear from the data that the low pay relative to education level negatively impacts expatriate attitudes. In essence, private-sector expatriates may perceive serious inequities in the way they are treated relative to the Omani, thus, they are adjusting their commitments in light of these inequities.

This is especially true in the private sector where hours of work, poorer benefits, and harder work make for a less attractive job. Specifically, it is common for private sector employees to have

to work split shifts, as shops traditionally have closed between the hours of 12-4:00pm and reopen in the evenings. Thus, hours can be quite long and the day is consumed from morning till night with work. Six-day work schedules are common as well. In the public sector, the hours are from around 8-2:30 pm, five days a week. Thus, expats working in the public sector have relatively good jobs, even though pay may be modest relative to nationals. In sum, for them, their inputs are less relative to their outcomes, especially relative to their expat-colleagues in the private sector.

However, for the private-sector expatriate, regardless of the stated low continuance commitment, he has few choices when it comes to changing jobs. Omani sponsors of expatriates (required for an expat to get work in the country) do not readily release them to other employers, as the government has been reducing the availability of expatriate work permits. There is limited labor movement for expatriates.

Until recently, however, nationals changed jobs often in pursuit of higher pay and prestige, usually switching from the private to the public sector. So unstable were nationals, that laws have been enacted to restrict labor movement, especially between the private and public sectors. In general, the private sector has a difficult time keeping nationals, especially college graduates. Employers try to take very good care of the ones they get, as they are under Omanization pressure from authorities and educated nationals have other choices. Hence, it could be that the Omanis surveyed in the private sector are treated well, having selected their current organization from among alternatives, and thus are more committed as a result. In contrast, the expatriate has few choices.

Managerial Implications

As indicated earlier, that the notion of recruiting and retaining committed nationals was considered an oxymoron - commitment to work and being a national were considered near impossibilities. This research offers some evidence that this expectation is not warranted. Competition for solid nationals who are committed to their organizations is still very high, but it seems possible that the private sector can make progress in hiring nationals. Nationals receive a lot of attention at this time in the private sector, are given better work situations than expatriates, especially Asian expatriates, and are generally treated well.

This trend is not all positive - it seems to be creating resentments in the expatriate workforce. Commitment among expatriates in the private sector is significantly lower than nationals. There is some evidence to suggest that this is related to a sense of inequity by the expat employee. We might say that there is a backlash from expatriates over the "prima dona" treatment of nationals. This is not in the interest of organizational management. The reality is that the expat is the real backbone of the private sector company and economy as a whole. Management must not simply focus on capturing nationals in order to meet Omanization "goals", but must continue to motivate top performance from the expats on whom so much depends. Equity theory argues that if a worker perceives prolonged inequities, they will adjust their performance accordingly (Adams, 1965). This is not in the long term interest of Omani organizations and must be a management concern.

Limitations of This Study

There are several limitations to this study. The data were all cross-sectional and self-reported; the potential biases inherent in this research design cannot be ruled out. Also, the sample was relatively small, thus, results must be seen as somewhat unreliable. The sampling method may have introduced undetected biases as well. Convenience sampling, as used here, may have seriously biased the results, as the respondents were selected through common relationships with one of the researchers. The significance of this possibility is unknown. Further, generalizability of results remains limited to this Omani context, and extension to other environments may be misleading. Having said that, however, similar forces of opening markets due to national commitments to free trade (eg. WTO) and nationalization goals are putting pressure on all GCC countries to manage complex processes like the one described here for Oman. So, the interest in this research is far reaching. Seeking larger samples and more widely sampled organizations will need to be done to better answer these questions.

CONCLUSION

The subject of organizational commitment in a GCC context is of growing importance in organizations seeking to meet the social goals of reducing unemployment on the one hand, and increasing private sector competitiveness on the other. It remains to be seen if both can be achieved simultaneously. This study suggests that it is a complex matter, but that commitment of all employees is critical to firm success in the changing GCC environment. This and numerous other human performance issues affecting this very diverse workplace, remains largely under-researched. This study sought to explore one of these issues. Much more needs to be understood if management in the GCC is to successfully transition their organizations into regionally and globally competitive ones.

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THE RELATIONSHIP BETWEEN INFORMATION QUALITY AND VALIDITY AND MANAGERS' ACCEPTANCE OF PERFORMANCE APPRAISAL SYSTEMS

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ABSTRACT

The aim of this study is to examine the co-relationship between information quality and validity and managers' acceptance of performance appraisal systems in multinational companies in Malaysia. A total of 475 managers from multinational companies participated. Data is collected by means of a questionnaire. It was found that managers perceived that the usage of performance appraisal for the purposes of developmental is more effective than evaluation purposes. A t-test analysis shows a significant difference between the perceived effectiveness of using performance appraisal for developmental and evaluation purposes. This study also found that in order to have a high degree of appraisal acceptance from managers, the systems should incorporate the information validity components and ensure that data collected from appraisal process can be used effectively for evaluation decisions.

INTRODUCTION

In many organizations performance appraisal systems remains one of the most widely used tools in assessing the employees' performance. However, there is evidence that performance appraisal systems have failed to contribute to organizational effectiveness. Appraisal reliability and validity still remain major problems in most appraisal systems.

Why so managers and employees develop resistance towards appraisal systems? And what are the factors that contribute to this phenomenon? Recent studies show that success in the implementation of performance appraisal systems in any organization requires full participation and co-operation from all levels of employees (Roberts, 1994; Gosselin, Werner, & Halle, 1997). Firstly, employees demand to be involved in the implementation of appraisal systems so that their preferences and expectations can be incorporated in the systems. Secondly, the current methods used to collect appraisal information and assessing employee performance are questionable and can lead to ambiguity and inaccuracy. This is because many appraisal processes, information was basically collected from one source only, i.e. the supervisor. Besides, there is a strong disagreement between raters and ratees on how to measure work performance. This issue lead to the third reasons, conflicts of purpose. Many studies show that one of the flaws of appraisal systems is their limitation to fulfil various needs of employees and organizations. The fourth concern on the current appraisal systems is raters and ratees ability to conduct appraisal assessments. In other words, the fact whether raters and ratees have been trained to conduct appraisal assessments.

LITERATURE REVIEW

Performance appraisal has been used to provide information for various purposes. Some of these purposes are conflicting. For example, an organization may desire to use performance appraisal as a tool for making promotion-related decisions and also as a tool for guiding employee development. However, as noted by Drenth (1984) different purposes of appraisal will require different focuses by raters. The different focuses will also lead to collecting different types of information. Studies also showed that the purpose for which an appraisal is conducted would also influence appraiser behavior (De Nisi, Cafferty, & Meglino, 1984).

Literature study has shown considerable amount of researches that have been done in the United States and Britain to identify the usage of performance appraisal in an organization. Cleveland, Murphy and Williams (1989) grouped performance appraisal use into four categories: between individuals, within individuals, systems maintenance and documentation. Between-individual comparisons are critical for administrative decisions such as promotion, salary, retention, termination, layoffs and employee recognition. Such decisions frequently cited as the most common performance appraisal outcomes. Within-individual comparisons are tailored toward employee training and development needs. Typical of this kind of use are performance feedback, determination of transfers and assignments, identifying strengths and weaknesses and training needs. System maintenance uses refer to personnel planning; organizational training needs analysis, organizational goal identification and analysis; evaluation of personnel systems, and identification of organizational development needs. Finally, documentation uses are needed for validation research, legal requirements, and to record personnel decisions (Smith, Hornsby, & Shirmeyer, 1996).

In another study by Thomas and Bretz (1994), they have categorized the use of performance appraisal into two groups: developmental and administrative or evaluation purposes. Thomas and Bretz reported the main uses of appraisal among America's largest companies were for employees' development and administering pay. They identified the main developmental uses as improving work performance, communicating expectations, determining employee potential and aiding employee counseling. Other common administrative uses included promotions, layoffs, transfers, terminations, and validations of hiring decisions.

In Britain, there were two surveys by the BIM and the Institute of Personnel Management (IPM) on the purpose or use of performance appraisal. The BIM study (Haeri, 1969) concludes that "if one appraisal scheme tries to cover (1) review of performance (2) appraisal of potential (3) appraisal of salary, and at the same time indicate adequately the training needs for the individual being assessed, then the scheme is in danger of falling between several stools. Indeed it may result in not achieving any of these objectives satisfactorily" (1969:1). In another study by IPM for nearly 2000 organizations in 1992 they found that the most common goals of performance appraisal are to improve organizational effectiveness, to motivate employees, improve training and development, and change culture.

In Malaysian context, studies on performance appraisal uses are limited. Perhaps the only study carried out that focus on performance appraisal uses was by Manshor and Kamalanabhan (2000). In this study they asked both the raters and ratees of their opinions on performance appraisal

process and feedback. Respondents were asked about their preferences on the use of performance appraisal. The result shows that ratees expressed a strong preference for salary decisions and promotion compared to raters. However, both raters and ratees show greater preference for training and career development.

Another important aspect of appraisal information is the quality of information derived from the appraisal exercise. The quality of the appraisal information refers to its ability to identify various employee and organizational needs such as training needs, and identifying organizational problems. Quality information is essential in identifying employees and organizational needs. Information quality consists of two groups, i.e. to fulfil developmental and evaluation purposes (Bernardin & Beatty, 1984). No performance appraisal system can be truly effective unless the system provides good-quality information.

High quality appraisal information is important in the employee motivation process by producing an evaluation that is ideally linked with personnel decisions. In terms of expectancy theory (Rainey, 1991), three main relationships are critical in the performance appraisal process. The first relationship is between employee effort and the attainment of a desired level of performance. The second relationship is between performance and the performance appraisal rating process (high job performance should be linked with a high performance appraisal rating). Thirdly, the appraisal rating should be linked with desired outcomes. If any of these expectancies are low, the system will not motivate employees. The importance of linking performance and the appraisal process validates the necessity of quality performance appraisal information and the developmental and procedural safeguards necessary to produce it.

The issue of validity of information has become a major concern among researchers. Information validity refers to the ability of managers to gather accurate performance information by observing job behavior effectively, developing effective information processing strategies, and employing proper modes of decision making (Ilgen & Feldman, 1983). Five characteristics that help to generate valid information are: sufficient rater opportunity to observe an employee's performance; ensuring that external factors or mitigating circumstances are taken into consideration; performance is properly documented; raters or raters are adequately trained, and raters are evaluated on how well they administer the performance appraisal process (Greenberg, 1987).

If a supervisor lacks adequate opportunity to observe employee performance, the probability of appraisal decisions being based on an unrepresentative sample of behavior is increased substantially (Ilgen & Feldman, 1983). Employees may perceive that they are being penalized unfairly if their low ratings are due to circumstances beyond their control. Specific performance documentation is essential for accurate feedback (Bernardin & Beatty, 1984; Mohrman, et al., 1989). Research shows that perceptions of rating fairness are enhanced when raters maintain adequate performance documentation (Greenberg, 1987). The literature states that it is important to train all raters to observe job behavior effectively to avoid psychometric errors (e.g., halo effect, leniency, central tendency) (Ilgen & Feldman, 1983). The final check on information validity is holding raters accountable for the quality of their ratings. If raters understand that performance appraisal is an important part of their job, they are likely to gather more accurate performance information and be more motivated to rate accurately (Mohrman, et al., 1989).

Based on the above discussion, a number of conclusions can be derived. First, performance appraisals have been used for multiple purpose. Although studies have shown that these practices may invite conflict between raters and ratees, however, many organizations still use appraisal for multiple purpose. The two main uses of appraisal are evaluation and developmental. Secondly, there are clear evidences that using appraisal for multiple purpose may lead to issues on the validity and quality of the information collected. Raters will react differently depending upon appraisal purposes. Therefore, they may use different methods in observing the employee behavior, different strategies in processing information and employing different modes of decision-making. As a result, the information collected may be valid only for certain purpose, i.e. evaluation or developmental. The ratees will unlikely to be satisfied with the appraisal systems if they realize that their performance results are not reflected in of their personnel decisions such as pay increment, promotion, etc. Lastly, little empirical research has been conducted to examine the extent of issues on performance appraisal uses such as effectiveness of information quality and validity and performance appraisal acceptance. Although many researches published in professional and trade journals provide extensive anecdotal evidence concerning the uses of performance appraisals in organizations, few empirical studies have been done to answer this question. This study aim at filing this gap, and specifically to address two areas: examining the effectiveness of performance appraisal information to be used for developmental and evaluation purposes; and to examine the effects of information quality and validity on manager acceptance of performance appraisal systems.

Based on the literature review, two hypotheses were developed. The hypotheses are:

H1	<i>There is a significant different between the perceived effectiveness of developmental and evaluation purposes of performance appraisal;</i>
H2	<i>There is a significant association between the perceived effectiveness of developmental and evaluation purposes, and information validity and the perceived degree of manager acceptance.</i>

METHODOLOGY

A total of 475 managers from multinational companies participated. The framework of this study is based upon the work of Manshor (2000) on performance appraisal systems' acceptance and effectiveness in multinational companies, Roberts (1992 & 1995), Bernardin and Beatty (1984), and Carroll and Schneier (1982) on performance appraisal acceptance. Data is collected by means of a questionnaire. The questionnaire asked respondents to indicate the effectiveness of information quality and validity items using a scale of 1(not effective) to 3 (effective). Eight questions are concerned with the ability of information collected to identify developmental and evaluation purposes. Four questions asked respondents to indicate the ability of managers to collect accurate performance information. The other four questions asked respondents to indicate their acceptance on the current appraisal systems using a scale of 1 (strongly disagree) to 4 (strongly agree). The other questions requested information on respondents' demographic data, including sex, education, race and years of service in present organization.

Majority of the responding organizations are from electronics sector (36%), followed by steel (16%), rubber products (15.8) and textile (15%). More than two-third of the respondents were male (70%) and 30 percent were female. Thirty-seven percent were Malays, 35 percent Chinese and 20 percent Indians and 8 percent were other races. More than half of the respondents had bachelors' degrees (55%), 30 percent possessed college qualifications and about 11 percent had acquired post-graduate degrees.

RESULTS AND DISCUSSION

On average, managers perceive that the use of performance appraisal for developmental and evaluation purposes are effective. However, it can be seen from Table 1 that the mean for developmental purposes is higher than evaluation purposes (2.74 compared to 2.56). The top three items came from developmental purposes, i.e. ability to identify training needs, ability to identify employee development and ability to provide information for performance feedback. The bottom three items were ability to provide information for salary administration, ability to provide information for bonus decisions and ability to identify employees' strengths and weaknesses. In this study, managers are more comfortable to use performance appraisal information for developmental purposes. The explanation is that many managers are uncomfortable of being both a judge and a counselor (McGregor, 1957). In many circumstances, managers try to maintain good relationship with their subordinates and not to use performance appraisal as a source of information for evaluation decisions.

There was a significant difference between the perceived effectiveness of using performance appraisal for developmental and evaluation purposes (refer Table 2), so the result supports Hypothesis 1. The finding here supports the earlier study by Pollack and Pollack (1996) that appraisal information is more effective for developmental rather than evaluation purposes. This finding is also in accordance to earlier study among the Malaysian managers of telecommunication companies by Manshor & Kamalanabhan (2000) that raters had higher preference to use performance appraisal information for training and career development purposes.

The information validity mean is 2.18. Raters recognized factors beyond ratees' control have a higher mean, and the lowest is raters are held responsible for their ratings decisions. The finding in this study shows that managers perceived that the current performance appraisal systems are effective in recognizing factors beyond ratees' control. If a manager lacks adequate opportunity to observe employee performance, the probability of appraisal decisions being based on an unrepresentative sample of behavior is increased substantially (Ilgen & Feldman, 1983). In this case, subordinates may perceive that they are being penalized unfairly if their low ratings are due to circumstances beyond their control. The other important findings on information validity are that, managers perceived that their current appraisal systems are less effective in holding raters responsible for their ratings decisions and appraisal performance training. If raters understand that performance appraisal is an important part of their job, they are likely to gather more accurate performance information and be more motivated to rate accurately (Mohrman, et al., 1989). The same goes to training raters in appraising performance. It is important to train all raters to observe job behavior effectively to avoid psychometric errors, such as halo effect, leniency etc.

Table 1: Item Means, Standard Deviations (S.D.) and Scale Reliability (alpha)			
Items	Mean	SD	Alpha
Developmental Purposes	2.74	.41	0.72
Ability to identify employees' strengths and weaknesses	2.52	.54	
Ability to identify training needs	2.97	.16	
Ability to identify employee development	2.79	.42	
Ability to provide information for performance feedback	2.66	.52	
Evaluation Purposes	2.56	.54	0.86
Ability to provide information for demotion or discharge decisions	2.64	.55	
Ability to provide information for salary administration	2.49	.50	
Ability to provide information for promotion decisions	2.60	.55	
Ability to provide information for bonus decisions	2.52	.54	
Information Validity	2.18	.64	0.87
Raters recognized factors beyond ratees' control	2.29	.52	
Raters had adequate performance appraisal training	2.12	.72	
Raters are holding responsible for their ratings decisions	2.11	.68	
Information is collected from multiple-sources	2.19	.65	
Manager Acceptance	2.92	.52	0.73
Rater and ratee agree on performance standards	2.95	.52	
Performance is measured accurately	2.90	.56	
Performance measurement is fair	2.91	.50	
Raters are free from any acts of favoritism/bias in rating performance	2.90	.51	

In general, managers in this study agreed that both rater and ratee agreed on performance standards, performance is measured accurately, performance measurement is fair and raters are free from any act of favoritism or bias in rating performance. These reactions are expected since the other variables i.e. developmental and evaluation purposes and information validity items were perceived as effective by them.

Performance Appraisal Purposes	N	Mean	T-value
Developmental	475	2.74	12.37*
Evaluation	475	2.56	

* p < 0.05

A step-wise regression analysis was conducted to ascertain the effects of developmental and evaluation purposes variables and information validity variables on manager acceptance. The results are shown in Table 3. The most important variable is the information validity, which explain 27.5 percent of the variance. Therefore, it appears that for managers' acceptance to be high, performance appraisal systems should be able to recognize factors beyond ratees' control; ensure that raters have adequate performance appraisal training; hold raters responsible for their rating decisions; and collect performance information from multiple-sources. This finding clearly supports the motion that several factors are related to employees' perceptions of procedural justice. Perceptions of the acceptance of performance appraisal are related to fairness criteria such as superiors' ability to reduce psychometric errors, creates consistent ratings, rely on accurate information and the existence of action plans to improve performance weaknesses. As noted by Sweeney and McFarlin (1993) that procedural justice affects the organizational commitment. Employees will have high commitment towards their job and organization when they are aware that decisions with regards to their performance are made fairly.

	B	S.D.	Beta	T-Values	Adjusted R ²
Information Validity	.147	.039	.207	3.74	.275
Evaluation Purposes	.009	.048	.114	2.06	.290

Overall F = 21.66 Standard Error = .376 N = 475

Evaluation purposes variables explain an additional 1.5 percent of the variance. Thus, it appears that evaluation purposes increase the perceived acceptance of performance appraisal by the managers. It is clear from this study that information collected for the purpose of evaluation decisions are less effective compared to developmental decisions (Table 1). High quality appraisal information is important in the employee motivation process by producing evaluation that is linked ideally with personnel decisions, for examples salary increase and promotions. In order to increase the level of acceptance of performance appraisal among managers, information collected from appraisal process should be suitable to be used for demotion or discharge decisions, salary administration, promotion and bonus decisions. Expectancy theory and other theories of motivation stress the importance of linking performance and valued outcomes for high levels of motivation and

productivity to occur. Thus, these results support Hypothesis 2 for evaluation purposes and information validity.

CONCLUSION

A number of important conclusions can be drawn from the study. Firstly, the results show that performance appraisal used for developmental purposes are more effective. Secondly, for manager acceptance to be high, performance appraisal system should ensure information validity components are fully incorporated in the systems. Performance appraisal systems will also need to ensure that data collected from appraisal process can be effectively used for evaluation decisions.

This study is limited by the use of limited variables in testing the effects of manager acceptance. The inclusion of other variables such as participation, goal-setting and feedback variables into the research framework is essential. Also this study has been unable to test the likely effects of demographic variables on manager acceptance, not many such studies have been conducted in Malaysia. So this study will provide some useful findings to researchers and practitioners regarding the effects of information quality and validity on performance appraisal acceptance. Future research should concentrate on identifying the effects of individual items used in this study.

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INTERNATIONALIZATION OF A KEY INDUSTRY: IMPLICATIONS FOR A BUSINESS AND SOCIETY RELATIONSHIP'S DEVELOPMENT-CASE FINLAND

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ABSTRACT

This paper analyzes evolutionary process by which a major industry of a small and open economy gradually became more international. It presents a historical analysis of the development of a business and society relationship between the Finnish forest industry and Finnish society. A special emphasis is placed on the impacts that the internationalization of the key industry has had on the evolution of the business and society relationship and on Finnish society at large. Some key findings of the paper on the effects of internationalization of a key industry on a society include: 1) although internationally oriented early on, the Finnish forest industry's major internationalization took place relatively recently, 2) the inter-war period had a decisive role in deepening the interdependence of the industry and society, 3) the importance of Finnish private forest owners has declined as a result of the internationalization of the industry, nevertheless, they remain an important stakeholder group, and 4) the deep embeddedness of the industry in Finnish society requires a holistic approach in the analysis. The paper suggest a holistic approach may be useful in analyzing the effects of globalization on existing business and society relationships.

INTRODUCTION

Attempts have long been made to relate a nation's economic performance to its social institutions (see Loveridge, 1998) and with varying degrees of success. Ideas relating to this topic which have been presented by some modern schools of thought provide an intriguing starting point for an examination of distinct national features in business and society relationships and their transformation.

Throughout its history, Finland has heavily relied on the forest industry for the development of the nation, and because of this reliance the industry is generally held in high esteem. "What is good for the industry is good for Finland" has been a widely accepted notion, which, however, is changing, in part at least due to the industry's internationalization. The heavy dependence of Finland on a key industry makes the societal impact of that industry an interesting and important subject of study. The relationship between the Finnish forest industry and society reflects a long history which, following loosely the rationale presented by the new institutional economics school and especially that of North (1990), may be viewed as a positive manifestation of path dependence.

Because of its importance to Finland the forest industry has enjoyed the special solicitude of the state. It has been a facilitator for the development of the industry in a number of ways, but it has also been a major player within it through state-owned companies. These two roles of the Finnish state within the forest industry-a facilitator and a player-have become in many instances

mixed and blurred making its dual role, especially that of player, interesting and worthy of study in the business and society context. A study of the close interdependencies of a key industry and society in a small-sized open economy, such as this, may give interesting new insights on the evolution of business and society relationships in the rapidly globalizing world economy.

AIMS OF THE PAPER

This paper aims at describing some of the diverse relationships between society and a key industry. It seeks to explore the evolution of these relationships between society and the key industry in its internationalization process, and to analyze how the internationalization of firms within the key industry has affected society, and vice versa. In its modest way this paper is trying to find an answer to one of the questions raised by Wood, one she regards as crucial for the future research direction of research in the business and society field: "If the firm behaves in particular observed way, what happens to individuals, groups, and societies with which it is in relationship?" (2000, p. 373). In this paper the emphasis is on groups and societies. In order not to needlessly limit the examination, internationalization is seen in this paper as an overarching concept covering all functions and operations of an organization having an international, ie a national border-crossing, dimension. The main emphasis of the examination will be on the pulp and paper industries, ie, the chemical forest industry. The mechanical forest industry will be touched upon occasionally.

METHODOLOGY AND DATA

As the paper aims at describing and analyzing an evolutionary process at an aggregate level, a process characterized by complexity, variability and heterogeneity, it is only natural to follow the basic ideology of case-study research (Yin, 1994) in trying to capture this complexity. What this paper is trying to achieve is the "rich, complicated understanding that results from careful understanding of a few organizations" called for by Huff and Reger (1987, p. 227).

The data used are taken primarily from publicly available archival sources, such as annual reports, industry analyses and commentary by the leading national business magazines and papers, and call for holistic and longitudinal approaches. The paper draws its theoretical foundations mainly from the business systems literature, the related new institutional economics and to some extent from the governance literature. The analysis takes place on an aggregate meso-level, adopting a sectoral view following Räsänen and Whipp's definition of sectors being "historically evolving wholes of interrelated economic and political relationships" (Räsänen & Whipp, 1992, p. 49).

Although I refer to a business and society relationship throughout the paper, it is not suggested that the two are separable entities and autonomous from one another, which is claimed to be an underlying assumption by Buchholtz and Rosenthal (1997) in their critique of the theorizing in the business and society field. Instead, the relationship between the two is viewed as being inherently relational: the one cannot exist without the other. In other words, business is part of society and it is sometimes hard to make the distinction where one ends and the other begins. This has been especially true in the relationship between the Finnish forest industry and Finnish society.

HOME-BASED OPERATIONS-THE EMERGENCE OF A BUSINESS AND SOCIETY RELATIONSHIP

The vital importance of the forest industry for the well-being of Finland has long been recognized and forest products have been the dominant export from Finland ever since the 16th century (Raumolin, 1990). Already at the turn of the twentieth century the forest industry, or forest sector at large, was identified as the backbone of Finnish economy (Raumolin, 1984). In the late 1920s the forest industry clearly dominated Finnish exports, nine-tenths of total exports being forest products (Saari, 1928).

At the outset of their operations both the Finnish chemical and mechanical forest industries were heavily downstream-oriented and factor-of-production driven; the vast raw material resources were the prerequisites for continued large-scale production. Another striking feature of the Finnish forest industries is their early international orientation (Sajasalo 1999; Ojainmaa, 1994), as most of the production was exported to the Russian market prior to and during World War I. The Russian market formed a large tariff-barrier protected home market for the Finnish forest industry companies, giving them a favorable economic setting for future development and building competitive advantage elsewhere.

Prior to the inter-war rise of the modern pulp and paper industries, the mechanical forest industry was already capitalizing on the abundant supply of wood. The development of chemical forest industry was in most cases due to the horizontal integration of saw-mills into groundwood pulp, and later into paper production. Thus, saw-milling was the major manifestation of industrialization, which took off relatively late (the second half of the 19th century) in Finland, compared with the rest of the Western Europe (Myllyntaus, 1989). It remained the most important industry by far in Finland for over half a century (Raumolin, 1990).

The findings of economic history suggest that late industrializers typically develop a financial system that relies either on bank finance or governments intervention and regulation (Pedersen & Thomsen, 1997, 1999). Finland, being late to industrialize, developed a financial system in which banks assumed a dominant role. Through their extensive financing they became substantial owners of Finnish businesses. This situation formed the foundation of Finnish sphere economy (Näsi, Sajasalo & Sierilä, 1998), in which banks played an important role in the business ownership structure, by controlling through strategic long-term investments a number of large Finnish corporations, a circumstance bearing quite a close resemblance to the German bank-centered model.

The state's role as a significant business owner, too, can be traced back to the effects of late industrialization and reflects governmental interventionist policy. The Finnish state has historically operated in the spirit of French social Colbertist tradition, directing the economy to fulfill political ambitions and to achieve social progress (Albert, 1993). This was done by both setting up companies in industries requiring large basic investments, like the metal and engineering and forest industries, and by offering financial support for investments in those industries.

The business systems school (see Whitley, 1990, 1991, 1992, 1994) has also emphasized the central role of financial systems in the creation of nationally distinct dominant business ownership structures and has proposed that the financial system is one of the key social institutions making up

a national business system, the others being the state, the education and training system, and labor markets (Whitley, 1992, p. 27).

PRIVATE FOREST OWNERS-THE SCOPE OF THE BUSINESS AND SOCIETY RELATIONSHIP EXPANDS

The forest ownership structure of Finland has historically granted the rural population considerable bargaining power vis-à-vis both the forest industries and the Finnish state (Koskinen, 1999). The forest owners have been able to exercise pressure on the industry and the state in negotiations concerning the price of wood or decisions regarding the taxation of wood sales revenues and woodland holdings. The power of private forest owners lies in their great numbers, which dates back to 1757, when the first major land ownership reform was made in Finland. The number of private forest owners further increased in the 1920s, and again after World War II as a result of an extensive program to resettle, mainly on state-owned land, some 400,000 people evacuated from territories gained by the Soviet Union (Järveläinen, 1999).

The power of the forest-owning rural population as an interest group was safeguarded through legislation in 1915, when Parliament passed a law forbidding companies to buy land from farmers (Lilja et al, 1991a). Their power was further increased by a 1925 law prohibiting the use of middlemen in land transactions. Thus, although the companies realized the value of woodlands and their control early on, they were unable to achieve their goal of increasing control over them.

The governmental legislative interventions were preceded by a lively public debate in the 1910s over who should own the Finnish woodlands. The two most notable advocates of an increase in company forest ownership were Heikki Renvall and Aimo Kaarlo Cajander, who, based on the prevalent German thinking of the era argued that those able to produce the greatest value from the resource should take care of them and that this would make regions better suited for forestry by uniting small units into larger wholes through unified ownership (Raumolin, 1990). The proponents of increased woodland ownership by the forest industry were hence clearly promoting an efficiency viewpoint, and a need to examine closer for what uses particular areas of land should be assigned according to their potential for providing economic value. The contrasted modes of land usage were primarily forestry and agriculture.

Regardless of the forest industry companies' attempts to expand their woodland holdings they were unable to gain any major control over them through ownership and were defeated in their attempts by the private forest owners. As a result, 61.8 percent of the Finnish forests are owned by private citizens, and only 8.8 percent is held by the forest industry companies. The Finnish state holds 24.5 percent, and 4.9 percent of forests are owned by municipalities, congregations and businesses other than the forest industry (Finnish Forest Industries Federation (FFIF), 1999).

In comparison to Sweden, one of Finland's main competitors in forest product exports, there are significant differences, but also similarities in the forest ownership structures of these two countries. As in Finland, the largest forest-owning group in Sweden are the individual private forest owners who control some 50 percent of the Swedish woodlands (European Parliament, 1997). What sets the Swedish and Finnish forest ownership structure apart, however, is the share held by the forest industry companies. The Swedish forest industry companies hold 35 percent of the forests

(European Parliament, 1997), which makes them considerably more self-sufficient in raw material than their Finnish counterparts. Being able to rely on significant raw material resources of their own, the Swedish forest industry companies are less vulnerable to both fluctuations of supply from privately held forests, and fluctuations of price. The lower dependence on private forest owners at times of market disturbances may give an competitive edge to Finland's Swedish rivals.

As three-quarters of the wood processed by the Finnish forest industry originates from privately held forests (FFIF, 1999), the price formation mechanism is of great importance to domestic sellers and buyers alike. Traditionally the forest owners and the industry reached an agreement on the price of wood through centralized and coordinated negotiations in which both parties were collectively represented. As this system was banned by the European Union's competition legislation after Finland joined the Union in 1995, the forest industry was faced by a new negotiation situation. It had to reach price a agreement with far greater numbers of individual forest owners than during the previous system, in which both parties formed, in essence, a cartel. This highly institutionalized system made prices inflexible at times of economic downturn.

As a reaction to price fluctuations and wood shortages due to the private forest owners' reluctance to sell, the industry has resorted to wood imports. Clearly price-inflexibility was also an important consideration in the decision to import, and the industry has used imported wood as a means of trying to lower the domestic price level. In addition to the previously mentioned motives for the wood imports, one major motive remains; the attempt to reduce the industry's dependence on the private forest owners. Over the past two decades, annual wood imports have quadrupled. In 1979 three million cubic meters were imported; in 1998 twelve million cubic meters, mainly from Russia (FFIF, 1999). However, the imported wood covers just seventeen percent of the industry's total wood consumption and only three percent of the consumption is supplied by company-held forests (FFIF, 1999). Thus, the private forest owners still constitute an important stakeholder coalition, a primary stakeholder group (Näsi, Näsi & Savage, 1995) for the forest industry, and one which needs special attention and careful stakeholder management on the forest industry's part to secure their cooperation.

THE STATE AS A FACILITATOR-THE BEDROCK FOR THE BUSINESS AND SOCIETY RELATIONSHIP

The Finnish state has been, and still is, a facilitator in many ways for its major export industries, the forest industry being still among the most important. Addressing the facilitator role of the state through views adopted from varied economics-based lines of reasoning, such as public choice theory, the new institutional economics school, and theories of regulation in their more sociologically oriented strand will help with analyzing the state's role for the forest industry in an institutional frame of reference. According to North (1990), institutions may be viewed as the rules of the game, and accordingly, organizations may be seen as the players. It is suggested by North that the institutional framework defines the possibility set available, and thus the organizational forms that come into existence.

Because of the organizations' objective function, profit maximization in the case of a business organization, the organizations strive to obtain knowledge and skills ensuring their survival

and goal attainment. North (1990) further suggests that the knowledge and skills that have the highest payoffs in a given institutional framework are the ones organizations invest in, making the existing institutional framework an important consideration, especially in regard to the education and training systems, but also in regard to other matters that may also be categorized as public goods, like physical infrastructures for transportation and communication, as well as welfare policies which are seen to be geared towards meeting the needs of the forest cluster in Finland (Ahonen, 1995), the tightly knit network of related and supporting industries.

Because the state provides the education and training systems, state authorities have an important role in the development of education and training policies. Being a publicly funded system at all levels, the Finnish education system is very much in the control of governmental policy-makers. Reflecting the forest industry companies' importance and their capability as organizations to indirectly induce public investment via the political system in knowledge and skill creation beneficial to their survival, as suggested by North (1990), the education and training services for the forest cluster have been assigned a high priority within the Finnish education system. Both paper- and pulp-making and related engineering industry studies are found in the curricula of both secondary and tertiary level educational institutions.

The technical universities and vocational schools receive considerable funding for research and education in these fields, not only from the government, but from the industry as well. Joint research and development projects are carried out on a regular basis. It is suggested by Traxler and Unger (1994) that public support and funding for the research and development infrastructure and vocational training may be seen as provision of public goods, which, provided through markets alone, would not be supplied in sufficiently high quantity and would lead in the long-term to a loss of international competitiveness.

To make the wide array of the state's facilitator roles in relation to the forest industry more comprehensive, one more aspect, energy policy, needs to be dealt with. Finnish energy policy has been strongly directed towards serving the interests of energy intensive industries like the forest industry. In 1998, the Finnish forest industry's total electricity consumption was 26 billion KWH (FFIF, 1999), against a total annual industrial consumption of 42 billion KWH, which makes the cost of electricity, and energy in general, an issue of great importance for the forest industry.

Consequently, the forest industry has been the most active lobbyist in energy policy issues and the strongest proponent of building additional nuclear power capacity in Finland, as nuclear power is seen as a cheap source of energy by the energy-intensive industries, notwithstanding the obvious problems generally associated with it. The forest industry is backed up by the metal and engineering industries in its attempt to persuade policy makers to opt for more nuclear power. Nevertheless, according to a recent poll public opinion in Finland is against building a fifth nuclear power reactor (Finnish Energy Industries Federation, 1999), and the issue of future direction of energy production in Finland is a subject of a lively political debate. So far the government has been receptive to the appeals of the major export industries for keeping the price of energy relatively low by means of taxation. In fact, Finland has of all the Nordic countries, the lowest level of energy taxation (Malaska, Luukkonen & Kaivo-oja, 1996), which reflects the deep commitment of the Finnish state to serving its key industries.

THE STATE AS A PLAYER-BLURRING THE BUSINESS AND SOCIETY RELATIONSHIP

Apart from its facilitator role, the Finnish state has an interesting role as a major owner, and hence, a player within the Finnish forest industry. Until 1995, the two most important state-owned forest industry companies were Enso-Gutzeit and Veitsiluoto, the latter operating in the Northern Finland. The forerunner of Enso-Gutzeit was originally set up by Norwegians, who, as a result of the political instability in Finland and the civil war in 1918, withdrew from their Finnish saw-mill business. The company was then acquired by the newly-established Finnish state.

The Finnish state's ownership in the forest industry, as well as in many other basic industries, created an important grouping of firms generally referred to as sphere, a network of firms connected by ownership ties and more or less controlled by some core firm or firms within the network (Näsi et al, 1998). State-ownership in Finland has been largely a matter of pragmatism, not so much an ideological issue as in the neighboring Bolshevik Soviet Union, where the planned economy model with comprehensive state ownership was adopted. In the early days of Finnish independence, the Finnish state had the capital to establish companies requiring large financial inputs, and such funds were not available in Finland through private means. Later, with the establishing of Veitsiluoto, political considerations, nevertheless, became involved in decision-making affecting the forest industry. The latter company's founding was mainly the result of a politically driven decision to make use of the thus far underutilized wood resources available in northern Finland.

A typical feature of the business system (Whitley, 1990, 1991, 1994) in Finland, besides the forest sector's dominance (Lilja, Räsänen & Tainio, 1992), is that the banks and other financial institutions have assumed a central role within the spheres, with the exception, of course of the state sphere. The financial institutions are the core units controlling the member companies through ownership, and in this sense the Finnish business system resembles closely the Continental European patterns of credit-based financial systems, where the financial intermediaries are among the most important shareholders, as well as the largest providers of investment funds for their large corporate customers.

The relatively underdeveloped state of secondary share markets characterizing the credit-based financial systems necessitates the involvement of financial institutions in the strategic decision-making of the firms financed by them, and the development of wide knowledge of their management and business activities (Whitley, 1994). This has been especially true in Finland in the case of forest industry companies and their governance; many of senior bank managers have been closely involved with the strategic decision-making of the Finnish forest industry companies and developed such expertise in the industry that they have later become members of top management in one or another of them.

The state sphere's relation to the forest industry through the state-owned companies is a special case within the Finnish sphere economy. The state's activities as owner of two companies and as their main financier through both a state-owned bank and budget funds have formed a peculiar nexus in which political considerations have played an important, and at times even decisive role in the decision-making. This is understandable as a state is, by definition, a political entity. As a result, the state-owned companies, including the forest industry companies, were often

used as tools for achieving diverse desired policy outcomes to fulfill political ambitions and to achieve social progress. As a consequence of being driven by politically influenced decision-making, rather than financial decision-making, both Veitsiluoto and Enso-Gutzeit suffered from poor governance, which made the management of the companies a difficult task.

Being the bigger of the two, Enso-Gutzeit was commonly considered as the state sphere's forest industry flagship. But as both companies had a capable and strong-minded CEO from 1970s onwards who skillfully utilized the political system to promote the interests of his own company, and in the process, his own personal interest, by denigrating the other, relations between the companies escalated into unhealthy competition, in which neither could perform according to their potential (see Näsi et al, 1998). Typical of the state-owner's decision-making regarding strategic issues in the two companies was that decisions were most often delayed to the absolute last minute. As a result, Veitsiluoto was in severe crisis prior to its merger with Enso-Gutzeit in 1995, suffering from a fragmented product line, heavy debt burden and relative smallness. The state-owner lacked a vision of Veitsiluoto's future, or at least, was unable to realize it because of divisive political pressures until the long-awaited merger option was finally taken (Näsi et al, 1998).

The Veitsiluoto merger was just one case in which the state was severely criticized by the other Finnish forest industry companies for unfairly favoring state-owned companies by turning down competing tenders for Veitsiluoto's acquisition. A number of other investments troubled Enso-Gutzeit's domestic competitors, too, as some of them were seen as direct subsidies from the state to the company, and thus as disturbing the competitive setting in favor of Enso-Gutzeit.

COOPERATION-THE BUSINESS AND SOCIETY RELATIONSHIP EXPANDS INTO A NETWORK

Most of the research and development functions of the Finnish forest industry are still carried out domestically by the companies themselves, which reflects the limited autonomy of the foreign subsidiaries and an asymmetrical relationship between the center and the periphery. Much of the domestic R&D is nevertheless performed in cooperation with universities, and within a jointly owned and funded research unit, the Finnish Pulp and Paper Research Institute (KCL) founded as long ago as 1916.

KCL is engaged in scientific research and development work for the pulp and paper industry (Magnusson, 1996) and it aims at promoting the competitiveness of its financiers by providing the companies with the latest knowledge gained from its research and development projects. The Institute has provided a forum for the companies to interact and cooperate with each other, as well as with major Finnish suppliers of machinery and equipment for the industry, in an important arena of pre-competitive technical research and development. The Institute is one of the prime examples of close cooperation between fierce competitors, the other being the earlier cooperation through jointly owned marketing associations (see Sajasalo, 1999).

The forest cluster (Porter, 1990) has become a target of increasing research activity in recent years in Finland. One of the first studies adopting the cluster view was Lammi's (1994) study exploring the ties between the forest industries and the related metal and engineering industries. The forest cluster has the chemical and mechanical forest industries as its core and comprises in addition

a number of related and supporting industries. These industries join with universities, research institutions, and various governmental bodies to form a tightly knit network of knowledge-based and financially-based resources.

Addressing the forest cluster through the resource-based view (Wernerfeldt, 1984; Barney, 1986, 1991) by extending the scope of examination from a firm to a larger entity, the forest cluster, shows the whole exceeding the sum of its individual parts in creating a sustainable competitive advantage. All the actors, not just the firms, within the forest cluster possess both tangible and intangible resources meeting the requirements for creating sustainable competitive advantage identified by Barney (1991). These resources, then, are valuable (increase organizational efficiency and/or effectiveness), rare (non-attainable for all), inimitable (non-standardized rules or procedures), and non-substitutable, when brought together within the network making up the forest cluster. The additional preconditions suggested by Barney (1986), and Dierickx and Cool (1991) for achieving sustainable competitive advantage, path dependence of the resource, causal ambiguity between the resource and competitive advantage, and the social complexity of the resource are all present in the Finnish forest cluster.

The ability to cooperate both within an industry and between industries has historically been a typical feature of the Finnish business system. The centrality of the forest industry in this cooperation is highlighted in the internationalization processes of different sectors of Finnish economy. It has been demonstrated by Lilja, Räsänen and Tainio (1991b) that in order to succeed in growth and internationalization from the 1960s onwards, a Finnish firm needed to be linked directly or indirectly to the value chain of the forest industry either by being a part of the value-added chain starting from the Finnish forests, or by being a supplier to that chain.

DISCUSSION

This paper set out to describe some of the diverse relationships between Finnish society and the Finnish forest industry, and to analyze the evolution of this business and society relationship during the industry's internationalization process. Both Finnish society and the key industry have undergone through tremendous change over the last two decades compared with the gradual development that took place earlier; the economy and society in general gradually opened up after being quite closed to outside influences. The forest industry may very well be considered as a forerunner in this development as it has been one of the most international of Finnish industries throughout history. To illustrate the extent of the forest industry's internationalization and its pace, some figures are in order. In 1980 just 11 percent of the 7 million ton total production capacity of the Finnish chemical forest industry was located abroad, in 2000, already 56 percent of the 33 million ton capacity was in production outside Finland (FFIF, 2001); the capacity abroad has increased by a factor of 24.

The factors presented in previous sections have all played their role in the internationalization process of the Finnish forest industry, as well as in the resultant evolution of the business and society relationship. Great importance in the development of this relationship may be placed on the inter-war period, during which the industry expanded its capacity by giant leaps to produce high volumes of pulp, kraft paper and newsprint, which were in high demand in the world

market (Ojainmaa, 1994). As the magnitude of required investments grew, the small companies typically operating just one production line were forced to grow, which resulted in the initial wave of consolidation within the industry and to the establishment of the forerunners of the three remaining global-scale Finnish forest industry companies: Stora Enso, UPM-Kymmene and Metsä-Serla. The inter-war expansion of the industry increased substantially its importance for the prosperity of Finland and the era may be termed, as I have chosen to do, the period of institutionalization of interdependence between the society, the forest industry and the forest-owning agrarian population. After becoming institutionalized the interdependence of this trinity persisted for nearly a half a century to come. Again, I do not wish to imply that the three entities above are autonomous or detached, rather, they are tied together by mutual interdependencies and form a whole, an institution which is reinforced by prevalent social conventions.

The forest industry has been an integral part of the Finnish way of life, even a central part of Finnish identity, for so long that it has grown, just like its raw material, roots in the Finnish soil. At a time when the whole Finnish forest cluster and its central actors, the forest industry companies, are shifting their focus of attention from more traditional factors of production towards knowledge and know-how as means of creating sustainable competitive advantage, the importance of long heritage of pulp and paper-making, the extensive body of knowledge accumulated by participation for over a century in the industry by the companies themselves and companies from related and supporting industries, is incalculable. The tightly knit network of the forest cluster members has produced a world-beating combination of forest resource-based expertise in a number of fields. At present the Finnish forest cluster can boast of three world top-ten ranking paper and paperboard companies, the number one ranking paper machine manufacturer, the number one ranking forest industry consultancy in the world and a number of companies which are among the world leaders in the forest-related related machinery, equipment and automation industries.

One of the most important factors in the development of the industry, and thus, the business and society relationship, and in the internationalization process of the companies has been and still is the availability of raw material. Its availability has both hindered as well as facilitated and accelerated the internationalization process in recent years. The industry is thereby embedded into the society through forestry. The over 400,000 private forest holdings, most of them family-owned, makes the total of Finnish private forest owners nearly one million. Obviously the holdings are important economic assets for their owners, as well as an irreplaceable source of raw material for the industry, making the attachment of the parties profound in nature. The large number of private forest owner makes the Finnish forest ownership structure an important consideration for the industry. It has far-reaching impacts not only on the industry, but also on society as a whole.

The fragmented nature of the Finnish forest ownership structure is one major reason for the high cost of wood for the industry, since large and dispersed private forest ownership tends to increase the price of wood (Ahonen, 1995). Yet, dispersed forest ownership alone is not sufficient to explain the nearly 25 percent difference of price at the factory gate (Jaakko Pöyry Consulting, 2000) when Finland and Sweden with their similar forest ownership structures are compared. This difference may be explained, in part at least, by the high degree of organization of the Finnish forest owners, which allows them to utilize collective bargaining power when negotiating prices. Another possible factor contributing to the situation, as Posner (1974) has suggested, is the institutional

setting on which the power of interest groups depends. The institutional setting in Finland was favorable for the private forest owners, who, by uniting were able to gain an influential role in society. The private forest owners were able to rely on the political system to sanction the increase of their influence, as at the time of the institutionalization of interdependence referred to above, agriculture was one of the leading industries. Thus, proposals to further promote its well-being especially if they also increased the economic independence of Finland, such as improving the possibilities of combining agriculture with forestry, were sure to meet with widespread support and political approval. It should be borne in mind that the farming community was very effectively represented in Parliament, and also usually in government, by the Agrarian Union (which changed its name to the Center Party in 1965).

Although there has been a long history of national consent on the close relationship between the state, the industry and the forest owners, this tradition is in some senses drawing to an end. As a result of Finland joining the EU, the status quo has been challenged from outside the national system, and to some extent the very foundations of the institutionalized interdependence of the trinity have been shaken. A manifestation of this external challenge, in addition to the banning of the industry's joint marketing practices (see Sajasalo, 1999), is the banning of the centralized price negotiations system, which, however, has a twofold implication for the redistribution of power in the price formation of wood.

On the one hand, the situation may be seen as indirectly increasing the private forest owners' bargaining power as a group; in order to secure their raw material needs the companies face a situation in which they have to compete for the most attractive wood lots also outside their traditional procurement areas. This may give the owners of the most attractive lots the upper hand in the bidding. On the other hand, the cessation of a centralized bargaining system may be perceived as favoring the companies, in that they may be able to utilize locally coercive, monopsonistic power against the forest owners by controlling a specific wood procurement area or district by being, in practice, the sole buyer in a given local market.

The successful bargaining of forest owners has raised prices and traditionally initiated a home market-led cycle culminating in the devaluation of the Finnish mark as a result of weakened cost competitiveness. For decades the business cycle of the forest industry more or less governed the repeated devaluations of the Finnish mark from the 1960s through the 1980s even to the early 1990s. The devaluation policy of the Finnish government may be seen as the most concrete manifestation of Finland's dependence on the forest industry, and of the guarantor role of the Finnish state, reflecting its deep commitment to a major export industry's economic well-being. At present, however, as a result of the adoption of Euro, the former option of devaluation has ceased to exist and the industry has had to find other means to try and adapt to the business cycle than reliance on governmental intervention.

The state's commitment to the forest industry's well-being is readily comprehensible when it is borne in mind that it still brings in the largest share of net foreign currency-based revenue, although after the dominance of the 1920s, the forest industry's share of total exports has declined and remained for some years quite constant at the thirty percent level. The strongest share-gainers have been the metal and engineering industries alongside the electronics and electrical industries, Nokia Corporation leading the pack. These industries have surpassed the forest industry only quite

recently (Raumolin, 1990; Lilja & al, 1991b). Still, many export products from the engineering industries are forest industry-related, which further adds to the forest industry's fundamental importance to Finnish society.

The relationships between the different parties analyzed in this paper have evolved during the forest industry's internationalization. As the individual companies have revised their strategic orientation from an export orientation to, most recently, a foreign production orientation, the basis of the business and society relationship has altered. First, the importance of Finnish wood, and thus, the forest owners', has declined to some extent with the companies locating their production units abroad not only to secure market presence, local supplier status or reduced transportation costs, but to be able to tap into local raw material supplies, like recycled fiber.

Nevertheless, as a source of virgin fiber for the production of high value added grades, the Finnish woodlands will have their role to play in the future as well. This future is likely to be a long one as the Finnish forest industry companies have all followed strategies leading towards production of ever higher value added paper and paperboard grades. In this sense it is predictable that the mutually beneficial, almost symbiotic interdependence between the forest industries and the private forest owners will continue, while the state's role in the trinity will gradually diminish as it redirects its support more and more towards the booming high-tech industries.

Second, the development of state's role as a facilitator and a player has manifold implications. On the one hand, as a facilitator, the state has attempted to create sustainable location advantages for the forest industry through industrial policy decisions and by directing special attention to the creation of favorable conditions for the forest cluster and the clusters closely related to it. On the other hand, the location may be seen as a disadvantage for the industry, being far-removed from the main markets. This disadvantage has been in part compensated by the state through its energy policy: it has kept the price of energy low through favorable taxation thus helping the companies maintain their international competitiveness, and it carried out repeated devaluations.

Additionally, as far as the direction of public support for industry is concerned, the state has most likely played its facilitator role for the forest industries to the full within the limits of available means at its disposal. There is probably not much more the state could have done or can do at present in the globalizing economy, in which, it has been stated, the freedom of individual nation states to maneuver and to make unilateral economic decisions for regulatory purposes is limited (Kettl, 2000; Ohmae, 1996; Strange, 1996).

The industry has obviously not just waited for the state to take care of its affairs, but, instead, it has tried to overcome the location disadvantage by improving efficiency. The second wave of consolidation within the Finnish forest industry in the mid-1980s was a means to this end. The architects of consolidation sought economies of scale in production to improve efficiency, growth in order to increase turnover to smooth out lumpy investments, market share gains, added market power to influence price or subdue competition, cost economies and synergy, and they sought increased control of capacity to achieve more controlled investment behavior to fight the threat of price volatility caused by overcapacity.

As to the state's role as a player within the forest industry, it is clearly diminishing. Following the recent worldwide liberalization trend, the Finnish state has reduced its involvement in businesses by privatizing formerly majority state-owned companies. Although still a notable

owner of Stora Enso, the state's role in the governance of the company has diminished and other shareholders' influence has correspondingly increased. What has taken place within the forest industry may be seen to reflect a wider trend. Economic integration has been a major trend in the world economy in recent years and this force, which is external to the nation state, has had its repercussions on Finnish society as a whole.

Until recently, credit-based financing was the predominant mode of finance for the Finnish forest industry companies, which reflected the power structure of the sphere economy, the previously dominant mode of the Finnish financial system. The power of the spheres was shown in the way top executives of financial institutions occupied important board seats in forest industry companies, and in many instances making crucial decisions in the structural change process that took place from the mid-1980s to mid-1990s (Näsi et al, 1998), which I have termed the second wave of consolidation within the Finnish forest industry.

As the Finnish share markets, and the financial markets in general, were liberalized in mid-1980s, after an extended period of regulation, the Finnish sphere economy has eroded and the traditional spheres have lost their strongholds; they have ceased to exist. The forest industry may be viewed as one major contributor to the erosion of the sphere economy and thus an initiator of change in the wider context of the evolving business and society relationship. Through becoming more international the companies were able to gain wider recognition and to attract international owners and through international ownership the forest industry companies were able to reduce their dependence on domestic financial institutions. Hence, the erosion of sphere power may be seen as one result of the key industry's internationalization.

Today, the forest industry is entering a new era. Instead of being a regional industry, it is gradually becoming a global one with a limited number of global-scale players. By global industry I refer to an industry that shows wide interdependencies between different markets, much in the same way as Porter defines a global industry being one characterized by "linked domestic industries in which the rivals compete against each other on a truly worldwide basis" (1986, p. 18). The current development of the industry is taking it towards a global status and away from its present multiregional setting, in which one region is clearly dominant for every major company within the industry, typically the region which encompasses its original home base. The markets within a given region may be quite interdependent, but the interregional interdependencies are limited, thus the current situation falls short of the definitions above.

With globalization, the challenges met by the companies grow in magnitude, but the same applies to the nation state of Finland. Now Finland faces a new challenge: how to attract and retain multinationals in an societally acceptable and sustainable manner, beneficial to both parties involved?

In the Finnish case and especially in the forest industry context the above question is becoming a highly topical issue and is reflected in a recent statement by a top forest industry executive: "The only thing tying the Finnish forest industry down to Finland is the fact that the raw material is attached to the Finnish soil at one of its ends." While this statement may hold true for the establishment of the industry, there surely is something else keeping the Finnish forest industry companies in Finland. The 'something else' is proving to be the deep and far-reaching embeddedness of the industry into Finnish society. The resource-dependent vision of a handful of entrepreneurs,

once carried through, set out the future path of a whole society, much in the way that the path dependence proposition (North, 1990) postulates.

Therefore, to discuss a business and society relationship in the Finnish forest industry context presented above is somewhat misleading. Instead, what should be referred to is a business in society relationship. This would be justified in the Finnish case because the relationship that exists between the forest industry and the Finnish society is so intimate and strong. To make a distinction between the two entities for analytical purposes would easily lead to an excessively narrow and restrictive view of the relationship, which would miss its holistic nature and artificially oversimplify the closely intertwined relationship of the entities. The same may be true in a wider small and open economy context as well. If there exists a dominant, natural resource-based key industry in a country as is the case in many developing nations, it may be advantageous to address the situation in a more holistic manner in order to uncover the nature of the business and society relationship and to gain an understanding of the ways in which the current wave of globalization may alter the existing relationship.

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RECENT EVIDENCE OF FOREIGN DIRECT INVESTMENT IN THAILAND

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ABSTRACT

This study examines another significant form of international business, foreign direct investment (FDI). Unlike the theory of international trade and theory of international portfolio investment, there is no well developed comprehensive theory of foreign direct investment. In particular, this paper employs an econometric model to assess the impact of crucial factors that affected foreign direct investment in Thailand from 1973 to 2000. Augmented Dickey-Fuller and Phillips-Perron tests for stationarity followed by cointegration tests are implemented. The dynamic responses of foreign direct investment to changes in real income, foreign exchange rate, labor cost and inflation are investigated. The results suggest that among all of these variables only real income play an important role in determining the level of FDI in Thailand. The industrial policy that stimulates economic growth would be imperative to attract more inflow of FDI.

INTRODUCTION

Thailand is currently undergoing reforms and adjustments in fiscal and monetary policies aimed at bolstering market confidence and achieving economic recovery and stability. Amidst this crisis, foreign direct investment (FDI) remained resilient. FDI inflows to Thailand as a whole have somewhat weathered the financial crisis that hit the nation in 1997-1998. Prior to the economic downturn, the gross domestic product (GDP) grew at an annual rate of 5.4 percent from 1981 to 1986. The average growth rate rose sharply to 9.5 percent per annum during 1987-1995. Economic growth rate peaked at 11.2 percent in 1990. A sustained growth rate of at least 8 percent continued until 1995 then dropped to 5.9 percent in 1996. Asian Development Bank (1996) and Yam (1997) confirmed that this rate was higher than other countries (Singapore, Malaysia, Indonesia, and the Philippines) that also experienced the Asian Financial crisis of the late 1990s. Rapid economic growth prior to the crisis made Thailand a part of the East Asia miracle (Stiglitz 1996). High growth rate was mainly due to a successful industrialization. After decades of uninterrupted growth, financial difficulties led Thailand into an economic crisis in 1997. According to the Office of the National Economic and Social Development Board, economic growth rate was -1.8 percent in 1997 followed by a sharp contraction to -10.4 percent in 1998. In 1997, the International Monetary Fund implemented a rescue package to restructure the financial sector, to attract capital inflow, and to replenish foreign exchange reserves. Recently, the sustained increase in capacity utilization has led the country into an economic recovery in a rather short period of time. The economic growth rate figures in 1999 and 2000 were 4.2 and 4.4 percent, respectively.

The implementation of an import substitution policy between 1960 and 1971 focused on reducing the country's dependence on imports of foreign goods, especially capital goods, raw materials, and semi-finished products. However, this policy was not quite successful. An export-led growth strategy emerged in early 1970s. This resulted in rapid economic growth in the subsequent period. Export composition of Thailand changed more rapidly than the structure of the manufacturing itself. For example, resources were shifted away from the traditional sector to the manufacturing sector. Eggleston (1997) identified other contributing factors to economic growth such as a transition to productivity-based growth and consumer orientation, an active government role in social and economic infrastructure investment, and a commitment to global trade and investment mobilization. Investment mobilization should be accompanied by an adequate domestic savings through the convenience of depository institutions and the profitability of investment opportunities in money and capital markets. However, the nation has experienced the so-called "investment-saving gap" for a long period of time. Besides borrowing from domestic and foreign sources, direct investment from abroad is also an important source of investment funds.

The flow of foreign direct investments began when the Board of Investment (BOI) was established in 1960 to promote private investment in the country. Since then, Thailand has been more reliant on foreign capital, especially foreign direct investments that resulted when priority was shifted to the private sectors in the late 1950s. The structural change in production composition is partly attributed to the inflow of foreign direct investments. Capital inflow in the form of foreign direct investment increased from 102.9 million baht in 1977 to 64,695 million baht in 1990. The amount of foreign direct investment gradually dropped to 14,695 million baht in 1994. It rose again in subsequent years and reached 136,060 million baht in 1999. In contrast to the withdrawal of bank lending and portfolio investment which triggered a downturn in overall private capital inflows, FDI remained relatively stable and increased its importance in the nation's private capital flows. During 1970-1979, the major contributors to foreign direct investment were Japan and the United States. Hong Kong, Singapore, Taiwan, the United Kingdom and Germany joined in later years. These foreign direct investments are mainly in the form of joint ventures with domestic investors rather than acquisitions of existing firms. Nations often intervene in the flow of foreign direct investments to protect their domestic firms, employment and cultural heritages. Factors examined in this study may influence the governmental position regarding intervention in foreign direct investment.

This study assesses the impact of crucial factors affecting an inflow of foreign direct investment in Thailand during 1973-2000. Following is a review of related literature. Econometric models are constructed to determine the crucial factors. This analytical framework is described next and followed by the report of the empirical evidence. The last section provides concluding remarks. The expected outcome should suggest recommendations related to industrial policy.

REVIEW OF RELATED LITERATURE

Earlier FDI models such as Hartman's (1984) assumes that firms make their decisions on where to make capital investments on the real after-tax rates of return available on alternative investments. He found that foreign investment in the United States was strongly affected by changes in domestic tax policy of the host country. Pain (1993) constructs a FDI model with variables that

can explain the level of inward foreign investment in the United Kingdom. The results show that relative factor prices especially relative labor costs play an important role in determining FDI. Moreover, the findings suggest that there is a positive relationship between FDI and the level of domestic production and a negative relationship with production elsewhere.

It is a common belief that foreign firms will be able to invest more in a host country when its domestic currency is weaker and vice versa. Barrell and Pain (1996) specified several determinants of foreign direct investment undertaken by U.S.-based multinational enterprises during 1970s and 1980s. These determinants of outward FDI are the dollar effective exchange rate, the dummy variable of exchange control, the real level of U.S. corporate profits, the volume of U.S. exports of goods, and the overall level of demand in the home and host countries. They found that the level of GNP and relative factor costs, both labor and capital, are crucial determinants of the outward foreign direct investment made by U.S. multinational firms in seven major OECD countries. Furthermore, the expectation of short-run fluctuations in the dollar is also a significant determinant of outward FDI. Blonigen (1997) reported in his study that in general inward foreign direct investment is positively affected by a depreciation in the real exchange rate. His study shows that there is a linkage between exchange rate movement and inward FDI. However, this FDI is in the form of foreign acquisition involving firm-specific assets which can generate returns in currencies. Additional finding indicates that domestic production does not induce inward FDI flows in the form of acquisition.

DATA AND METHODOLOGY

The annual data from 1973 to 2000 were retrieved from Bank of Thailand and International Monetary Fund (IMF) International Financial Statistic Yearbook. The estimation procedures are similar to those employed in Bajo-Rubio and Sosvilla-Rivero (1994). The models constructed in this study are shown below:

- (1) $FDI = f(GDP, R, LC, P)$
- (2) $FDI = f(MGDP, R, LC, P)$ where,

FDI is real foreign direct investment or nominal value of FDI deflated by the wholesale price index.

GDP is gross domestic product adjusted for inflation by the wholesale price index.

MGDP is the real gross domestic product contributed by manufacturing activities.

P is an inflation rate or the percentage change in the consumer price index.

LC is the minimum wage in the Bangkok metropolitan area and its vicinities.

R is the real exchange rate measured in terms of domestic currency (baht) per US dollar multiplied by relative prices (the ratio of US CPI/Thai CPI).

Gross domestic product and real gross domestic product contributed by manufacturing activities are used as a proxy for the market size and for the degree of infrastructure development and production capacity. A depreciation in domestic exchange rate would mean an increase in FDI inflows. This depreciation increases relative wealth and leads to foreign acquisition involving certain assets. The real exchange rates in terms of U.S. dollars are used because the U.S. dollar is a dominant currency for settling international transactions. No matter how multipolar international finance may become and how much the Euromarket expands U.S. dollars remain the premier international currency. For example, a growing proportion of Japan's trade is conducted in yen, but most countries continue to prefer payment in US dollars. Furthermore, the role of yen deposits for settlements was extremely limited (Nakao, 1995). Even among the Asian countries, the percentage of official reserves held in yen was far less than dollar reserves. Labor cost is used to capture the popular belief that at the final stage of international product life cycle, the companies build production facilities in low-cost developing countries to reduce production costs in response to increased competition. Labor cost should be negatively related to the FDI inflows. The firms' unit labor cost is not available. Thus, the unit labor cost is proxied by the real minimum wage which is nominal minimum wage deflated by the consumer price index. Inflation rate is included to reflect the instability and uncertainty associated with the change in real asset value. Case in point, higher inflation rate discourages FDI inflows.

Limitation

The change in tax policy variable as mentioned by Hartman's paper (1984) is omitted due to the unavailability of the data. Money market rate can be used as a proxy for the cost of capital. However, the money market rate for Thailand has just been available beginning in 1990. Prior to 1990, Bank of Thailand (the central bank) published discount rate, deposit rates and government bond rates. Moreover, the Thai government issues a small amount of bonds that cannot well represent the cost of capital. In addition, the higher interest cost in Thailand discouraged the multinational corporation to borrow from the Thai local financial institutions. For these reasons, the cost of capital was excluded.

Estimation Procedures

Many researchers use unit root test to investigate the dynamic nature of economic times series data. The unit root test of stationarity and the cointegration test are two procedures employed to test the properties of time series data used in the model:

First, two standard unit root tests of stationarity is performed--Augmented Dickey-Fuller (ADF) test (Dickey & Fuller 1979 & 1981) and Phillips-Perron (PP) test (Phillips & Perron 1988). Both examine the null hypothesis that a unit root at level of a variable exists. A time-series that has a unit root is a non-stationary time-series.

(1) Augmented Dickey-Fuller (ADF) test:

$$\Delta X_t = b_0 + b_1 T + zX_{t-1} + \sum a_i \Delta X_{t-i} + e_t$$

X is a variable being tested for stationarity.

T is the time or trend variable.

e is the error term.

i is the number of lagged differences of X needed to make the error term serially uncorrelated.

If $z = 0$, X has a unit root.

(2) Phillips-Perron (PP) Test:

$$\Delta X_t = b_0 + b_1 T + zX_{t-1} + e_t$$

The null hypothesis is that $b_1 = z = 0$ or a unit root exists in X.

Second, despite the fact that each of them are nonstationary but are integrated in the same order, the cointegration test is performed to find out that the linear combination of these variables might be stationary. The theory of cointegration discussed by Engle and Granger (1987) states that if X and Y are both integrated of order one, I(1), but their linear combination $Z_t = Y_t - AX_t$ is stationary, i.e., order zero, I(0), then X and Y are said to be cointegrated or have a long-run relationship. In order to accomplish this task, the log-linear of the FDI equation is run by the Ordinary Least Square (OLS) method. Then the residual obtained from the estimated equation is tested using the Dickey-Fuller residual based tests for a unit root shown below:

$$\Delta e_t = (p-1)e_{t-1} + v_t$$

where e is the residuals obtained from the OLS regression and v is the error term. In short, this procedure tests the null hypothesis of $p=1$. Cointegration exists if the null hypothesis is rejected. In other words, there is a stable linear steady-state relationship between the aggregate foreign direct investment and its explanatory variables. The t-ratio can be compared with the McKinnon critical values as found in Davidson and MacKinnon (1993).

Finally, without the presence of cointegrating relation, the first difference of log-linear FDI equation will be estimated by the OLS regression. However, if the test result indicates cointegrating relation, the dynamic equations suggested by Stock and Watson (1993) will be applied in both FDI equations. Banerjee et. al. (1986) stated that the estimation of dynamic equations should be employed because this method is more efficient with relatively small sample size than the Granger-Engle two-stage procedure.

EMPIRICAL RESULTS

Using the Augmented Dicky-Fuller test accompanied by Phillips-Perron unit root test, the results are shown in Table 1. The estimated test statistics are compared with McKinnon 5 percent level of critical values to reject a unit root hypothesis. Table 1 presents the ADF and the PP tests for the null hypothesis that each series contains a unit root against the alternative hypothesis that it does not. Test with and without trends are performed to ensure accuracy since the series may or may not exhibit deterministic trends. The ADF and PP tests with and without a linear trend show that the null hypothesis of a unit root is accepted for almost all series. These two tests (ADF and PP) only give contradictory results on real labor cost. For this particular variable under no trend, ADF test indicates the presence of unit root but PP test rejects the null hypothesis of a unit root at 5 percent level of confidence. Overall, the results suggest that there is little evidence that each series will contain more than one unit root. Therefore, each series is nonstationary.

Table 1 Test of the Unit Root Hypothesis				
Variables	ADF Statistic		PP Statistic	
	No Trend	Trend	No Trend	Trend
Log of Real FDI	-0.606	-3.456	-0.997	-2.926
Log of Real Exchange Rate	-1.070	-3.176	-0.434	-2.736
Log of Real GDP	-0.916	-1.762	-0.849	-2.820
Log of Real Labor Cost	-2.771	-3.267	-3.687	-3.481
Log of Inflation Rate	-0.755	-3.435	-0.467	-1.740
Log of Real MGDG	-0.422	-1.896	-0.144	-1.909
5% Critical Value	-2.985	-3.603	-2.980	-3.594

Note: lag of ADF test =1 and lag of PP test=2

Results of the unit root tests on first differences are shown in Table 2. Table 2 presents the ADF and the PP tests for the null hypothesis that the first difference of each series contains a unit root against the alternative hypothesis that it does not. The ADF and PP tests without a linear trend show that the null hypothesis of a unit root can be rejected for all series even though the two tests give some contradictory results for real exchange rate and real manufacturing GDP. For real exchange rate with trend, PP test indicates the presence of unit root but ADF test rejects the null hypothesis of a unit root. With respect to real manufacturing GDP, ADF test indicates the presence of unit root but PP test rejects the null hypothesis of a unit root at 5 percent level of confidence. Nonetheless, each series is integrated in the same order, i.e. I (1). When they are integrated at the same order, they could be cointegrated (Gujarati, 1995).

Variables	ADF Statistic		PP Statistic	
	No Trend	Trend	No Trend	Trend
Log of Real FDI	-4.099	-3.997	-5.714	-5.730
Log of Real Exchange Rate	-4.426	-4.313	-3.348	-3.292
Log of Real GDP	-4.020	-4.209	-7.157	-7.143
Log of Real Labor Cost	-5.142	-5.164	-3.686	-3.953
Log of Inflation Rate	-3.929	-3.980	-3.277	-3.610
Log of Real MGDGP	-2.757	-2.698	-3.938	-3.849
5% Critical Value	-2.991	-3.612	-2.985	-3.594

Note: lag of ADF test =1 and lag of PP test=2

Furthermore, ADF procedures for cointegration test are employed. This is a residual-based test to test for a unit root of the residuals of the OLS regressions of equations (1) and (2). The results are reported in Table 3. The residuals of both equations do not contain a unit root because the null hypothesis of a unit root could be rejected at 5 percent level. Note that the McKinnon critical value for rejecting a unit root hypothesis of at the 5 percent level is -1.955. Therefore, the time series variables in the estimated equations are cointegrated.

Estimated Equation	ADF Statistic
Equation (1)	-3.711
Equation (2)	-3.874
Critical value 5 percent level	-1.955

In view of the fact that the series are nonstationary and cointegrated, Stock and Watson's dynamic ordinary least squares method are employed. This method includes lead and lags operators to correct for serial correlation and simultaneity bias in small samples. A precondition to apply the dynamic equations is that all the time series variables are nonstationary. The results are reported in Tables 4 and 5. The results suggest that among all of these variables only real income (real GDP or real manufacturing GDP) play an important role in determining the level of FDI in Thailand. Both variables are significant at less than 5 percent level of confidence. All variables except the real exchange rate variable in model 2 exhibit expected sign. Real exchange rate variable was also replaced by nominal exchange rate. However, all tests indicate that real or nominal exchange rate, real labor cost and inflation rate are insignificant in determining FDI in Thailand.

Table 4 FDI Model 1				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-4.245792	8.188820	-0.518486	0.6154
Log of Real GDP	2.908145	1.038793	2.799542	0.0188
Log of Real Exchange Rate	1.192959	2.226055	0.535907	0.6037
Log of Real Labor Cost	-3.890238	2.204727	-1.764499	0.1081
Log of Inflation Rate	-0.338693	0.423948	-0.798903	0.4429
R-squared	0.921252	F-statistic	9.748935	
Durbin-Watson Statistic	1.957730	Prob (F-statistic)	0.000544	

Table 5 FDI Model 2				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	10.11060	14.94276	0.676622	0.5140
Log of Real MGDGP	2.136392	0.923711	2.312837	0.0433
Log of Real Exchange Rate	-0.408484	2.576425	-0.158547	0.8772
Log of Real Labor Cost	-3.885865	2.710192	-1.433797	0.1821
Log of Inflation Rate	-0.285409	0.588858	-0.484682	0.6383
R-squared	0.921252	F-statistic	9.291406	
Durbin-Watson Statistic	0.921252	Prob (F-statistic)	0.000668	

CONCLUSIONS

Contradictory to the traditional view that cheap labor costs induce FDI in Thailand, this study finds that only domestic income is the crucial determinants of FDI in Thailand. The pinnacle of the economic crisis led the nation into the shortage of capital for financing production and trade. Amid this problem, it is imperative for the government to maintain a stable and growing economy. Moreover, it should recognize the FDI role in restoring economic growth and development. The intensified efforts to attract FDI may include the opening of certain industries, such as service sector; relaxing the rules regarding financing, mode of entry and ownership, and granting special incentives and privileges. Further investigation of the driving forces of FDI may include factors such as the availability of cheap assets and the long term prospects.

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SPECULATIVE RETURNS IN THE NEUER MARKET

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ABSTRACT

This paper examines the speculator's return on equities listed in the German Neuer Market during the twenty-month window surrounding the initiation of the euro currency. Empirical evidence indicates that the general performance of the market, timing of the initial public offering in relation to the initiation of the euro currency, percentage of the stock that is free floating, and industry classification influence speculative returns. A Kruskal-Wallis test is employed to compare the price appreciation of initial public offerings in ten different industries. The industry with the largest one-day return is financial services, while the medical technology industry is found to be the worst performer.

INTRODUCTION

Young firms need capital to fund their expansions and growth. Investors recognize the potential of new, young firms for quick stock price appreciation. The German Stock Market established the Neuer Market in 1997 for the purpose of matching young firms with investors seeking price growth appreciation and willing to assume the risk associated with small-capitalization stocks. The Neuer Market is modeled as a German equivalent of the NASDAQ in the United States. Since its inception, the Neuer Market has grown to over 300 firms and represents the majority of the turnover of all the German stock exchanges.

The purpose of this study is to examine the determinants of speculative returns in the Neuer Market. Specific areas of interest include the impact of market conditions, liquidity and industry classifications on speculative returns. This paper is organized as follows. First, background information on the Neuer Market including admission criteria is provided. The next section offers a brief discussion of the characteristics of initial public offerings within the Neuer Market. The third section presents an empirical evaluation of the determinants of speculative returns. This is followed by a comparative industry analysis. The final section offers conclusions and suggestions for future research.

BACKGROUND

Three segments compose the German Stock Market. Official trading is the home of established, large-capitalization stocks, much like the New York Stock Exchange. The approval criteria and continuing obligations of firms listed for official trading is the most stringent of the three segments. A step below the Official Market is the Regulated Market. The volume issued and percent floated requirements are lower for firms in this market. The third segment, the Unofficial

Regulated Market, is the largest market with few approval prerequisites and no continuing obligations. Warrants and foreign shares dominate it. Recognizing a need to promote growth stocks, the Frankfurt Stock Exchange established the Neuer Market within the Unofficial Regulated Market. The Neuer Market fulfills a hole in German capital markets. Young companies need capital to grow. The traditional bank loan is not befitting innovative firms starved for cash. The small firms are not established enough to receive lower interest rates and the liquidity demand of interest payments is draining on the firms and not guaranteed to the banks. The Neuer Market allows these growth-oriented firms to solicit funds from investors looking for potentially high returns and willing to undertake the corresponding risk. In addition, the venture capital that helped initiate the firms can be recaptured at the initial public offering. By offering a potentially high return exit strategy to venture capital, the Neuer Market encourages further venture capital investment.

While officially in the Unofficial Regulated Market, Neuer Market firms follow more stringent criteria for listing. The additional requirements provide greater transparency and liquidity to investors. Firms listed on the Neuer Market must publish reports quarterly and annually. In contrast, firms listed on the Official Market are only required to publish a report every six months. Neuer Market firms must also have at least one meeting for analysts each year. No such requirement exists for the other markets. Firms in the Official Market must publish their reports in German and foreign firms must publish in German and English. All firms in the Neuer Market must publish in both German and English. In addition, all firms must publish in accordance to either International Accounting Standards or U.S. Generally Accepted Accounting Principles. This makes the firms internationally comparable (De Grauwe, 2000). The increased reporting of the financials should help analysts and investors evaluate the firms more fully. Because the firms are more easily comparable, both with other domestic firms and international firms, competition for investment flows is encouraged. The transparency lowers the risk associated with the investment.

Firms must satisfy three criteria for admission to the Neuer Market. All firms must have at least two designated sponsors. The designated sponsors act like specialists in providing liquidity through binding purchases and sales of the stock. The company owners agree to a lock-up period of at least six months before they are eligible to sell their shares. This increases confidence in the company and ensures that the management will remain as the firm goes public. Finally, each firm agrees to consider all takeover bids with a goal of increasing shareholder value. Upon fulfilling the requirements for listing, each firm must float at least 20% of the total shareholder equity with a minimum value of Euro 5 million. These liquidity standards ensure marketability.

INITIAL PUBLIC OFFERINGS

Because it is a new market segment and the firms are young, the Neuer Market is the site of initial public offerings (IPOs). During 1997, thirteen firms held IPOs for a total market capitalization of Euro 4,138 million. It represented just 0.57% of the total capitalization of the Frankfurt Stock Exchange. In 1998, forty-five firms issued IPOs bringing the total capitalization to just over Euro 26 million. At the end of 1999, 198 firms were listed on the Neuer Market with a market capitalization of Euro 111,276 million, representing 8.01% of the total German stock market. In 2000, another 133 firms held IPOs, making the Neuer Market the home of 26.56% of all

domestic shares. Fifty-six foreign companies are listed. While the total Euro value of the shares traded is a modest percent of the total value of the German stock market, the turnover on the Neuer Market has been over 60% of the turnover on the entire market since inception. The equities on the Neuer Market returned 173.9% in 1998, 66.2% in 1999 and -39% in 2000.

The backbone of the Neuer Market is technology. The firms can be divided into ten industries. In terms of capitalization, the largest industries are technology and Internet, each making up one-fifth of the total value. Financial services at 18.38% and biotechnology at 13.76% are third and fourth largest. Media and entertainment, industrial services, and telecommunications each make up a little over 5% of the total value. Software, information technology services and medical technology are the smallest sectors.

The initial price and the opening price of IPOs are rarely the same, leading many investors to speculate on new issues. Underwriters, unable to accurately price an issue and wanting the issue to be a success, have a bias to underprice new issues (Reilly & Hatfield, 1969). This discrepancy leads to a positive speculative return for the initial owners. Empirical evidence from the United States has shown that the average underprice is 15% but varies over time (Ibbotson, 1975; Reilly, 1977; Neuberger & Lachapelle, 1983; Ritter, 1991). Further studies have examined the speed of price adjustment and found it usually occurs within one day (Hanley, 1993; Ibbotson, Sindelar & Ritter, 1994). The speculative return is present only initially and usually to institutional investors who are better able to gain access to the issue (Hanley & Wilhelm, 1995).

Within the Neuer Market over ninety percent of the IPOs had positive speculative returns between 1997 and 2001. In both 1997 and 1998, only one firm each year earned a negative return. SER Systeme returned a negative 48.86% in 1997 while Lobster Network Storage earned a negative 14.29% in 1998. The high return was 323.08% in 1997 and 308.16% in 1998. The average speculative return was 57.35% in 1997 and 75.27% in 1998. In 1999, the returns ranged from -20.83% to 360.87% and only twelve of the 132 firms listing earned negative returns. Sixteen firms earned negative speculative returns in 2000, with the majority coming in the last six months. The range of speculative returns was -25% to 433.33% for 2000. The average speculative return was lower in 1999 and 2000 than in the prior years but still high at 44.89% and 45.94%, respectively.

DETERMINANTS OF SPECULATIVE RETURNS

The German Neuer Market offers opportunities for new firms to obtain capital for growth. The twenty-month window surrounding the January 1999 initiation of the euro currency was a very active time period for the Neuer Market. In this section standard regression analysis is employed to investigate the determinants of speculative returns. The sample is drawn from 290 firms listed as initial public offering in the German Neuer Market during the twenty-month euro initiation period. The data source is the Neuer Market company listing on the Internet at www.neuermarkt.com.

The empirical model in this study is defined as $RETURNS = f(EURO, INDEX, VOLUME, FLOAT, INDUSTRY)$, where:

RETURNS = first quote minus subscription price divided by subscription price;
 EURO = the number of months before or after the January 1999 initiation of the euro;
 INDEX = the value of the Neuer Market index during the subscription period;
 VOLUME = placement volume of the stock in millions of shares;
 FLOAT = percent of the stock that is free floated at the time of the IPO;
 INDUSTRY = 1 if the firm is classified as a high-tech firm; 0 otherwise.

The estimated empirical relationship between the explanatory variables and speculative returns is presented in Table 1. The model explains thirty-one percent of the variance in speculative returns. None of the independent variables have a correlation higher than 0.35, suggesting that excessive multicollinearity is not a problem. Four of the five variables in the model are statistically significant at the five-percent level.

Variables	Coefficients	t-statistics
Intercept	65.050	5.44*
EURO	1.242	2.94*
INDEX	2.184	9.85*
VOLUME	-0.606	-0.53
FLOAT	-0.583	-2.23*
INDUSTRY	-4.071	-2.02*

*Significant at the .05 level; N = 290; R-square = .3122; F-value = 24.61

The positive and significant coefficient on the EURO variable is an interesting result. There appears to have been an excitement in the European financial markets in the days leading to the formal establishment of the new euro currency. This excitement entered the IPO market resulting in positive speculative returns for companies listing in the formative time period. The depreciation of the euro relative to the dollar ex post the January 1999 initiation period seems to have hampered speculative returns. The general health of the Neuer Market also has a positive and significant impact on speculative returns. One value that all investors can readily witness is the value of the index during the subscription period. Because of the tendency to underprice IPOs, many investors speculate on new shares. As investors garner speculative returns pushing the index up, others are enticed into the market seeking the return. The investors act in a way that brings about speculative returns, confirming their positive intuition. Similarly, in a declining market investors turn away because of the negative psychology in the market. The size of the IPO issue did not have an impact on speculative returns. The VOLUME variable is negative but not statistically significant. This

result is not surprising given that 195 of the firms executed their greenshoe option at the time of placement. This implies that the marketability goal of the Neuer Market has been satisfied.

The independent variables FLOAT and INDUSTRY both have a negative and significant impact on speculative returns. The negative sign on the free float variable indicates that the Neuer Market is rational and liquid. As the percent of the stock that is floated increases, the supply offered to the public increases. This increase in supply reduces the potential shortage of the issue and limits the opportunity for a speculative return. The more stringent filing and transparency requirements that the Neuer Market established have encouraged a more efficient market. The empirical results also indicate that industries outside of the high-tech sectors earned a speculative return greater than high-tech companies. Industries classified as part of the high-tech sector include biotechnology, Internet, information technology services, technology services, medical technology, and software, while financial services, industrial services, media & entertainment, and telecommunications are not classified as high-tech sectors. One explanation for the negative return associated with the high-tech industries is the saturation of initial public offerings. Over seventy-five percent of the IPOs included in this study come from one of the high-tech industries. In fact, the Internet and technology services industries have fifty-eight issues each compared to a mere six in the financial services industry. Negative publicity about possible overvaluation of the high-tech sector in U.S. financial markets may have also contributed to the lack of speculative returns for high-tech in the Neuer Market. The absence of proven profit potential may have also limited the amount of speculation put forth on the copious high-tech offerings.

INDUSTRY COMPARISON

Is there a difference in the speculative returns by industry? Empirical evidence from the previous section implies that a difference exists. In this section we compare speculative returns in ten different sectors during a twenty-month window around the initiation of the euro. Once again, the sample is drawn from 290 firms listed as initial public offerings in the German Neuer Market. The ten industry classification are biotechnology, financial services, industrial services, Internet, information technology services, media & entertainment, medical technology, software, technology, and telecommunications. The statistical methodology incorporates a nonparametric approach to comparing initial price appreciation and industry. The Kruskal-Wallis test is employed because it offers the most powerful test statistic in a completely randomized design without assuming a normal distribution. The Kruskal-Wallis test is designed to be sensitive against differences among means in the k populations and is extremely useful when the alternative hypothesis is that the k populations do not have identical means. The Kruskal-Wallis test is used in this study to test the null hypothesis that the k speculative returns come from an identical distribution function, regardless of industry. For a complete description of the Kruskal-Wallis test see Conover (1980). The specific equations used in the calculations are as follows:

$$\begin{aligned}
(1) \quad N &= \sum_{i=1}^k n_i \\
(2) \quad R_i &= \sum_{j=1}^{n_i} R(X_{ij}) \\
(3) \quad R_j &= \sum_{i=1}^c O_{ij} \bar{R}_i \\
(4) \quad S^2 &= \frac{1}{N-1} \left[\sum_{i=1}^c t_i \bar{R}_i^2 - N(N+1)^2 / 4 \right] \\
(5) \quad T &= \frac{1}{S^2} \left[\sum_{i=1}^k \frac{R_i^2}{n_i} - N(N+1)^2 / 4 \right] \\
(6) \quad \left| \frac{R_i}{n_i} - \frac{R_j}{n_j} \right| &> t_{1-\alpha/2} \left[S^2 \frac{N-1-T}{N-k} \right]^{1/2} \left[\frac{1}{n_i} + \frac{1}{n_j} \right]^{1/2}
\end{aligned}$$

where R is defined as the variable rank and N is the total number of observations. The first three equations are used to find average ranks. Equation (4) is used to calculate the sample variance, while equation (5) represents the test statistic. If, and only if, the null hypothesis is rejected, equation (6) is employed to determine multiple comparisons of speculative returns across the various industries.

The empirical approach yields a T-value of 16.87 (p-value = .0001), indicating a significant difference in speculative returns across the ten industries. Table 2 presents a summary of the average rank return for each industry. Assuming an alpha level of .05, the empirical results indicate that the financial services sector offered a speculative return that was significantly greater than the other nine sectors. One possible explanation for the success of financial services industry is the observation that only six firms listed during the research window, providing less market saturation than other sectors. A second possible explanation is that the financial services industry is more established and better understood than the high-tech alternatives represented in many of the other industries. One strength of the financial services industry is the ability to blend traditional investing opportunities with opportunities put forth by information technology in the new economy. Traditional broker services can be enhanced with online access and information. The industry with the second largest speculative return is the telecommunications industry. Although the telecommunications industry earns a speculative return that is statistically greater than industries ranked three through ten, recent activities in global markets indicate that the telecommunications industry was in the midst of a speculative bubble during the research window. It is doubtful that the telecommunications industry would still be able to separate itself from the other industries if new telecommunications IPOs are put forth in the present environment.

Industry	Number of Firms	Mean Rank
Biotechnology	13	153.0
Financial Services	6	85.8
Industrial Services	13	153.6
Internet	58	143.8
Information Technology Services	32	163.9
Media & Entertainment	36	138.4
Medical Technology	10	178.0
Software	47	142.3
Technology	58	141.6
Telecommunications	17	114.5

*Note: Lower mean rank implies higher speculative returns

Industries ranked three through nine do not have a speculative return rank that is statistically different. The industries include biotechnology, industrial services, Internet, information technology services, media & entertainment, software, and technology. The fact that most industries do not stand out as above (or below) average performers indicates that the German Neuer Market is a rational and liquid equities market. There is little evidence of euro euphoria overvaluing certain industries and undervaluing others. The smallest speculative return is in the medical technology industry. The average speculative return rank of 178 in the medical technology is significantly lower (alpha-level of .05) than the nine other industries. One possible reason for the poor performance of the medical technology industry is that the industry was hurt by price transparency offered by the establishment of the euro currency. A second possible explanation is the anticipated difficulty of gaining approval for medical technology improvements across the various European nations. Finally, the medical technology sector is extremely speculative because companies listing in the industry do not have existing products with a promising cash flow opportunity. Most of the medical technology companies are in the process of conducting product research and development but are several years away from returning a profit.

CONCLUSIONS

The Neuer Market encourages the expansion of the stock market in a society with an underdeveloped equity market. The Neuer Market estimates that while over a half of a million corporations exist in Germany, less than 5,000 are stock corporations and under 1,000 have an official listing. It believes another 2,000 corporations are eligible for listing. In contrast, over 3,000

are listed on the New York Stock Exchange and over 5,000 firms are listed on the NASDAQ. Thus, the Neuer Market provides an outlet for German firms seeking to go public. IPOs are unique in that the issues tend to be underpriced in order to ensure success. Because of this inefficiency, investors speculate on new issues to earn the potentially large and positive initial return.

The empirical results of this study indicate that the conditions of the overall market at the time of issue have a significant impact on the speculative return in the Neuer Market. Initial public issues offered greater speculative returns to investors ex ante the formal introduction of the euro currency. The potential efficiency gains of increased transparency, decreased transportation costs, and decreased exchange costs among other benefits contributed to the pre-euro positive speculative return. Higher returns were also realized to those issues occurring in the time period following a rising market. Investors witnessing other investors earning speculative returns are enticed into the market causing further speculative returns. The results corresponding to supply conditions are consistent with a liquid market. The issue volume and free float percentage have a negative impact on speculative return. This is mostly likely due to the large number of greenshoe options exercised and the scarcity of the issues. This study also provides evidence that speculative returns are different across industries. The industry with the largest speculative return during the research time period is financial services. The industry with the poorest performance is medical technology.

The goal of the Neuer Market is to increase the number of firms listed in Germany. By providing a vehicle to raise capital, the Neuer Market encourages young firms to go public. The stringent rules and increased transparency of financial data provide potential investors with greater certainty in their investments. This encourages a wider investment pool and reduces the risk premium firms must pay for capital as the market deepens. The establishment of a new financial market in an advanced, industrial nation provides an opportunity for several potential research endeavors in addition to this analysis on speculative returns. One potential avenue is a comparison of speculative returns and index performance between the Neuer Market and its U.S. equivalent, the NASDAQ. Future research could also investigate developing equity markets in other European countries including Italy and Switzerland. A potential direct extension of this research is an examination of the long-run performance of these initial public offerings. In the end, the results of this study are of a preliminary nature and more research is needed before any definitive conclusions about the Neuer Market can be made.

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CROSS-CULTURAL LEADERSHIP STYLES: A COMPARATIVE STUDY OF U.S. AND NIGERIAN FINANCIAL INSTITUTIONS

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ABSTRACT

The purpose of this study was to explore the interaction between elements of national culture and leadership styles, and empirically compare leadership styles of Nigerian and United States managers in financial institutions. Leadership styles of Initiating Structure and Consideration were measured with the Leadership Opinion Questionnaire and used to estimate, evaluate and explain the influence of national cultural values, gender, age, religious belief, and educational qualifications on leadership behavior of business managers from both countries. Completed questionnaires from 103 U.S. and 108 Nigerian respondents, with reliability coefficients (Cronbach's Alpha) ranging from .71 to .81 were analyzed. Results of this study revealed significant differences in Initiating Structure and Consideration leadership styles between the United States and Nigerian managers in financial institutions and lend support to Hofstede's 1985 findings. The differences were primarily due to the influence of national culture. The combined effect of gender and country of nationality also demonstrated significance in Initiating Structure leadership style. No significant differences were found in the two leadership styles considered due to age, religious belief or educational qualifications. Results of this study will be useful to the international business community, especially firms seeking business ventures in Nigeria for training employees for assignments in Nigeria or hiring qualified Nigerians for management level positions.

INTRODUCTION

This research explores the interaction between elements of national culture and leadership styles, and empirically compares leadership styles of United States and Nigerian managers in financial institutions. The basic theory in this research is the two-factor theory of leadership (The Ohio State University Leadership Studies), which narrowed the description of leadership behavior into two separate dimensions, Initiating Structure and Consideration. Other supporting theories included those developed by Hofstede (1980), Gibson (1995), and Safranski and Kwon (1988). Leadership styles of Initiating Structure and Consideration (Fleishman, 1989) will be used to estimate, evaluate and explain the influence of national cultural values, gender, age, religious belief, and educational qualification on leadership styles of managers from both countries. Knowledge and understanding of cross-cultural and cross-national similarities and differences in leadership styles between these two countries will benefit the international business community, especially multinational corporations considering joint ventures or foreign direct investment (FDI) in Nigeria. These firms can use the results of this study to prepare and train their management staff for assignments in Nigeria or hire qualified Nigerians for top management positions.

People from different cultures develop certain patterns of life, philosophy and value systems, which influence their behavior and leadership styles. Business experience abroad has shown how widely these leadership styles vary from country to country, and from culture to culture (Trompenaars, 1993). In order to lead effectively in another culture, a leader must understand the social values, customs, norms, leadership behavior and work-related cultural values of the host country's workforce (Fatehi, 1996).

Cultural differences influence leadership styles, norms, role expectations, and traditions governing the relationship among various members of society. These are strong determinants of effective leadership behavior in a society (Fatehi, 1996). Fatehi argues that what constitutes a good leader in one culture may not constitute a good leader in other cultures. He stated that in the United States of America, for example, people would prefer democratic leaders who seek input from subordinates before making decisions. In other cultures, such would be regarded as incompetence or lack of knowledge on the part of the leader. He emphasizes that these other cultures might prefer a leader who takes charge of the situation without consulting subordinates prior to decision-making. Besides having technical expertise, international managers must possess the ability to organize, and lead a workforce of diverse cultures (Fatehi, 1996).

Leadership is an essential ingredient in the success or failure of all organizations. According to Fiedler (1967:11), leadership is "an interpersonal relation in which power and influence are unevenly distributed so that one person is able to direct and control actions and behaviors of others to a greater extent than they direct and control his". One of the most significant aspects of leadership is the style of the leader. The best style of leadership is that which varies with the circumstances (Mainiero & Tromley, 1989), and maximizes a firm's productivity, satisfaction, growth and development in all situations (Hersey & Blanchard, 1993).

President Clinton's historic trip to Africa in March 1998 may have encouraged American business leaders to seek business ventures in the African continent. During the course of his diplomatic mission, President Clinton emphasized the need for the United States to build closer diplomatic and economic ties with the countries of Sub-Saharan Africa. Two bills (H.R. 434 & S. 666) in support of economic development in Sub-Saharan Africa (African Growth and Opportunity Act, 1999) have been approved by the U.S. Congress and signed by the president. Among U.S. investors who accompanied him to Africa were several African-American business leaders, who enthusiastically applauded the notion of U.S. investments in Africa (Coleman, 1998). As the desire for U.S. investments in Africa gathers momentum, the need to learn and understand the leadership behavior of these African countries will begin to emerge. Foreign investors need to know the cultural work values of the African workforce in order to prepare their expatriate employees for assignments in these countries (Osuoha, 2000). Since most U.S. firms send their most talented managers to these overseas assignments, failure of these managers to perform effectively will result in both monetary and business losses.

One of the most politically significant countries in Africa that may likely attract a lot of foreign investors is Nigeria. Nigeria is Africa's most populous country (has about one-fourth the population of the entire continent) and has an abundance of mineral resources (Compton's Encyclopedia, 1999). Foreign Direct Investment (FDI) in Nigeria is estimated at about US \$50 billion, with the U.S. share of this amount at about 26% (Maps N' Facts, 1995). Nigeria has the

potential to become the largest market in Africa for foreign goods and services. There is the probability that foreign industrialists would rush into Nigeria to establish businesses, and take advantage of the cheap labor prevalent in the country since the military dictatorship, which governed the country for the past two decades, has handed over power to an elected civilian government (Osuoha, 2000).

LITERATURE REVIEW

Leadership Studies

Leadership is the ability of an individual to inspire and influence the thinking, attitude, and behavior of other people (Bennis & Nanus, 1985; Yukl, 1989). A leader's principal objective is to assure synergy in his or her organization, and draw from the joint efforts of people working together a result that is more than the sum of the individual efforts put together (Koontz & Fulmer, 1975). In the words of Bennis and Nanus (1985: 3):

Leadership is like beauty, it is hard to define, but you know it when you see it. The new leader is one who commits people to action, and who converts followers into leaders, and who may convert leaders into agents of change.

Bennis and Nanus studied ninety successful business leaders, mostly from top Fortune 200 companies. Through intensive interviewing, these leaders revealed how they viewed their roles in their various organizations. Bennis and Nanus developed four areas of competence shared by all these successful leaders which include the following: 1) Attention through vision - all the leaders studied were agenda driven and unparalleled results oriented. Their vision and intensity were magnetic and attracted followers towards them. 2) Meaning Through Communication - effectively communicating one's leadership vision induces enthusiasm and commitment from followers. 3) Trust Through Positioning - positioning is the set of actions necessary for implementing the leader's vision. A leader must establish reliability, demonstrate predictability and accountability in order to be trusted by followers. 4) Deployment of Self - leaders must recognize their strengths and weaknesses. While leaders continue to develop their strengths, they must compensate for their weaknesses through competent staff.

To some people, leadership may mean power, authority and control (Adizes, 1988; Earley & Erez, 1997), while to others, it means motivating subordinates to act by non-coercive means. Mainiero and Tromley (1989, p.159) stated that "a leader is someone who is able to size up a situation quickly (often in the absence of information), define a direction to pursue, and mobilize subordinates' energies towards the achievement of a particular goal".

Hersey and Blanchard (1993) view the leadership process as a function of the leader, the follower, and the situational variables. They emphasized that "the style of the leader" is the key to effective leadership, and that the best style of leadership is one that maximizes productivity, satisfaction, growth and development in all situations.

Major Approaches to Leadership

Leadership studies in the past have included certain historic approaches, among them: the Trait, the Behavioral, Situational Contingency, Transformational, and the Cultural Contingency approaches. The Cultural Contingency approach focuses on the influence of cultural values and beliefs on the leadership style of a leader. Many leadership theories emerged from these approaches. A brief description of some of the leadership approaches are presented below:

The Trait Approach: The history of the world has been shaped by great leaders who made significant contributions to society, and who possessed certain unique qualities that made them great leaders. Winston Churchill, Mahatma Gandhi, George Washington, and Franklin Roosevelt were among great leaders who used their leadership skills in the building of their nations, while Thomas Watson, Edwin Land, Alfred Sloan, Lee Iaccoca etc. will always be remembered for their leadership skills in building successful business organizations. What made these leaders great became a subject of investigation. The trait approach claimed that leadership attributes were inherited, and limited to individuals who possessed extraordinary abilities, such as tireless energy, great intuition and extraordinary persuasive ability.

The Behavioral Approach: The behavioral approach focused on what leaders can do but not what leaders are. The behavioral study examines a leader's behavior and its impact on subordinate performance and satisfaction. The behavioral approach became a major research activity at the Ohio State University (Fleishman 1953a; Fleishman, Harris, & Burt 1955) and the University of Michigan (Bowers & Seashore, 1966; Likert, 1961, 1967). The Ohio State University studies will be reviewed in detail later in this paper.

Situational Contingency Approach: The situational contingency approach specifies situational factors that make certain leader behavior more effective. Fiedler (1967) provided a framework for effectively matching the leader's behavior with the situation to determine leadership effectiveness. After studying the leadership styles of hundreds of leaders who worked in different contexts, mainly in the military, the situation in which they worked, and their leadership effectiveness, Fiedler empirically determined leadership styles that were good and bad within the organizational context. He used the Least Preferred Co-worker (LPC) scale, which measured leaders' attitudes toward their least-preferred co-worker to evaluate leadership styles of managers. Leaders with high scores were rated relationship-oriented and those with low scores were rated task-oriented. The conditions that influenced the effectiveness of the leadership behavior depended on a combination of: (a) leader-member liking, (b) the degree of task structure, and (c) the position power of the leader.

Transformational Leadership Approach: Transformational leadership is part of the "New Leadership" paradigm (Bryman, 1992), a process that changes the attitude of individuals in organizations towards commitment to organizational missions, objectives and strategies (Bass, 1985; Yukl, 1989). It focuses on values, long-term goals and vision. Transformational leadership uses vision, charisma, inspirational motivation, intellectual stimulation or individualized consideration to inspire followers to go beyond the call of duty in discharging their responsibilities, and achieving organizational goals.

The Ohio State University Studies

An extensive research program, which focused on what leaders can do but not what leaders are started at the Ohio State University (Fleishman, 1953a; Fleishman, Harris & Burt, 1955) and the University of Michigan (Bowers & Seashore 1966; Likert 1961, 1967) in the 1960s to investigate the behavioral approach to leadership. The Ohio State University researchers, (Fleishman, 1953a; Fleishman & Harris, 1962; Fleishman & Peters, 1962), defining leadership as the behavior of individuals when influencing a group of followers towards goal attainment described leader behavior in two dimensions: Initiating Structure and Consideration. Fleishman and Peters (1962: 127) defined these two factors of leadership as follows:

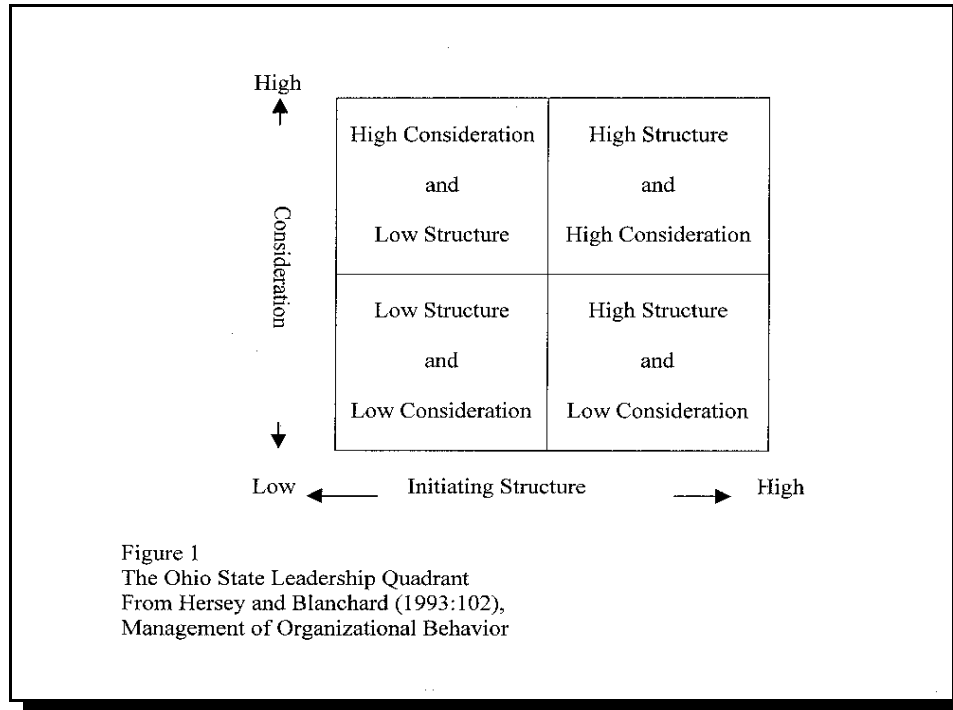
Initiating Structure: Reflects the extent to which an individual is likely to define and structure his role and those of his subordinates toward goal attainment.

Consideration: Reflects the extent to which an individual is likely to have job relationships characterized by mutual trust, respect for subordinates' ideas, and consideration of their feelings.

Fleishman and his associates described these two leadership dimensions as distinct and separate dimensions. There are leaders whose behavior is characterized by both high Initiating Structure and high Consideration, while others are low on both dimensions or low on one and high on the other. The Ohio State University studies resulted in the development of four quadrants of leadership styles, which represent different combinations of Initiating Structure and Consideration dimensions. See Figure 1. Fleishman (1953) developed the Leadership Opinion Questionnaire (LOQ) to measure the self-perception of leaders regarding their leadership styles in terms of Initiating Structure and Consideration. Many studies have examined and correlated these two leadership styles with subordinate satisfaction and performance (Fleishman and Simons (1970); Greenwood and McNamara, 1969; Yukl, 1989).

Culture Defined

Culture consists of values, beliefs, attitudes, and behavior of a group of people. It plays a predominant role in the way people think, learn, lead, follow and communicate. Culture influences employee motivation, superior-subordinate relationships, authority, leadership behavior and interpersonal relationships. Language, ethnicity and religion are some of the major components of culture (Fatehi, 1996). Culture also has both physical and nonphysical components. The physical aspects of culture are functional and tangible, for example, crafts, music, artistic objects, poetry, and arts. The nonphysical aspects of culture constitute the mental values which people use to characterize the environment and view their relationships with nature. These cultural characteristics differentiate one group of people from another.



Kluckhohn and Murray (1954), in their quest to generate knowledge regarding individual behavior in light of people's social and cultural backgrounds, asked the following questions:

Is there a connection between the mental illness characteristics of a given group, and the social norms that this group enforces with special severity? Does a people's way of bringing up their children make a particular type of personality unusually common in that society? Why do certain kinds of delinquencies appear most frequently among the children of certain social classes? How much of an individual's personality is fixed by his biological constitution? How much is personal life style influenced by the society's traditional designs for living? (p. xv)

Kluckhohn and Murray argued that people who grow up in certain cultural backgrounds tend to behave predictably in ways that conform to the norms and traditions of those particular cultures.

Earley and Erez (1997) define culture as the way people see the world, and as a shared knowledge structure that results in decreased variability in the individuals' response to stimuli. According to Fatehi (1996: 155), culture is "a system of knowledge and standards for perceiving, believing, evaluating and acting. It is a system of socially transmitted patterns of behavior that serves to relate people to the environment".

Culture is not country specific but refers to a group of people who share the same values and beliefs. A country may have several cultures while a group of countries may share the same culture. National culture reflects the values, beliefs, and assumptions unique to a nation-state (Schneider,

1989; Newman & Nollen, 1996). "National culture is embedded deeply in everyday life and is relatively impervious to change ... National culture is a central organizing principle of employees' understanding of work, their approach to it, and the way in which they expect to be treated" (Newman and Nollen 1996: 754 and 756). They emphasized that leadership behavior, which reflects employees' national values, tends to encourage the employees to work harder and become more productive. Hofstede (1996) stated that:

Most nation-states display a common mental programming of a majority of their inhabitants. This programming consists of shared symbols, heroes, and rituals that provide a national identity, and shared values that serve to stabilize the national society. (p. 73).

Besides, citizens of most nations are exposed to the same dominant language, common mass media, the same education system, a national army, a national political system, and a national market for goods and services (Hofstede, 1996). Therefore, they share identical cultural values.

Hofstede (1980) 4 -Dimensional Model of Cultural Work Values

Hofstede's publication of his seminal research on "Culture's Consequences: International Differences in Work-Related Values" in 1980 greatly stimulated interest in cross-cultural management research. Hofstede provided a framework for cross-national comparative research on work-related values in different national cultures. In one of the largest cross-cultural studies ever, he collected and analyzed a database of 117,000 questionnaire responses from over 160,000 IBM employees worldwide between 1967 and 1973. His cross-cultural research covered about 67 different countries and over 50 different occupations. Hofstede identified four work-related cultural dimensions, which he described as follows:

Power Distance: This measures the interpersonal power or authority between boss and subordinate as perceived by the weaker of the two. Power Distance is "the extent to which the members of a society accept that power in institutions and organizations is distributed equally" (Hofstede, 1985: 347).

Uncertainty Avoidance: This dimension defines "the degree to which the members of a society feel uncomfortable with uncertainty and ambiguity which leads them to support beliefs promising certainty and to maintain institutions protecting conformity" (Hofstede, 1985:348).

Individualism-Collectivism: "Individualism stands for a loosely knit social framework in a society in which individuals are supposed to take care of themselves and their immediate families" (Hofstede, 1985:348). Collectivism, on the other hand stands for a "closely-knit social framework in which individuals can expect their relatives, clan or others in-group to look after them, in exchange for unquestioning loyalty"(Hofstede, 1985:348).

Masculinity-Femininity Dimension: This cultural dimension describes the extent to which socially prescribed gender roles are perceived in a society. Masculinity describes "a society in which social sexual roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success; women are supposed to be more modest, tender, and concerned with the quality

of life" (Hofstede, 1996: 89). Femininity describes a society, which has "preference for relationships, modesty, caring for the weak and the quality of life" (Hofstede, 1985: 348).

Cross-Cultural Leadership Behavior

The current trend in globalization of businesses has created a diverse workforce comprising individuals from many countries and cultures. The major leadership theories were developed with the assumption that leaders and followers shared common values, beliefs, traditions and culture (Evan, Hau, & Sculli, 1989). The notion that a good manager in one country, say the United States will be a good manager in other countries is no longer true. Different national cultures require different leadership styles (Morris & Pavett, 1992; Erez & Earley, 1993; Bigoness & Blakely, 1996; Newman & Nollen, 1996).

Researchers have demonstrated that cultural values are determinants of organizational behavior. Erez and Earley (1993) contend that management practices, which are consistent with a society's predominant cultural values, are evaluated favorably by that society. They argued that those management practices generate feelings of satisfaction, and motivate the employees to contribute more to the organization. Similarly, Gibson and Marcoulides (1995) added that leadership styles, which are compatible with the cultural values of employees are often retained and practiced by those employees. They added that improved employee performance serves as a reinforcement to the leaders, who continue to practice the same leadership style that contributed to the employee's good performance.

There are some unique leadership behaviors that appear to be associated with some particular cultural backgrounds. In Nigeria, tribalism or loyalty to members of one's tribe transcends objective considerations of subordinate work performance (Bass, 1981). Objective merit ratings, promotions, and recommendations for pay increases are not totally based on performance, but rather biased in favor of people from one's own tribe (Bass, 1981: 533-534). The Arab culture is tradition oriented, and leadership behavior in the Arab countries is influenced by a strong loyalty to religion, family, and friends (Yasin, Zimmerer, & Green, 1989). The combination of family, tribal norms, and bureaucratic organizational structure in the Arab countries favor the Authoritarian leadership style.

Besides cultural influence, the influence of technological development on leadership behavior has become another important theme in cross-cultural leadership studies. The level of technology or industrialization attained by a society influences management behavior and leadership styles in that society (Evan, Hau, & Sculli, 1989). They argued that when a country starts the process of industrialization, changes in management style also start to occur. They cited Hong Kong as a typical example of a society where management styles changed in response to technological development. During this period, Hong Kong moved from the production of textiles to the production of high technology light manufactured goods and electronic products. It is important to remember that during this period, certain cultural values, which emphasized good family relationships, strong work ethics, self-discipline, and hard work, remained unchanged. Evan, Hau and Sculli (1989) concluded that:

Management style is a function of the level of industrialization, but is tempered by cultural characteristics. Industrial development produces wealth and changes life styles. Individuals become less dependent on the family, and this, in turn, leads to general self-assertion of workers. (p. 12).

Nigerian Leadership Behavior

Two types of work value systems exist in most African countries: the Western organizational value system and the indigenous African value system (Ahiazu, 1989). According to Ahiazu, Western theories and values accompany industrial technology imported from the Western World into African countries. These values have penetrated through the African native cultures and significantly influenced them with Western values. The result is that in the industrialized sectors of the economy the Western values dominate, whereas in the traditional work environment the indigenous African work organizational values are effectively adopted and practiced. Ahiazu (1986) conducted a study of Nigerian workers in both industrial and indigenous work settings and reported that in situations where the indigenous African work values are adopted the average Nigerian worker is totally committed and works very hard. In the industrial workplace, where Western industrial organizational values dominate, the Nigerian worker is perceived to be less enthusiastic and uncommitted. Ahiazu also reported that most Nigerian factory workers do not plan to hold their jobs for a long period of time. They worked mainly to save some money that would enable them open up their own businesses.

These findings are in line with results from other studies which maintained that management practices which are consistent with a society's predominant cultural values generate feelings of satisfaction, and motivate the employees to contribute to organizational performance (Erez & Earley, 1993; Newman & Nollen, 1996). Obviously, these industrial workers are distasteful of the foreign cultural values imposed on them in their factory jobs. In these factories, work must conform to the prescribed norms of behavior (Oloko, 1971) and these norms match the cultural values of American middle-class managers.

DEVELOPMENT OF HYPOTHESES

Hofstede (1985) grouped Nigeria, Ghana and Sierra Leone into one region, which he called West Africa (WAF). IBM did not have a sufficient number of employees in each of these countries at the time his survey research was being conducted. He found West Africa high in Power Distance, low in Uncertainty Avoidance, low in Individualism, and low in Masculinity. Hofstede rated the United States low in Power Distance, low in Uncertainty Avoidance, high in Individualism, and high in Masculinity. According to Hofstede, West Africa (Nigeria) and the United States are diametrically opposite on three of four of Hofstede's dimensions, with a large gap existing between their cultural values as shown in Table 1.

Cultural Dimension	Mean	U.S.	WAF (Nigeria)
Power Distance	57	40	77
Uncertainty Avoidance	65	46	54
Individualism	43	91	20
Masculinity	49	62	46

Adopted from Hofstede (1997). *Cultures and Organizations: Software of the Mind*

Hofstede (1996: 89) describes masculine society as "a society in which social sexual roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success". Managers from highly masculine cultures emphasize aggression, assertiveness and material success. These leadership characteristics are similar to those of Initiating structure, which emphasize high task performance. On the other hand, managers from low masculine cultures (feminine) emphasize affection, compassion, and the nurturing of the weak, similar to Consideration characteristics.

Since Hofstede (1997) rated the United States higher in Masculinity than Nigeria (West Africa), and Nigeria (West Africa) higher in Femininity than the U.S., one would assume that U.S. business managers will score higher in Initiating Structure and lower in Consideration than the Nigerians managers. To date, no studies have been done to determine where Nigeria falls in Hofstede's cultural dimension mapping, when considered alone. Through regular visits by Nigerians to the United States, and the availability of American television programs in Nigeria, many Nigerians are familiar with the U.S. lifestyle and culture. Besides, when a country starts the process of technological advancement, changes in management behavior and leadership style begin to occur (Evan, Hau, & Sculli, 1989). Since Hofstede published his IBM cross-cultural studies, a lot of technological changes have occurred in Nigeria. These technological changes include high technology manufacturing industries, oil and gas exploration, petro-chemical light industries and the Internet. Based on the above discussion, the first hypotheses are as follows:

H1a0: There are no significant differences in Initiating Structure leadership style between United States and Nigerian business leaders in financial institutions when considering national cultural differences.

H1b0: There are no significant differences in Consideration leadership style between United States and Nigerian business leaders in financial institutions when considering national cultural differences.

Gender Influence on Leadership Styles

The argument has been whether there are differences between the leadership styles of male and female managers. Historically, successful male leaders have demonstrated leadership traits such

as assertiveness, toughness, aggressiveness, competitiveness, and decisiveness (Northouse, 1997). In contrast, a majority of the female leaders have been characterized as being kind, selfless, submissive and sympathetic. These female leadership qualities are in line with the traditional role of women in the family: as mothers, homemakers, schoolteachers, nurses and secretaries. Female leaders who demonstrate the same leadership characteristics as men are often branded as bossy and over-domineering by the society (Adler, 1986). Hearn and Parkin (1986) argued that:

Characteristically, leadership has been performed by men; and characteristically, notions of leadership have implicitly assumed that leaders are to be men. Hence, leadership may be assumed to imply maleness, and maleness may be assumed to carry with it inherent qualities of leadership that women lack. (p. 36)

Eagly (1987) viewed the gender issue in two dimensions: Agentic and Communal dimensions. The Agentic dimension emphasizes aggressiveness, ambition, independence, directiveness, and decisiveness; while the Communal dimension emphasizes nurturance, affection, and ability to devote awareness to the feelings of others (Eagly, 1987; Gibson, 1995). While Agentic qualities characterize male leadership behavior, Communal qualities characterize female leadership behavior.

Gibson (1995) reported significant differences in leadership behavior and styles between male and female business leaders across four countries: Norway, Sweden, Australia, and the United States. Differences in leadership behavior and style were also found among these countries, primarily as a result of differences in national cultures, but no interactions between gender and national culture were found. Not much has been reported in the organizational literature regarding the leadership behavior of Nigerian female leaders. Nigerian women have not been given the same leadership opportunities, which U.S. women enjoy (Metz, 1991). Based on the above assumptions, the second hypotheses are stated as follows:

H2a0: There are no significant differences in Initiating Structure leadership style between male and female business leaders in United States and Nigerian financial institutions.

H2b0: There are no significant differences in Consideration leadership style between male and female business leaders in United States and Nigerian financial institutions.

Religious beliefs and attitudes influence the work values of societies (Youssef, 1971; Harris & Moran, 1983; Ali, 1990;). Sanfranski and Kwon (1988) investigated the influence of religious beliefs on the management values of international students, who were grouped according to their religious affiliations. Results revealed that religious beliefs had a strong influence on their personal values, especially their leadership behavior. While Islam is the dominant religion in northern Nigeria (Hausa-Fulani tribe), Protestantism is prevalent in western Nigeria (Yoruba tribe) and Catholicism in the East (Igbo tribe). It is predicted that the above religious beliefs will affect the leadership behavior of both U.S. and Nigerian business leaders.

H3a0: There are no significant differences in Initiating Structure leadership styles among Nigerian and U.S. business leaders in financial institutions when considering religious belief.

H3b0: There are no significant differences in Consideration leadership style among Nigerian and U.S. business leaders in financial institutions when considering religious belief.

This study also explores the influence of age on Initiating Structure and Consideration leadership styles. In Nigeria, the assumption is that experience is a function of age; the older individuals get, the wiser they become. Respect for the elderly is a major aspect of the African culture, and leadership opportunities are first given to older people in the organizations (Ahiazu, 1989). Older people are more committed to work than younger people (Loscocco & Kalleberg, 1988). Fleishman (1989a) and his associates argued that age has a considerable impact on the leadership styles of managers. As an individual's age increases, his or her ambition to climb the corporate ladder slows down, and that individual begins to focus on the quality of life that follows retirement (Parker, 1994). This condition will be prevalent in both Nigeria and the U.S., regardless of national cultural differences. This will result in increased scores in Consideration and reduced scores in Initiating Structure, which lead to the following hypotheses:

H4a: There are no significant differences in Initiating Structure leadership style among Nigerian and U.S. business leaders in financial institutions when considering age.

H4b0: There are no significant differences in Consideration leadership style among Nigerian and U.S. business leaders in financial institutions when considering age.

Managers with more formal education are more ambitious than those with less formal education (Brenner, 1988). They are more aggressive, and demonstrate a greater desire for independence. The assumption is that these business leaders will score higher in Initiating Structure and lower in Consideration, as their drive to climb the corporate ladder will force them to demonstrate task behavior characteristics. In corporate America, it is the ardent desire of these highly educated elite to climb the corporate ladder. As a consequence, they become more aggressive and more focused towards maximizing shareholder value.

H5a0: There are no significant differences in Initiating Structure leadership style among Nigerian and U.S. business leaders in financial institutions when considering levels of formal education.

H5b0: There are no significant differences in Consideration leadership style among Nigerian and U.S. business leaders in financial institutions when considering levels of formal education.

METHODOLOGY

Research Design and Instrument

The research instrument used in this study comprises two parts: Fleishman's (1989a) Leadership Opinion Questionnaire (LOQ) and a Demographic Questionnaire (DQ), developed by the researcher. The LOQ is a Likert-type attitude scale, consisting of 40 items. The first 20 items measure the extent to which a leader facilitates group interactions toward goal attainment (Initiating Structure), and the other 20 items measure the extent to which a leader is considerate of the feelings of subordinates (Consideration). Half of the questions are in reverse order.

In each of the 40 items, respondents indicate how frequently they emphasize the behavior described (e.g., always, often, occasionally, seldom, never). Fleishman and Peters (1962) emphasized that there are no right or wrong answers to the questions, because no group of people is identical to the other. Besides, there is no one best way to lead, since a good way of leading in one group may not be a good way of leading in another group.

Data Collection

Medium sized financial institutions in Nigeria, with 200 to 1000 employees were randomly selected from the Thomson/Polk Financial Directory (1998). Two hundred questionnaires were hand delivered to the Faculty of Business Administration, University of Lagos in Nigeria, from where they were mailed to the financial institutions selected by the researcher. The financial institutions distributed the questionnaires to their middle and lower level managers. Respondents completed the questionnaires and mailed them back to the University of Lagos as requested. The University hand delivered all completed questionnaires to the researcher in the United States.

The Nigerian sample was matched in the United States by using the same Thomson/Polk Financial Directory, Worldwide Correspondents Guide to select U.S. financial institutions that were surveyed. Similar to the Nigerian sample, survey instruments were mailed directly to the U.S. financial institutions, which distributed them to middle and lower level managers in their firms as requested by the researcher. Out of 200 survey questionnaires mailed to U.S. firms, 108 respondents completed the questionnaires and returned them directly to the researcher. A total of 120 Nigerian managers also completed the survey.

All questionnaires were checked for completeness. Questionnaires with incomplete answers were discarded. Among the completed and usable questionnaires were 103 responses from the U.S. and 108 from the Nigerian sample. The alternative answers to each LOQ questions were coded 1, 2, 3, 4 and 5 respectively. The questionnaires were scored and the numbers added up to obtain Initiating Structure and Consideration scores for each respondent. The maximum possible score for either Initiating Structure or Consideration is 100 (20x5). A minimum score of 20 (20x1) is also possible.

Independent and Dependent Variables

Independent Variables consist of country of nationality, gender, age, religious belief and level of educational qualification of the respondents. Dependent variables are Initiating Structure and Consideration, obtained by summing up the values assigned to the answers to the 40 questions. Initiating Structure and Consideration mean scores are shown in Table 3.

Country	Variable Measure	Alpha Coefficient
United States (n=103)	Initiating Structure	.73
	Consideration	.66
Nigeria (n=108)	Initiating Structure	.73
	Consideration	.77
Nigeria & U.S. (n=211)	Initiating Structure	.81
	Consideration	.71

Variable	Mean	SD	AGE	CON	COU	EDU	GEN	REL	INS
Age	44.41	9.31	1.00						
Consideration	55.50	6.44	0.086	1.000					
Country	1.51	0.50	-0.027	-.456	1.000				
Education	2.11	0.77	0.082	-.042	.403	1.000			
Gender	1.45	0.50	0.007	.058	-.269	-.258	1.000		
Religion	1.97	0.68	-0.103	-.058	-.049	-.036	-.225	1.000	
In. Structure	56.10	6.83	0.012	.355	-.502	-.243	.1543	-.056	1.000
N = 211									

Descriptive Statistics

Using SPSS for Windows 6.0 software package (Norusis, 1994a), the researcher computed descriptive statistics of the data collected. Out of the 211 responses used for the analysis, 103 participants or 48.8% of all the respondents came from the United States and 108 or 51.2 % came from Nigeria. The average age of all the respondents is about 44.41 years while the minimum and maximum ages are 25 and 60 years respectively, as shown on Table 2.2.

About 39.34% of the participants hold the bachelor's degree while 36% hold postgraduate degrees (Master's or Ph.D.). High school and junior college graduates make up 24.6% of all participants. Out of the three major religious groups considered in the analysis, 49.75%, 35.5% and

14.7% identified themselves as Catholics, Protestants and "Other" religious group respectively. The "Other" religious group comprises of Muslim, Buddhist, Judaism, Hinduism and people with no religion. Table 3 presents a detailed frequency distribution of all the independent variables.

Table 3: Initiating Structure and Consideration Mean Scores												
	INITIATING STRUCTURE						CONSIDERATION					
	UNITED STATES			NIGERIA			UNITED STATES			NIGERIA		
Variable	N	Mean	Std	N	Mean	Std	N	Mean	Std	N	Mean	Std
Country	103	59.60	5.863	108	52.76	5.976	103	58.50	5.629	108	52.89	5.853
GENDER												
1. Male	42	58.19	4.875	73	53.38	6.064	42	59.86	5.107	73	52.45	5.876
2. Female	61	60.57	6.313	35	51.46	5.653	61	57.56	5.818	35	53.03	5.869
AGE												
20-30 Years	21	59.05	6.360	12	53.17	5.491	21	58.33	6.873	12	51.67	7.139
31-40 Years	31	60.39	6.020	53	52.60	5.986	31	57.77	5.143	53	52.49	5.260
41-50 Years	33	59.79	6.066	29	51.59	6.127	33	58.24	5.879	29	53.72	6.307
51-60 Years	18	58.56	4.768	14	54.79	6.053	18	60.39	4.231	14	52.14	6.200
EDU. LEVEL												
High School/ Junior College	40	59.88	7.863	12	52.75	4.634	40	56.15	5.628	12	52.92	5.299
Graduate	44	59.41	5.275	39	53.59	6.843	44	59.73	5.249	39	52.10	5.586
Post Graduate	19	59.47	4.128	57	52.19	5.608	19	60.58	4.959	57	52.95	6.200
RELIGION												
Catholics	46	59.61	5.609	29	53.10	7.228	46	57.96	5.715	29	53.93	5.707
Protestants	36	60.03	5.882	69	52.68	5.452	36	59.25	5.422	69	52.35	5.908
Others	21	58.86	6.468	10	52.30	6.075	21	58.38	5.912	10	50.90	5.724

Pearson Product-Moment Correlation Coefficients

Pearson's correlation measures the strength, direction, and significance of the relationship between two variables, regardless of whether the variables are dependent or independent. As shown in Table 2.2, there are significant relationships between national culture (country) and Consideration (-0.4558), national culture and Initiating Structure (-0.5020), and national culture (country) and educational level (.4026). The correlation coefficient between Initiating Structure and Consideration as shown in Table 2.2 is about .3549. However, a larger correlation between 2 variables is not indicative that one causes the other.

Tests of Hypotheses

Research Hypotheses One-A and One-B were tested using a two-tailed F-test to establish equality of variances and a two-tailed t-test for equality of means. In these two Hypotheses, a direct comparison of Initiating Structure and Consideration mean scores between Nigerian and U.S. financial institutions was made regardless of gender, age, religious belief or level of educational qualification. The remaining hypotheses were tested using a two-way Analysis of Variance (ANOVA). ANOVA can only be used to test equality of three or more population means (Hanke & Reitsch, 1994: 427). A .05 significant level was used in all the hypotheses.

Analysis of Variance (ANOVA)

Analysis of variance (ANOVA) is a statistical technique used to determine whether samples come from populations with equal means. The ANOVA technique examines the variability of observations within each group and the variability between group means (Norusis, 1994b). The situation is defined by two or more independent variables. The research design in this study is two-factored: the influence of national culture between the U.S. and Nigeria (column factor) and any of the independent variables such as gender, age, religious belief or educational qualification (row factor). The two-way ANOVA was used to explore the differences in Initiating Structure and Consideration mean scores between these two countries considering the following:

1. The influence of the independent variable (national culture).
2. The independent variable groups (gender, age, religious belief or educational level).
3. The interaction between items 1 (column factor) and 2 (row factor) above.

An interaction occurs when the "levels of one factor interrelate significantly with the levels of another factor in influencing the dependent variable" (Hank & Reitsch, 1994: 441).

RESULTS

Null Hypothesis One-A predicted that, there would be no significant differences in Initiating Structure leadership style between United States and Nigerian business managers in financial institutions when considering national cultural differences. The F-test failed to show a significant difference between the variances (Computed $F = 0.9625 < \text{Critical } F = 1.52$). The t-test showed significant differences in Initiating Structure mean scores between Nigeria and U.S. managers (calculated $t = 8.39 > \text{critical } t = 1.960$). Hypothesis One-A was rejected. U.S. managers scored significantly higher in Initiating Structure than Nigerian managers, lending support to Hofstede's (1997) findings, which rated U.S. higher in Masculinity than West Africa (Nigeria, Ghana, and Sierra Leone). Initiating Structure and Masculinity have identical leadership characteristics (high task performance).

Table 4A: A two-way Analysis of Variance					
Hypothesis 2a, Initiation Structure by Gender					
Source	Sum of Squares	DF	Mean Square	F	p-value
Main Effects					
Country	2350.648	1	2350.648	68.539	.000
Gender	2.531	1	2.531	0.074	.786
2-Way Interactions					
Country/Gender	225.209	1	225.209	6.567	.011
Residual	7099.340	207	34.296		
Hypothesis 3a, Initiating Structure by Religious Groups					
Main Effects					
Country	1692.435	1	1692.435	47.499	0.000
Religion	14.046	2	7.023	0.197	0.821
2-Way Interactions					
Country/Religion	8.256	2	4.128	0.116	0.891
Residual	7304.275	205	35.631		
Total	9796.910	210	46.652		
Hypothesis 4a, Initiating Structure by Age Groups					
Main Effects					
Country	1734.704	1	1734.704	49.027	0.000
Age	34.302	3	11.434	0.323	0.809
2-Way Interactions					
Country/Age	121.148	3	40.383	1.141	0.333
Residual	7182.608	203	35.382		
Total	9796.910	210	46.652		
Hypothesis 5a, Initiating Structure by Educational Level					
Main Effects					
Country	1802.97	1	1802.9750	0.782	.000
Educational Level	15.181	2	7.590	0.214	0.808
2-Way Interactions					
Country/Educational Level	21.689	2	10.845	0.305	0.737
Residual	7278.311	205	35.504		
Total	9796.910	210	46.652		

Table 4B: A two-way Analysis of Variance					
Hypothesis 2b, Consideration by Gender					
Source	Sum of Squares	DF	Mean Square	F	p-value
Main Effects					
Country	1726.841	1	1726.841	52.900	0.000
Gender	36.007	1	36.007	1.103	0.295
2-Way Interactions					
Country/Gender	100.312	1	100.312	3.073	0.081
Residual	6757.246	207	32.644		
Total	8704.749	210	41.451		
Hypothesis 3b, Consideration by Religious Groups					
Main Effects					
Country	1376.925	1	1376.925	41.645	0.000
Religion	35.552	2	17.776	0.538	0.585
2-Way Interactions					
Country/Religion	103.166	2	51.583	1.560	0.213
Residual	6778.030	205	33.064		
Total	8704.749	210	41.451		
Hypothesis 4b, Consideration by Age Groups					
Main Effects					
Country	1646.347	1	1646.347	49.430	0.000
Age	53.802	3	17.934	0.538	0.656
2-Way Interactions					
Country/Age	81.601	3	27.200	0.817	0.486
Residual	6761.278	203	33.307		
Total	8704.749	210	41.451		
Hypothesis 5b, Consideration by Educational Level					
Main Effects					
Country	1506.834	1	1506.834	47.452	0.000
Educational Level	111.450	2	55.725	1.755	0.176
2-Way Interactions					
Country/Educational Level	140.975	2	70.488	2.220	0.111
Residual	6509.807	205	31.755		
Total	8704.749	210	41.451		

Null Hypothesis One-B predicted that, there would be no significant differences in Consideration leadership style between United States and Nigerian business leaders in financial institutions when considering national cultural differences. Similarly, the F-test failed to show a significant difference between the variances (Computed $F = 0.9625 < \text{Critical } F = 1.52$). The t-test showed significant differences in Consideration mean scores between Nigeria and U.S. managers (computed $t = 7.4 > \text{critical } t = 1.960$) Hypothesis One-B was rejected. U.S. managers scored significantly higher in Consideration than Nigerians did.

Hypothesis Two-A predicted that there would be no significant differences in Initiating Structure leadership style between male and female managers in the United States and Nigerian financial institutions. The two-way ANOVA test failed to show any significant difference in Initiating Structure mean scores between male and female managers ($p\text{-value} = .786 > .05$) but the combined effect (interaction) of gender and country of nationality demonstrated significance ($p\text{-value} = .011 < .05$), resulting in the rejection of Null Hypothesis Two-A. See Table 4A for detailed results. The analysis failed to support the Agentic and Communal theory of leadership (Eagly, 1987; Gibson, 1995) which emphasizes that men are more Agentic and women more Communal.

Null Hypothesis Two-B predicted that there would be no significant differences in Consideration leadership style between male and female business leaders in the United States and Nigerian financial institutions. The analysis did not show any significant difference in Consideration leadership style primarily based on gender ($p\text{-value} = .295 > .05$) or the combined effect (interaction) of gender and country of nationality ($p\text{-value} = .081 > .05$). See Table 4B.

Null Hypotheses Three-A and Three-B predicted that there would be no significant differences in Initiating Structure and Consideration scores among Nigerian and U.S. business leaders respectively in financial institutions while considering their religious belief. The analysis failed to show any significant differences in Initiating Structure and Consideration mean scores among the religious groups (Initiating Structure $p\text{-value} = .821 > .05$ and Consideration $p\text{-value} = .585 > .05$) or the interaction between country of nationality and religious groups (Initiating Structure $p\text{-value} = .891 > .05$ and Consideration $p\text{-value} = .213 > .05$). There was not sufficient evidence to reject Null Hypothesis Three-A or Three-B. Detailed results are shown in Tables 4A & 4B.

Null Hypotheses Four-A and Four-B predicted that there would be no significant differences in Initiating Structure and Consideration mean scores among U.S. and Nigerian business leaders respectively in financial institutions while considering the age of the respondents. The analysis failed to show any significant differences in Initiating Structure and Consideration mean scores among the age groups (Initiating Structure $p\text{-value} = .8091 > .05$ and Consideration $p\text{-value} = .656 > .05$) or the interaction between country of nationality and age groups (Initiating Structure $p\text{-value} = .333 > .05$ and Consideration $p\text{-value} = .486 > .05$). There was not sufficient evidence to reject Null Hypothesis Four-A or B.

Null Hypotheses Five-A and Five-B predicted that there would be no significant difference in Initiating Structure and Consideration leadership styles respectively among U.S. and Nigerian business leaders while considering the level of formal education. There was not sufficient evidence to reject this Null Hypothesis. The analysis failed to show any significant differences in Initiating

Structure and Consideration mean scores among the educational groups (Initiating Structure p-value = .808 > .05 and Consideration p-value = .176 > .05) or the interaction between country of nationality and educational groups (Initiation Structure p-value = .737 > .05 and Consideration p-value = .111 > .05). There was not sufficient evidence to reject Null Hypothesis Five-A or Five-B. Detailed results are shown in Tables 4A & 4B.

CONCLUSIONS

Advances in technology and the rapid globalization of businesses demand that multinational firms acquire the required manpower to support their businesses all over the world. Managers selected for international assignments must understand the social values, customs, norms and cultural work related values of their host countries (Fatehi, 1996) in order to perform efficiently and effectively. Knowledge gained from this study could help multinational corporations plan and train their management staff for assignments in Nigeria or make decisions to hire qualified Nigerians for management positions in their Nigerian subsidiaries.

Since Masculinity and Initiating Structure have similar leadership characteristics (high task performance), and the results of this study demonstrated that the United States respondents had higher Initiating Structure scores than Nigerians, the results of this study validates Hofstede's findings which rated the United States higher in Masculinity than West Africa (Nigeria, Ghana and Sierra Leone combined). However, U.S. respondents also scored higher than their Nigerian counterparts in Consideration, in contrast to the assumption that since U.S. is rated higher in Masculinity, that Nigeria will be higher in Femininity. Femininity has similar characteristics to Consideration (relationship behavior). The two leadership dimensions are distinct and separate dimensions (Fleishman, 1953a, 1953b; Fleishman & Peters, 1962). There are leaders whose behavior are characterized by both high Initiating Structure and high Consideration, while others are low in both dimensions or high in one and low in the other.

The higher correlation coefficient between Initiating Structure and Consideration obtained in this study is not indicative that one leadership style causes the other. Rather a sampling error may have occurred in the U.S. sample (a correlation coefficient of - 0.0813 and a p-value of .403 were computed for the Nigerian sample). It is uncertain what the results would have been if this study had addressed other sectors of the economy in both countries.

A review of data collected in this study showed that 60% of the U.S. participants were females. The implication is that more women than men currently hold lower and middle management positions (bank managerial positions) in banks and other financial institutions in the United States. More importantly, United States female managers had higher Initiating Structure mean scores (60.57) than their male (58.19) counterparts. Initiating structure leadership behavior is characteristics by assertiveness, aggressiveness, and desire for material success. United State's firms stand to gain from placing more women in low and mid-level leadership positions in banks and other financial institutions. In Nigeria, men still dominate the women by a ratio of 2 to 1 in financial institutions. Unlike the United States, Nigerian men scored higher in Initiating Structure than the women. Detailed results are presented Table 3. Considering the combined effect of gender

and country of nationality, there is a significant difference in Initiating Structure leadership style among Nigerian and U.S. male and female managers.

Nigerians believe that experience is a function of age, and that the older individuals get, the wiser they become (Ahiazu, 1989), hence leadership opportunities are first given to older people in the organizations because they are more committed to work. In the United States consideration for leadership positions is not based on the individual's age but rather on that person's performance records. Results of this research failed to support the Nigerian assumption. Older Nigerians did not score significantly higher than the younger ones in any of the leadership styles considered in this research. Similarly, religious belief and level of educational qualification had absolutely no impact on the leadership styles of Initiating Structure and Consideration in Nigeria and the United States.

Limitations

Several methodological problems that exist in organizational literature make cross-cultural research more difficult than domestic research (Punnett & Shenkar, 1996). This research was limited to financial institutions in Nigeria and United States. Financial institutions included banks, credit unions, mortgage corporations and accounting firms. About 80% of the respondents were bank managers and assistant bank managers from banks and credit unions, 16% and 4% were from mortgage corporations and accounting firms respectively. Participation was also limited to lower and mid-level managers in these institutions. Besides, the respondents were not evenly distributed among the independent variables (age, educational level, and religious affiliation) being considered as shown in Table 3. Consequently, the results might not be representative of the entire population of both countries.

Culture is not specific. A country can have many cultures while many countries can have the same culture. Nasif et al. (1991) considered "independence of cultures" as one of the issues associated with culture. This study assumed that most of the inhabitants in each of the two countries share a common national culture since they live in the same country. Nigeria is made up of several tribes believed to speak different tribal languages but having English as their official language. All Nigerian participants were grouped under one national culture in this study, irrespective of the different tribes that constitute the present Nigeria.

Maintaining the equivalence of meaning is very essential in cross-cultural leadership research, in order to ensure that respondents from different cultures attach the same meaning to all the questions. The instrument, LOQ used in this study comprises of simple and short sentences that are readily understandable. Since English is the official language in Nigeria, translating the questions into Nigerian languages was not feasible. Even though no Emic effect has ever been reported with the LOQ in several cross-cultural studies, yet in a multi-tribal country like Nigeria, filtering out 100 percent of all the Emic effects might be impossible.

The number of cultures included in a cross-cultural research can lead to sampling problems if that number is very small. Often cost and accessibility of respondents become problems to the researcher. Adler (1983) sees this type of research as ethnocentric and argues that researches involving only two countries should be regarded as pilot studies. This research involves only two countries and should be regarded as a pilot study.

Research Implications

Since the wave of globalization of businesses is fast reaching the shores of the African continent, results of this study may have far reaching implications in the success and failure of multinational organizations planning business ventures in Nigeria and other African countries. This study will also add knowledge of the Nigerian leadership behavior to organizational literature, and stimulate interest in cross-cultural leadership studies in other Africa countries.

In conclusion, the leadership styles of the U.S. participants in this study were influenced by the ideals of freedom, liberty and justice that characterize the American way of life. Nigerian participants were still recovering from the effects of a brutal dictatorship in the hands of the military, which ruled the country for almost two decades. These fundamental differences between the two countries significantly influenced leadership behaviors of the participants.

Suggestions for Future Research

As globalization of businesses continues to gain momentum, more cross-cultural comparative studies should be encouraged around the world, especially in African countries where only few studies have been conducted to date. The challenges presented by the complexities of foreign direct investments, and globalization of businesses can only be addressed by a good knowledge of the similarities and differences in cultural values between nations. A similar study comparing the leadership styles of managers from both countries in other sectors of the economy (manufacturing, service or technologies) is highly recommended.

A cross-tribal leadership study in Nigeria that will compare leadership behavior of the four Nigerian major tribes (Hausa, Fulani, Igbo and Yoruba) is very essential. This study will determine if there is one national culture in Nigeria or several cultures as a result of the multiple tribes, which make up the present Nigeria. Such a study should include the impact of religion on leadership behavior since about half the Nigerian population is Moslem.

One of the priorities of the new civilian government in Nigeria is to attract businesses from all over the world. Studies comparing Nigeria and other countries of the world such as Japan, Europe, China, etc. would benefit both the foreign investors and the Nigerian business community. Besides, with the return of democracy, Nigeria will once more assume her political and economic leadership roles in Africa. Expanding trade with other African countries will benefit the African continent and improve cooperation among African countries. A cross-cultural leadership study comparing Nigeria and leading African economies will add a lot of knowledge regarding African leadership behavior to the organizational literature. Such knowledge will also be beneficial to the international firms considering business ventures in African countries.

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CHANGE IN THE EXTENT AND FORM OF INTERNATIONALIZATION-THE FINNISH FOREST INDUSTRY FROM THE MID-1980s TO 2000

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ABSTRACT

This paper presents an analysis of the internationalization processes of the four (currently three) largest Finnish forest industry companies. The longitudinal analysis of the increased international involvement of the companies utilizes a game-playing metaphor as its starting point. Based on the game-playing metaphor, a new analytical framework for the analysis of internationalization processes is developed and its usefulness tested. Central to the approach presented in this paper is that it takes an action-oriented strategic view of the internationalization phenomenon, something which has been lacking, and sees the actors as intentional players performing competitive moves against each other within the forest industry playing field.

Through the analysis utilizing the game-playing perspective, the strategic internationalization processes of the companies are outlined and compared to form a holistic picture of the overall development within the industry. The analysis of the overall development of the industry shows that the mid-1990s formed for the companies a watershed in their strategic behavior relating to growth. The change is shown to be closely linked to the major changes in the global competitive arena of the industry. The analysis further shows the overall internationalization development of the case companies can be divided into distinctive phases.

INTRODUCTION

It is an oft-repeated fact-to the point of becoming a cliché-that Finland is a nation dependent on its forest industry. This reality still holds true today. While the industrial base of Finland has broadened over the past half a century, and especially during the last two decades, according to recent statistics, 28.7 percent of Finnish exports are still forest products (Statistics Finland, 2000). The centrality of the forest industry in the Finnish economy is further accentuated if attention is paid to the role of the whole Finnish forest cluster, which is made up by the forest industries together with related and supporting industries (Lammi, 1994, 1995).

Notwithstanding the rise of the basic metal and engineering industries, and especially the rise of the electronics industries, it is obvious that the forest-based industries are and will remain an important part of the Finnish economy. It is thus well worth exploring the processes through which the previously four and now three remaining Finnish players in the forest industry playing field: Enso-Gutzeit (later Enso, currently Stora Enso), Kymmene, Metsä-Serla (currently M-real) and United Paper Mills (currently UPM-Kymmene after the merger with Kymmene) increased their international involvement and were able to establish positions for themselves within the world top ten of globally competitive paper and board companies. Measured by production capacity, Stora

Enso currently occupies the second, UPM-Kymmene the third, and M-real the tenth spot in the world top-ten ranking. The largest paper and board company is the US-based International Paper (Paperinfo, 2001).

Further, since the nature of competition within the industry has been characterized as fierce (Dreher, Cote & Hunley, 1998; Hameri & Lehtonen, 2001), it is interesting to find out through which kinds of processes were such initially small and remotely located companies able to rise among the major players in this globally competitive field.

AIMS OF THE PAPER

This paper aims at presenting an analysis of the strategic processes involved in the internationalization of the three (previously four) major Finnish forest industry companies. Internationalization is seen in accordance with the definition given by Welch and Luostarinen (1988) as process of increasing involvement in international operations, although also the possibility of decreasing involvement is considered. In addition, the paper aims at incorporating a pronouncedly strategic viewpoint into the study of internationalization processes and providing a fresh and dynamic approach for the examination of the phenomenon. In addition, it presents an analysis of the geographic expansion of the case companies' marketing and manufacturing operations. As far as the international context is concerned, the period from the mid-1980s to 2000 which is dealt with in this paper has hardly been studied at all thus far. This period, however, may be viewed as an important watershed in the strategic orientation of the Finnish companies and is therefore of great interest.

METHODOLOGY AND DATA

The study is by nature a longitudinal, multiple-case, processual analysis of the chains of events that led to the currently prevailing state of affairs. The processes through which the individual companies increased their international involvement are addressed by utilizing a game-playing metaphor both as a background idea for the events in the processes, and as a tool for their analysis (see Näsi, Sajasalo & Sierilä, 1998; 2001 for a more comprehensive discussion). Thus, instead of implicitly referring to business activity in game-playing terminology, which happens quite often (cf. Hampden-Turner & Trompenaars, 1994), the increased involvement in international business activities is seen in this paper explicitly as a dynamic game-playing activity. A typical motive for the use of metaphors is that they facilitate the understanding of abstract subject matters in concrete and familiar terms (Gibson & Zellmer-Bruhn, 2001), and this, too, is a reason for utilizing the game-playing metaphor as a background idea in this paper.

Utilizing the game-playing metaphor as a starting point for the examination provides an additional major advantage from the processual analysis point of view. It brings a much needed action orientation to the analysis of internationalization, which, as a term in itself, is all about becoming, about not remaining static. Hence, in this paper the driving assumption of process thinking, that social reality is not a steady state (Pettigrew, 1997), is embraced.

Despite the inherently dynamic nature of the phenomenon of internationalization, static approaches and models to describe and analyze it dominate the study of internationalization (Melin,

1992; Kutschker & Baurle 1997; Kutschker, Baurle & Schmid, 1997). In their study of 757 articles published between 1982 and 1990 assessing various streams of study within the IB field, Li and Cavusgill (1995) found that a mere 4.6 per cent of the studies adopted a dynamic view.

The main difference between the approach adopted in the current paper and the dominant static approaches is that here the Finnish forest industry companies are seen as goal-oriented, intentional players planning and carrying out moves against each other and their international competitors in both the national and international forest industry playing field. Although the companies are seen as actively shaping their fortunes through their own actions, it is acknowledged that there are certain limits to the operational freedom of the companies and their management. Thus, a "moderately voluntaristic" view promoted in the strategic management field (Quinn, 1978; Mintzberg & Waters, 1985) is adopted in this paper.

On the most basic level, game-playing is seen in this paper in accordance with the following definition of game: "any activity undertaken or regarded as a contest involving rivalry, strategy, or struggle; also, the course or period of such an activity" (Merriam-Webster's Collegiate Dictionary, 1998).

The game-playing of interest to this paper takes place mostly within the paper and board industries. Other lines of business than paper and board are dealt with just occasionally. The game-playing is characterized by strategic activity containing rivalry and struggle, and the game-playing activity of those participating is aimed at maintaining and strengthening their positions within the industry over the extended game period of sixteen years.

An analysis of the internationalization processes will be presented at the level of the individual companies. The company level analysis will be further complemented by analyzing the internationalization processes at a higher level of aggregation, at the industry-meso-level. This kind of move towards higher levels of analysis is a development called for by Buckley (1991) in his analysis of the current state and future direction of international business research. Furthermore, it becomes possible to take into account some central macro-level forces affecting the industry. Analysis at multiple levels also serves the end of incorporating and clarifying the context of the analyzed processes, as social processes are deeply embedded in the contexts that produce and are produced by them (Pettigrew, 1997).

The analytical frames of reference of this paper are depicted in Figure 1. They have been adapted with some minor changes from Näsi, Sajasalo and Sierilä (1998). With the aid of the frames of reference, each move in the process of increasing (or decreasing) the international involvement of each company will be classified according to 1) its target in the production chain, 2) the atmosphere surrounding the move and the parties involved, and 3) the way of meeting competition and the type of move.

The target of a move within the production chain may range from securing attractive sources of raw material-either wood or recycled fiber-to arrangements concerning the sales and marketing of paper and board or their converted products. The atmosphere surrounding a move is characterized either as combative or amicable according to the interpreted nature of a given game episode. An episode is deemed combative if it is clearly characterized by struggle over the target of the game. Correspondingly, an episode is deemed amicable if no evident competition over the target is reported

in the data sources, or the episode is characterized by cooperation between the parties involved. A distinction is also made regarding whether the players are of the same or of different national origin.

Figure 1. The three analytical frames of reference

STAGE OF THE PRODUCTION CHAIN		TARGET				
		RAW MATERIAL	SEMI-FINISHED PRODUCTS	FINISHED PRODUCTS	CONVERTING/SECONDARY PRODUCTION	SALES & MARKETING
ADVERSARY		ATMOSPHERE				
		DOMESTIC		COMBATIVE		AMICABLE
				COMBATIVE SETTING, DOMESTIC OPPONENT		AMICABLE SETTING, DOMESTIC OPPONENT
		INTERNATIONAL		COMBATIVE SETTING, INTERNATIONAL OPPONENT		AMICABLE SETTING, INTERNATIONAL OPPONENT
TYPE OF MOVE						
WAY OF MEETING COMPETITION		OPENING/EXPANSIVE		CLOSING/WITHDRAWAL		
		COMPANY DEALS		CAPACITY-ADDING INVESTMENTS		DOWNSIZING, SHUTDOWN
				ACQUISITION OF A COMPANY/UNIT, ESTABLISHMENT OF A COMPANY/UNIT		SALE OF A COMPANY /UNIT
		COOPERATION		MERGER		DISSOLVING A COMPANY
ALLIANCE				DISMANTLING OF AN ALLIANCE		

The type of move is classified according to the players' orientation towards continuity. A move may be oriented either towards the future, as with moves aiming at creating a new entity or adding an existing one to the organizational whole and thus expanding it. A move may also be less future-oriented, as with moves aiming at scaling down or terminating an activity, thus withdrawing from some function or operation.

The ways of meeting competition and girding oneself for it range from arms-length dealings to secure control over a company through markedly financial and contractual means, to more informal cooperative arrangements intended to promote competitive advantage.

The process data utilized in the paper are of archival type and based on annual reports, newspaper and business journal articles, articles in trade magazines and press releases. In addition to the annual reports of the companies over the period of sixteen years, a total of 335 newspaper, business journal and trade magazine articles, as well as press releases are utilized as the data sources of the study.

With the help of the three frames of reference two goals are aimed at: 1) presenting the qualitative data in an organized manner, thus facilitating comparisons between the companies' internationalization processes, and 2) making the strategies followed more visible by longitudinal analysis. In Mintzberg's (1987) terms, what is sought after by the use of the three frames of reference is the uncovering of a plan or a pattern: making the realized strategies followed by the companies visible, thus revealing "the plot of firm's action, the string that pulls together the events" (Näsi, 1991 p. 31).

INTERNATIONALIZATION OF THE MAJOR FINNISH PLAYERS

In this section the examination takes up the internationalization processes of the four case companies and their analysis. An overview of the most significant events in the internationalization processes of this group of firms is presented in the following section, after which the 347 moves performed by the case companies are analyzed with the aid of the frames of reference above.

Although Enso-Gutzeit (hereinafter Enso) was already actively involved in international business operations in the mid-1980s in such diverse locations as Barbados, the UK, Canada and Indonesia, its involvement was quite limited in the sense that most of its production took place in Finland and it relied mostly on exports as its major mode of international operation. The situation, however, began to change in the 1990s.

The most important move towards increased international involvement in the early 1990s was Enso's acquisition in 1993 of Tampella, a crisis-stricken national competitor. By this acquisition Enso strengthened its position as one of the leading producers of packaging board in Europe and obtained eleven new production units abroad making paper, paperboard and corrugated board. The units were located in Spain, Germany, Sweden and Italy.

Another major event in Enso's internationalization process at this time was the start-up of a greenfield newsprint mill in Germany in 1994, offering Enso not only access to major markets, but also access to a new raw material base, recycled fiber.

The late 1980s and early 1990s were characterized not only by increased international involvement; two major pull-outs took place at this time as well. The Italian units that came with the Tampella acquisition were sold soon after the deal due to their long history of unprofitable operations. Another major pull-out then was the sale of Enso's interest in the Eurocan Pulp & Paper joint venture in Canada, in which Enso had been involved since the late 1960s. The decision to pull out of the joint venture in Canada ended Enso's manufacturing presence in North America, and was an indication of a major change in its strategic orientation.

A period of relative quiet followed for Enso and until 1997 it made no effort to further extend its international involvement. In 1997, however, Enso resumed its expansion by acquiring a majority interest in the German printing paper company Holtzmann, and the following year a minority holding of twenty percent in the Thai pulp and fine-paper company Advance Agro.

The most significant move of the 1990s, which took Enso a giant leap forward in the process of increased international involvement, however, was the 1998 merger with the Swedish forest industry company Stora to form a new company Stora Enso. By this move, which had for long been taken as an impossibility among Nordic industry experts (see Pärnänen 1990), Enso was able to

expand its international involvement significantly. It may be said that the merger, the first of its kind across borders in the Nordic Countries, marked the beginning of a new era in the Finnish forest industry: one characterized by the markedly increasing scale and scope of business activities globally.

The newly merged company's aspirations for operations of global scope were further affirmed by its cross-Atlantic move to acquire the US-based forest industry company Consolidated Paper in 2000. The deal made Stora Enso the largest paper and paperboard manufacturer in the world at the time measured in tons produced.

Kymmene, or more precisely its predecessor Kymi, was the first of the Finnish forest industry companies to expand its production abroad through foreign direct investment in the 1930s. After its initial FDI in Britain, which may be taken as a move to gain a bridgehead position, and a later joint venture FDI in West Germany in the late 1960s with a domestic partner, Kymmene adopted the conventions of the Finnish forest industry and rejoined the ranks of the others.

Thus, Kymmene, too, relied on the jointly-owned marketing associations to handle most of exports, apart from fine-paper products, which Kymmene marketed through its own channel. Kymmene differed from the rest of the Finnish forest industry companies in one important respect already in the mid-1980s, however. Unlike the others, it had established a strong manufacturing presence in Europe in its main business, fine-paper products, and had a manufacturing presence in West Germany, the UK, and France.

Hence, Kymmene's increased international involvement took somewhat different routes, and proceeded through moves which were less striking than those of its Finnish rivals after the initial early moves. The most notable moves made by Kymmene to increase its international involvement in the late 1980s and early 1990s were a greenfield investment in magazine paper production in Scotland, where production started in 1989, and the acquisition of the French newsprint and magazine paper company Chapelle Darblay in 1990. Kymmene had been present in the French market since the late 1970s through the acquisition of the fine-paper company Boucher.

The turn of the 1990s was not only characterized by increases in international involvement, but also by partial de-internationalization (Benito & Welch, 1997). At that time Kymmene pulled out of its first FDI and sold the UK-based Star Paper, which had become obsolete for the company in the UK due to the start-up of Caledonian Paper in Scotland. In 1989 Kymmene also pulled out of the US, where it had been involved in large-scale saw mill operations from the late 1970s onwards, but with unsatisfactory results.

Kymmene's internationalization process can best be characterized as inconspicuous; it was mostly a matter of internal organic development through a number of investments increasing capacity and added value in the established foreign units, especially the Nordland Papier mills in Germany.

Metsä-Serla's internationalization process took off relatively late compared with Enso-Gutzeit and Kymmene. The company itself was formed through a merger in 1986 and it could be characterized as operationally domestically oriented. This was largely due to the influence of the owner parties that traditionally controlled the two merged companies.

Given that it was controlled by forest owners, the processing of Finnish wood in Finland was an article of faith for Metsäliiton Teollisuus. The internationalization of the family-controlled G.A.

Serlachius in turn was mainly inhibited by the availability of resources. Thus, for both the companies that merged to form Metsä-Serla, international involvement in any other form than exporting through jointly owned marketing associations had traditionally played a minor role.

Although Metsä-Serla's involvement in international operations other than exports was restricted by the forest owners' lack of interest in them, it was nevertheless quite active in internationalizing some of its businesses in the late 1980s and early 1990s. The main businesses to expand into foreign production were the manufacture of corrugated board and tissue paper; this was largely because of their disadvantageous weight to volume ratio, which made the long haulage of the final product unprofitable.

Overall Metsä-Serla's internationalization development in the early 1990s can be best characterized as a policy of small steps to test the water and gain experiential knowledge (Johanson & Vahlne, 1977, 1990) through a relatively small-scale and small-risk approach. This was done in the corrugated board, tissue and specialty chemicals businesses through capacity-adding investments and acquisitions of upstream operations, such as sheeting plants and wholesalers.

In the paper and paperboard businesses, Metsä-Serla's main businesses, the company showed little interest in further expanding its international involvement into other modes than exporting until the mid-1990s. The second half of the 1990s was characterized, however, by rapid and dramatic strategic change: Metsä-Serla performed a series of major moves which drastically changed its traditional orientation towards the domestic market. Thus, expanding international involvement through a variety of means had become a top priority.

In 1995 Metsä-Serla formed a strategic alliance with Myllykoski, a family-owned internationally oriented Finnish forest industry group operating paper mills in Germany and the US. In the same year Metsä-Serla further acquired the German company MD Papier in cooperation with Myllykoski, and the following year a Swiss company, Biberist. These initial acquisitions were followed by a series of acquisitions in various business areas.

Acquisitions were made in the corrugated board business in 1996, 1997, and 1998 which expanded operations to Russia and Lithuania. The tissue business was also further expanded internationally by an acquisition in Poland in 1997, and the 1998 acquisitions of two major German tissue companies, thus widening the strategic scope to Central Europe.

The most notable acquisitions expanding Metsä-Serla's international involvement, however, took place in its core business of fine-paper production. The most important moves to strengthen the business area were the 1998 acquisition of the British UK Paper, and the acquisitions of Swedish MoDo Paper and German Zanders Feinpapiere in 2000. These moves raised Metsä-Serla's international involvement to a totally new level.

Alongside Metsä-Serla, United Paper Mills (UPM) was another company that relied heavily on the marketing associations. Apart from some product categories best described as niche converted paper products, almost all of UPM's paper production in both Finland and abroad was exported through marketing associations.

Although UPM and Metsä-Serla resemble each other in their international involvement and their reliance on marketing associations to handle their exports, UPM, unlike Metsä-Serla, also established a strong presence abroad in its core business in the mid-1980s. Until the acquisition of

French Stracel in the late 1980s, the Shotton newsprint mill in the UK was UPM's most important production unit abroad.

Otherwise UPM's production was dominated by domestic mills. The other foreign production units apart from Shotton and Stracel can be best characterized as converters of domestically supplied raw materials located close to customers. The most of these international noncore businesses of a converting nature was the self-adhesive laminate subsidiary Raflatac, and then there were such varied businesses as paper sack and air laid paper production. Raflatac, UPM's self-adhesive laminate subsidiary, had grown into one of the major suppliers globally by the late 1990s with production units outside Finland located in Germany, the UK, France, Malaysia, Australia and China. Sacks, prior to the sale of the sack subsidiary in 2000, were produced in Spain, the Netherlands, France, Germany, the Czech Republic and Hungary, and air laid paper in Germany, Denmark and the US prior to the sale of the air laid paper business in 1999 to a US-based company.

On the whole, until the late 1990s the international involvement of UPM, or UPM-Kymmene following the 1996 merger with UPM's domestic rival Kymmene, was dominated by exports of the core businesses' products. The other strategic line followed involved small steps taken to increase the international involvement of the company organically through investments in the various converting businesses. It is thus safe to say that 1997 formed a watershed in the internationalization strategy of UPM-Kymmene.

In a dramatic manifestation of its changed strategy, UPM-Kymmene entered into a strategic alliance with Indonesian Asia Pacific Resources International Holdings Ltd. (April) in 1997 to form two new fine-paper companies with cross holdings. The alliance, however, ran into difficulties. As a result of the political and economic instability in Indonesia, which was further exacerbated by the Asian monetary crisis, UPM-Kymmene withdrew from the alliance in 1999 because April was unable to meet the requirements set for the share swap in the planned fine-paper companies. This thwarted alliance, however, enabled UPM-Kymmene to establish a presence in China. It was involved in a fine-paper joint venture in China with April, and later in 2000, by acquiring the joint venture, UPM-Kymmene gained a wholly owned manufacturing subsidiary in China.

In 1997 UPM-Kymmene increased its international involvement in the West as well by acquiring a US-based magazine paper company, Blandin Paper. In 2000 UPM-Kymmene announced that it was to merge with Champion International of the USA and that the boards of the two companies had reached an agreement on the terms. However, the game for the control of Champion International was far from over. The US-based International Paper, the largest company in the industry, stepped in and made a competing bid for Champion International, and after a round of bidding succeeded in acquiring it. Although defeated in its attempt to gain a major foothold in the US, UPM-Kymmene got into the North American market by means of detour when it acquired the Canadian company Repap. The acquisition of Repap was obviously far from the scale UPM-Kymmene had targeted for in its attempted merger with Champion International, but, equally obviously, it was the second best alternative available.

INTERNATIONALIZATION SEEN THROUGH A GAME-PLAYING PERSPECTIVE

The following section presents the results of a more detailed analysis of the internationalization processes of the individual companies than the one above, where only the most important events were presented. With the use of the frames of reference to analyze the 347 moves of the companies, an attempt to trace an overall picture of the game is made. The pictures of the games played by the companies are first compared with each other during two time periods: from 1985 to 1995, and from 1996 to 2000. Also, the general development within the industry will be analyzed.

The rationale for the two time periods in the analysis is that in 1996 a tremendous structural change took place within the Finnish forest industry and transformed the competitive landscape. The merger of the previously fierce competitors United Paper Mills and Kymmene into UPM-Kymmene reduced the number of players and started what can be characterized as the third wave of consolidation within the Finnish forest industry (Sajasalo, 2001, 2002). In addition, the mid-1990s formed a significant turning point in the strategic orientation of the remaining three companies, as will be demonstrated later.

When analyzing the overall picture of the game in relation to its target in the production chain during the first period (1985-1995) and second period (1996-2000), the companies resemble closely each other in their game focus (Table 1). Most of the moves had to do with a game concerning production arrangements of either finished products or converted products. Thus, it may be inferred that the Finnish forest industry companies were quite uniform in their game approach regarding the target of the game and its location within the production chain.

Table 1. The target of the move in the production chain during the first and the second period (per cent)

N=347	Raw material		Semifinished products		Finished products		Converted products		Sales and Marketing		The whole chain		Total	
	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd
Enso	10	9	9	9	29	37	16	26	33	17	3	2	100	100
Kymmene	3		10		35		25		18		9		100	
Metsä-Serla	0	0	5	3	36	41	29	29	28	24	2	3	100	100
UPM	0	4	15	13	35	27	41	35	7	13	2	8	100	100
Total	3	5	9	9	34	34	28	30	22	17	4	5	100	100

A category has been added to the original classification scheme to take into account moves that, if categorized to touch one stage of the production chain only, would have been clearly underrated in their importance for the overall internationalization development. Most moves falling into the 'whole chain' category were major mergers covering virtually the whole chain from raw

material supply arrangements to the marketing arrangements for the final products, thus making it impossible to distinguish a single stage as the sole target of the move.

The companies have all followed what could best be characterized in Galbraith's (1983) terms as a mixture of upstream and downstream strategies. Although the concepts utilized in this paper's frame of reference to analyze the moves and their target within the production chain differ from Galbraith's, the finished products and converted products categories may be seen to be congruent with his fabricator and product producer stages in the value-added industry supply chain, the former representing upstream, the latter downstream.

Considering the upstream/downstream strategy issue in relation to the importance of the lines of business each company was or is involved in, it may be concluded that in their main business of the mass production of paper all companies were upstream-oriented, while in their noncore businesses the companies followed more downstream-oriented strategies aiming for closer customer contact.

Historically speaking, the companies have, however, altered their center of gravity (Galbraith & Kazanjian, 1987) and successfully moved downstream from their original focus on semifinished products such as sawn timber and pulp. The companies studied have integrated forward into mass production of higher value-added paper grades such as magazine paper and coated fine-paper (see Näsi, Lamberg, Ojala & Sajasalo, 2001 for a comprehensive analysis of the Finnish forest industry in the 20th century).

During the active phase of their internationalization processes from the mid-1980s onwards, the companies have performed more downstream-oriented moves than previously and increased their international involvement also through operations of a converting nature. Hence, internationalization has had similar effects for the Finnish forest industry companies to those observed by Galbraith (1983) in the US-based forest industry companies: both became more downstream-oriented over time.

Although some differences between the two periods and the companies in their game orientation may be detected (Table 1), when tested utilizing X^2 statistic, the observed differences proved insignificant. The same applies when analyzing the situation at the aggregate level of the upstream versus downstream orientation of the companies.

When analyzing developments in the atmosphere of the game and in its setting over time, some noteworthy differences between the first (1985-1995) and second period (1996-2000) can be found (Table 2). The overall picture is that the atmosphere of the game played by the Finnish companies with their international adversaries was to begin with an amicable one, but in the latter period the atmosphere became decidedly combative.

The difference between the periods was found to be significant ($X^2 = 13.81$, $p < .01$). Thus, there was a notable shift in the game atmosphere which may be, partly at least, seen as a result of increased international competition over potential merger and acquisition targets. Partly the increase in combative atmosphere was due to increased number of de-internationalization moves during the second period which were interpreted as combative.

Table 2. The atmosphere of the game and its setting during the first and the second period (per cent)

N=347	Combative, international		Amicable, international		Combative, domestic		Amicable, domestic		Total	
	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd
Enso	7	20	67	67	16	4	10	9	100	100
Kymmene	24		63		8		5		100	
Metsä-Serla	18	15	61	76	9	0	12	9	100	100
UPM	9	44	81	52	4	2	6	2	100	100
Total	14	28	68	64	9	2	9	6	100	100

The logic of interpreting de-internationalization moves as combative is that such moves, especially if they involve a reduction of operations, withdrawal from market, sell-off or closure of units, may evoke strong reactions by governments, unions, workers and other affected parties in a given country (Benito & Welch, 1997).

The change between the periods is especially dramatic in the case of United Paper Mills (UPM). The atmosphere change of UPM from amicable to combative was found significant ($X^2 = 13.49$, $p < .000$). One major reason for this change of atmosphere was UPM's endeavors in both Asia and North America, which were clearly contentious in nature.

When the types of moves made during the first and the second period are analyzed, some major changes in the companies' strategic response to the prevailing competitive situation are revealed. This change is clearly manifested in the companies' game orientation, which altered dramatically between the periods. The change is shown most clearly in the opening or expansive move category.

The change in the international expansion strategy of the companies is best reflected by the changes in the share of moves falling into capacity-adding investment and acquisition categories (Table 3). While the share of capacity-adding investments sharply declined during the second period, the share of acquisitions underwent an equally sharp increase. The share of mergers, as did their actual number, on the contrary, decreased during the second period. The same is true with the share of alliances. The difference between the periods was found to be significant ($X^2 = 22.26$, $p < .01$).

The magnitude of the change is further accentuated if time and the actual number of acquisition moves are taken into consideration. In the mere five years of the second period, the Finnish players performed fifty-four acquisitions, whereas during the eleven years of the first period, the corresponding amount was sixty-four. Thus, the frequency of acquisitions per year changed from less than six in the first period to over ten a year in the second period.

The change in the strategic response to competition may be seen to reflect a major change in the global competitive arena of the forest industry. It may be seen also as an indication of a reassessment of the role of acquisitions as means to increased international involvement. In general, acquisitions have been found to be an increasingly important part of the internationalization strategies of firms in other industries as well (Lindvall, 1991; Hennart & Park, 1993; Chao & Padmanabhan, 1995).

Table 3. The type of move during the first and the second period (per cent)

N=347	Capacity-adding		Closure		Acquisition		Sale		Merger		Disso-lution		Alliance		Disman-ting		Total	
	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd	1 st	2 nd
Enso	16	24	0	7	35	39	7	13	13	2	0	0	22	11	7	4	100	100
Kymmene	23		8		28		14		10		3		9		5		100	
Metsä-Serla	29	14	3	6	36	65	20	9	3	3	0	3	6	0	3	0	100	100
UPM	55	17	2	13	32	29	2	21	7	4	0	2	0	8	2	6	100	100
Total	34	18	3	9	29	42	11	15	8	3	1	2	10	7	4	4	100	100

With all the major players in the field subscribing to the commonly held belief that companies must grow to be able to compete globally and to have greater control over their own destiny, organic growth as an alternative soon became exhausted and it was no longer a viable option for the established companies aiming for the economies of scale needed in global competition (Glete, 1993). Nor was it an option for those companies aspiring to become major players. Thus, the growth imperative imposed by the changing competitive landscape at the beginning of the second period led to similar strategies being followed by all the major Finnish players.

The same conclusion appears to be valid regardless of the major players' national background. Some of the most notable moves aiming at further consolidation within the field worldwide in 1996, in addition to the merger of UPM and Kymmene in Finland, were International Paper's (US) acquisition of Federal Paper Board (US), SCA's (Sweden) acquisition of PWA (Germany) and Kimberly Clark's (US) merger with Scott Paper (US) (Pichette & Samek, 2001).

All the above mergers and acquisitions, and a number of mergers and acquisitions that followed and which are not covered in this paper, indicated changed strategic thinking within the industry. Instead of growing organically through capacity-adding investments both at home and abroad, which had been the dominant growth strategy prior to the mid-1990s, the major players resorted to mergers and acquisitions as means of additional growth and market share gains. This strategy is typical within mature industries (Harrigan, 1980, 1985; Melin, 1992) such as the paper industry, in which products and production are stable and competitive action is mainly limited to price and costs (Hameri & Lehtonen, 2001; Ranta, Ollus & Leppänen 1992).

The logic behind this change in growth strategy is clearly related to the cyclical nature of the industry and to the fact that the cyclicity had previously been typically accentuated by the collective action of the players. The overcapacity caused by coincidental investments eroded price levels, which in turn hampered profitability within the industry. Thus, to damp the cyclicity and its effects on returns, the major players within the industry radically changed their approach to handling the competitive pressures within the industry. Apart from competitive pressures, the preferred mode of growth may be seen as one partially imposed on the players by investors demanding better returns on their investments (Pichette & Samek, 2001).

The change in growth strategy is clearly reflected in the major players' competitive conduct related to production capacity. The previously prevalent mode of competitive strategy, which was

organic growth through capacity additions as a means to improve market share, was evidently reassessed during the second period from 1996 onwards. As a reflection of this reassessment, when examining the share of opening and closing moves made by the Finnish players during the first and the second period (Table 4), some changes between both the individual companies and the overall image of the game can be detected.

N=347	Opening moves		Closing moves		Total	
	1st	2nd	1st	2nd	1st	2nd
Enso	86	76	14	24	100	100
Kymmene	70		30		100	100
Metsä-Serla	73	82	27	18	100	100
UPM	94	58	6	42	100	100
Total	81	71	19	29	100	100

Although the dominance of opening moves persisted during both the first and the second periods, there was, nonetheless, a notable increase in the share of closing moves during the second period. Capacity control was exerted through both phasing out old and poorly performing capacity and concentrating on core businesses, and as a result, selling off the production facilities of noncore businesses. This mode of operation adopted by the Finnish forest industry companies accords with the motives presented in the literature for divestment decisions (see e.g. Duhaime & Grant, 1984; Chow & Hamilton, 1993; Hamilton & Chow, 1993). The overall change of orientation among the Finnish players was found to be significant ($X^2 = 4.81$, $p < .05$).

At company level, the most striking change in the move orientation is evident in the case of United Paper Mills/UPM-Kymmene. Its share of closing moves increased sharply during the second period due to the large number of sales of noncore business units and shutdowns of outdated and unprofitable production facilities. An additional factor in the changed move orientation was the break-up of the planned fine-paper joint venture with April. The difference in UPM/UPM-Kymmene's move orientation was found to be significant ($X^2 = 18.97$, $p < .000$). Thus, UPM-Kymmene demonstrated most clearly the changing logic of the industry. The general change in capacity control strategy increased the share of closing moves, which may be seen as partial de-internationalization, i.e. any voluntary or forced actions reducing company's engagement in or exposure to current cross-border activities (Benito & Welch, 1997).

In the case of the Finnish forest industry companies' international involvement in general, and in the case of UPM-Kymmene in particular, the apparent de-internationalization development during the second period may be characterized with good reason as partial. Despite withdrawals in some businesses and markets, overall international involvement increased considerably at the corporate level.

This development may be seen as an indication of a certain "trigger level" of internationalization having been reached. After this point, further internationalization at the

corporate level may necessitate de-internationalization at the business level in some businesses to achieve the strategic (re-)positioning striven for. This view conforms with the corporate portfolio perspective, in which a company is seen as a portfolio of assets, products and activities under continuous review from both financial and strategic points of view (Clarke & Gall 1987, Chow & Hamilton, 1993). It also conforms with the findings of Allen and Pantzalis (1996), who posit that there is a "threshold" for expanding a MNC's network due to increasing agency costs. In order to keep the corporate asset portfolio balanced and at an appropriate spread, when something is added, something, typically noncore entities, must go.

DEVELOPMENT OF MARKETING AND MANUFACTURING OPERATIONS

As internationalization is a multifaceted phenomenon affecting a company in several different ways and on several different levels, the overall picture produced by the game-playing perspective may be complemented through an examination of the geographical expansion of the companies' operations. An analysis of the development of the companies' wholly owned sales networks and manufacturing operations over time will be presented in the following section in order to form a more holistic view of the internationalization process. Following the recent suggestion of Buckley and Casson (1998), investments in marketing (distribution) and manufacturing facilities as foreign market entry modes are dealt with separately due to their dissimilar nature.

Traditionally marketing operations are taken to represent a lower level of internationalization than production operations, which are seen by the establishment chain school of thought as representing the highest level of commitment in international operations (see e.g. Johanson & Wiedersheim-Paul, 1975; Forsgren & Johanson, 1975; Johanson & Vahlne, 1977; Johanson & Vahlne, 1978; Luostarinen 1979). This normative basic assumption of the establishment chain school is neither accepted nor rejected at this point. Instead, it is seen as an idea against which the development of the Finnish forest industry companies' geographical expansion can be mirrored.

When examining the geographical expansion of marketing and manufacturing operations of the companies under study, the concept of psychic distance (Beckermann 1956; Linnemann, 1966; Johanson & Wiedersheim-Paul, 1975) becomes useful in analyzing the expansion process. Johanson and Wiedersheim-Paul define psychic distance as factors preventing or disturbing flows of information between firms and markets, and suggest variations in language, culture, political system, education level and level of industrial development as some of the major factors causing the phenomenon. Johanson and Wiedersheim-Paul (1975) utilize the earlier research of Wiedersheim-Paul (1972) and Hörnel, Johanson and Wiedersheim-Paul (1973) to rank twenty countries with respect to their psychic distance from Sweden. As the psychic distance between Finland and Sweden is small, the ranking of countries presented by Johanson & Wiedersheim-Paul (1975) may also be utilized for the current analytical purposes as well.

Instead of using the original ranking of countries as the basis for analysis of the expansion process, the insights provided by it are utilized for forming groups of countries with similar psychic distances from Finland. The analysis is based on the groupings of countries. When examining the geographical expansion of marketing operations, especially the establishments of sales subsidiaries, based on the Johanson and Wiedersheim-Paul's (1975) ranking, four groups of countries may be

formed in ascending order of psychic distance: 1) the Nordic Countries, 2) the UK and "Germanic" Continental Europe, 3) Latin Continental Europe, and 4) North America.

It is suggested that especially the establishment chain of marketing subsidiaries would follow a pattern of establishments first in countries with smaller psychic distance and later in countries with greater psychic distance (Johanson & Wiedersheim-Paul, 1975). This view is partially consistent with the findings of the current study, although, some interesting anomalies exist.

Enso, with its very comprehensive sales network in the mid-1980s had established a strong presence in the UK and Germanic Continental European region (West-Germany, Austria, Switzerland, Belgium, and the Netherlands, in addition to the UK) and in the Latin Continental European region (Italy, Spain, France, Portugal). In addition, Enso was present through its own channel in the Nordic region (Sweden, Denmark) and in the North American region (Canada, the US). Furthermore Enso had established a presence in the Far East (China, Hong Kong, Indonesia, Singapore) through the Eurocan joint venture in Canada.

Kymmene reveals a similar development to Enso, and had established a strong presence in the UK and the Germanic Continental European region (West-Germany, Austria, Switzerland, Belgium, in addition to the UK) by the mid-1980s. Kymmene was also present in a more minor way in the Latin Continental European region (France) and in the Nordic region (Denmark). In addition to the previous regions Kymmene was present in the North American region (the US) and still in more psychically distant countries like Australia, Hong Kong, Singapore and South Africa.

UPM and Metsä-Serla differ clearly from the previous two companies in their approach to the geographical expansion of their marketing operations. Both UPM and Metsä-Serla showed more restricted and less concentrated patterns in the mid-1980s. UPM and Metsä-Serla were present in the UK and in the Germanic Continental European region (the UK and Germany; Metsä-Serla was also established in Switzerland and the Netherlands). Both were also present in the Nordic region (Norway, and UPM also in Sweden). In addition to a limited presence in the just mentioned regions, both had a sales subsidiary in the US. Moreover, UPM had a sales subsidiary in such psychically and geographically remote locations as Australia, and Metsä-Serla in Japan.

Thus, it seems that instead of establishing marketing units in countries with the least psychic distance, the Finnish forest industry companies concentrated mostly on serving markets in the UK and Continental Europe through wholly owned sales channel, but unlike companies in other Finnish industries, they showed little interest in the Nordic region (see e.g. Luostarinen, 1978). There are at least three possible explanations for this observed deviation from the establishment chain posited by the psychic distance paradigm.

First, as suggested by Johanson & Wiedersheim-Paul (1975) themselves, the importance of psychic distance in decision-making is reduced as the internationalization process of a company progresses. It is the macroeconomic forces, such as the size and potential of a market, which assume a central role in establishment decisions concerning sales subsidiaries. Second, and closely related to the previous point, is the fact that the Finnish forest industry companies had already been involved in international business for several decades by the mid-1980s, albeit mostly indirectly through jointly owned marketing associations. Regardless of the indirect involvement, it is safe to assume that the companies had already generated a quite a wide base of experiential knowledge regarding international operations, which may well have moderated the effect of psychic distance.

Third, and this is an especially relevant consideration in relation to the Nordic forest industries, is the strong competitive positions held by the major players in their native countries.

The Finnish companies were present in Norway, Denmark and even in Sweden, but their operations were quite limited and cautious, especially in Sweden. Although Finnish and Swedish forest industry companies have traditionally been fierce rivals, especially in the Central European markets, the home bases were traditionally "off-limits" for competition. This was either a result of mutual understandings between the major Nordic players, or of the fear of retaliatory competitive action. Table 5 presents the total number of countries in which the companies were present through a wholly owned marketing subsidiary.

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Enso	19	19	20	21	21	21	21	21	21	21	25	26	28	35	35	35
Kymmene	12	11	12	18	18	20	19	21	22	22	18					
Metsä-Serla	6	7	4	7	7	7	8	9	10	11	11	24	24	33	33	33
UPM	7	7	8	10	11	13	15	17	20	21	21	28	26	27	27	30

When examining the number of countries served through a company's own channel, some differences are observable between the companies. When tested over the whole period by performing Oneway ANOVA, the difference between companies was found to be significant ($F = 4.284, p < .01$).

First, Enso stands apart from the rest of the group in the mid-1980s with its very comprehensive sales network. Enso was the first of the Finnish forest industry companies together with Kymmene, or rather Kymmene's predecessor Kymi, to start a major buildup of a wholly owned sales network. Kymi started the construction of its sales network building as long ago as the 1920s, and Enso started in the 1950s. Kymmene (Kymi) was active in building a specialized sales network for its fine-paper products, and marketed all fine-paper products through its own channel from 1976 onwards (Heikkinen, 2000). Other grades were sold through jointly owned sales associations, mainly Finnppap, the Finnish paper mills' association, until Kymmene's resignation from the association in 1990.

Unlike Kymmene, Enso built a more comprehensive sales network for all its products. Apart from newsprint, all production was sold through its own channel before 1986, when Enso resigned from Finnppap (Heikkinen, 2000). The geographical coverage of Enso's sales network was further extended by cooperative arrangements in the Far East through the Eurocan joint venture.

The two least active companies in building their own sales networks were United Paper Mills (UPM) and Metsä-Serla, both of which relied on the jointly owned sales associations as the main channel to the market for their products. Although both companies were present in some markets through sales subsidiaries, those subsidiaries sold mainly products requiring local production or more intensive customer service, such as corrugated board, tissue and self-adhesive laminate, i.e.

the products of the noncore or specialty businesses The bulk of the production was, nevertheless, handled by the sales associations Finnmap and Finnboard.

Overall, the development of the geographical coverage of the sales networks of the companies, excluding Metsä-Serla, can best be characterized as a slow, evolutionary expansion.

Metsä-Serla's sales network building, on the other hand, was marked by revolutionary development. Metsä-Serla, being longest the most dependent of the companies on the marketing associations, was faced with a pressing need to quickly erect a sales network of its own as a result of the merger of Kymmene with United Paper Mills. The merger had made the continuation of cooperative marketing arrangements impossible (Sajasalo, 1999), and Metsä-Serla had to build its own sales network virtually overnight at the beginning of the second period in 1996. It managed to do so by building on the organization and human resources of the board sales association, Finnboard, in which it had been the dominant member for some time. In essence, Finnboard became Metsä-Serla's wholly owned sales channel reinforced by its alliance partner Myllykoski's European outlets.

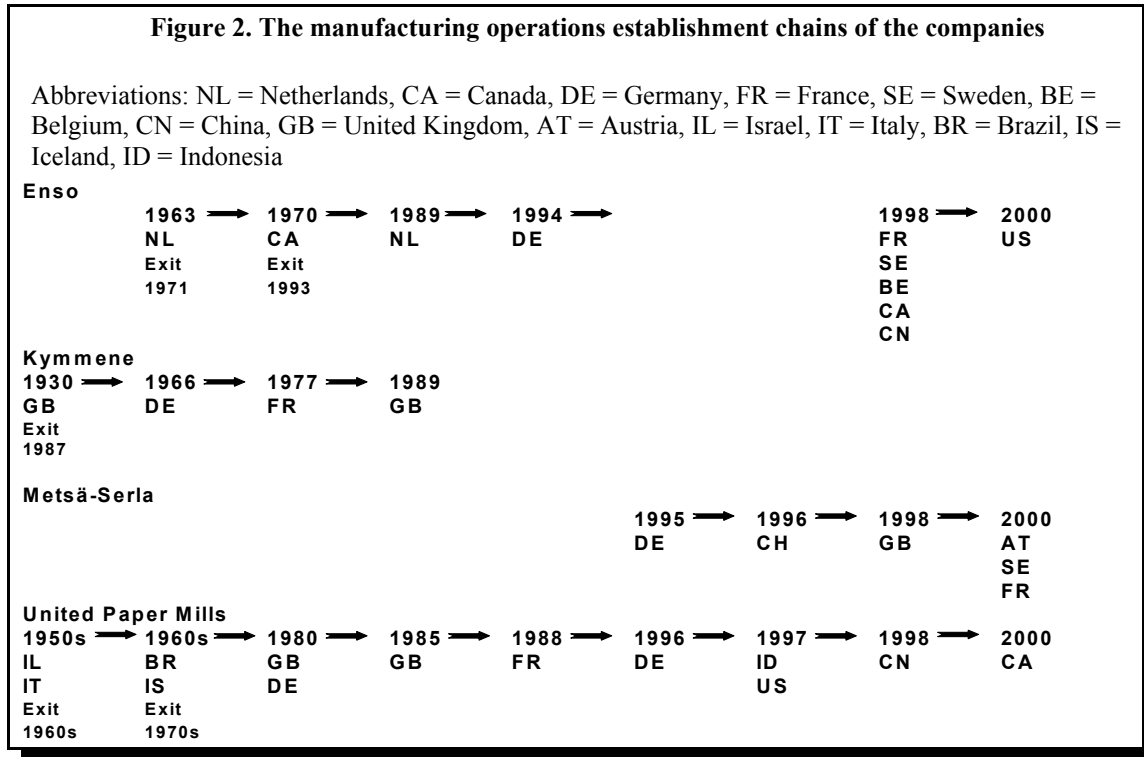
Turning from the examination of the geographical expansion of marketing operations to the expansion of manufacturing operations, some differences between the companies appear clearly (Table 6). When tested over the whole period by performing Oneway ANOVA, differences between companies were found to be significant ($F = 6.145, p < .001$).

	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Enso	4	4	5	5	6	6	6	6	8	9	10	11	11	15	15	15
Kymmene	4	4	4	3	3	3	3	3	4	4	4					
Metsä-Serla	4	5	6	6	6	6	6	6	6	7	7	10	11	12	12	12
UPM	2	2	2	3	5	9	10	11	11	11	10	12	13	13	13	14

Measured by the total number of countries in which the companies performed manufacturing functions, Kymmene appears to be the least international of the companies over the whole period. Nevertheless, the figures in Table 6. Obscure the fact that in the mid-1980s one third of Kymmene's paper manufacturing capacity was located outside Finland, while only ten per cent of Enso's, and fifteen percent of UPM's capacity was located outside Finland. Metsä-Serla had no foreign paper production; only corrugated board was manufactured abroad. (Source: annual reports of the companies).

Other detectable variations are related to the timing of the increase in the total number of countries with manufacturing units. Whereas in Enso's and Metsä-Serla's cases the number of countries with manufacturing units remained quite constant with just a slight increase before the mid-1990s, UPM's geographical expansion of manufacturing occurred through a jump at the turn of 1990s, and progressed thereafter through smaller steps.

As the major events in the international expansion of production have already been outlined in previous sections, just the establishment chains of the companies are depicted in Figure 2.



Some of the most important moves falling outside this paper's timeframe are added to clarify the historical context of the internationalization of the companies' manufacturing operations. The analysis covers solely operations concerning the expansion of paper production, which accounts for the bulk of the companies' production and turnover. Thus, converting and other noncore businesses are not included in the analysis.

To summarize developments in the geographical expansion of the companies' manufacturing operations, the early internationalization endeavors in the 1950s and 1960s of the industry proved relatively short-lived. Many of the operations can be characterized as near-catastrophes, resulting in serious losses due to unforeseen difficulties in running the operations and unrealistic market potential expectations. Consequently, most of the early internationalization attempts ended in divestments in the 1960s and 1970s. Exceptions to the rule do exist, nonetheless. One of the most successful foreign entries performed by a Finnish forest industry company was Kymmene's entry with the aid of a domestic partner into West-Germany in 1966. The Nordland Papier mill is still today UPM-Kymmene's largest production unit.

If, as is done here, the geographical coverage of the sales network and the extent of involvement in foreign production is taken to represent the extent of international involvement in general, the insight of Kutchker and Bäurle (1997) into the relationship between the need for

internationalization and the speed of internationalization is very pertinent to the analysis of the development presented above.

Kutcher and Bäurle posit that if a company may be perceived to be ahead of its competitors in its internationalization process, there is no immediate pressure on it to increase its internationalization. Conversely, if a company is relatively less international than its principal competitors in the industry, there is a need for the company to accelerate its pace of internationalization in order to catch up with its competitors (Kutchker & Bäurle, 1997). Such mimetic behavior is evident in the case of the Finnish forest industry companies in general and in the case of Metsä-Serla in particular. In the 1990s Metsä-Serla clearly accelerated its pace of internationalization, in respect to the geographical coverage of both its sales network and its foreign production, as it found itself lagging behind its main Finnish competitors in the industry. This speeding-up started in the beginning of the second period and by the end of the second period Metsä-Serla had succeeded in catching up with the rest of its Finnish competitors.

DISCUSSION AND CONCLUSIONS

The internationalization process of the Finnish forest industry and the companies within it may be seen to have followed certain identifiable phases, which will be discussed briefly in the following. The forest industry has historically been one of the most internationally oriented of all Finnish industries. The two most notable reasons for this were the small size of the home market and the proximity of the Russian Empire's market (Lilja, Räsänen & Tainio, 1992; Heikkinen, 2000), where a great deal of the forest industry products were exported until the Bolshevik revolution in 1917. Hence, there were both push and pull factors for internationalization (Luostarinen, 1979) affecting the industry from early on.

Historically the industry's international orientation was displayed by a pronounced reliance on exports as a means of international involvement. For over a half a century this involvement was largely handled by jointly owned marketing associations, the first of which were set up in the late 1910s (Heikkinen, 2000). By utilizing the marketing associations as extra-organizational outposts, the firms were able to operate in foreign markets without actually being involved individually with the difficulties and risks typically associated with operating in unfamiliar environments. Thus, the risk was not only shared by the firms participating in the cooperative marketing arrangements, but also to a certain extent externalized, and hence reduced. By uniting, the Finnish forest industry companies, which were still small early in the twentieth century, were able to achieve notable scale economies at the end of the production chain closest to the markets (Heikkinen, 2000), display a unified front in the competitive marketplace, and in general achieve the required scale and scope for world-wide operations. The member companies of the marketing associations were in essence able to internalize (Buckley & Casson, 1976; 1977) the markets without having to bear sole responsibility for the costs and risks of doing so (see e.g. Sajasalo, 1999).

The period of the marketing associations' hegemony, then, differs sharply from the period beginning in the mid-1980s, which may be best described as a period of intensifying and accelerating internationalization within the industry. During this period the Finnish forest industry companies increased their international involvement by establishing both marketing and

manufacturing units abroad. Thus, at this point the increased international involvement took place mostly through organic growth.

During this first period from the mid-1980s to 1995 analyzed above, the increased international involvement took place predominantly in an amicable atmosphere, indicating that there were still room to maneuver for the major players within the industry. The fragmented state of the industry, which has been considered a major obstacle to its possibilities for creating value in the future, hindered the intensification of competition. It has been further found that the forest products industry is the only of its size and capital intensity to have such a large number of competitors and low market concentration (Dreher, Cote & Hunley, 1998).

The situation has been, and is currently changing, however. As the result of recent consolidation, there are some dominant players emerging which have aimed at concentrating to serve a specific segment of the market. Examples of such emerging dominant players include two Finnish companies, Stora Enso and UPM-Kymmene. UPM-Kymmene occupies the number one spot in magazine paper production world-wide, with Stora Enso as the second largest producer. Stora Enso is also the largest producer of newsprint globally. Fine-paper production is dominated by the US-based International Paper (UPM-Kymmene, Annual Report 2000).

The change portrayed above is closely linked to the development which was detected in the Finnish case companies' internationalization processes. As the major players in the industry, and not just the Finnish ones, were aspiring to become the dominant player, there was a clear change in the internationalization strategy. This changed strategic orientation was reflected in the major players' response to the intensified competitive situation, which was further reflected in the change in the atmosphere of the game.

As the number of possible target companies which the major players could acquire to achieve preferred strategic positions globally had declined as a result of earlier mergers and acquisitions, both the atmosphere and the ways of meeting the competitive situation radically changed. Prior to the mid-1990s the dominant mode of international expansion and growth had been organic growth, but as soon as the goal became achieving either globally dominant or even globally sustainable competitive positions alone, the only viable option was to resort to acquisitions and mergers as the means for additional growth.

This change in strategy is clearly manifested, not only in results of the game-playing analysis above, but also in the investment behavior of the Finnish forest industry companies. As was mentioned above, the mid-1990s may be seen as a watershed in many senses for the industry. For the first time in history, in 1997 the forest industry's investments abroad, including acquisitions, surpassed the industry's domestic investments (Finnish Forest Industries Federation, 2001). After 1997, the share of investments abroad has only grown, and in 2000, the investments abroad were ten times bigger than investments in Finland.

This development may be seen as a clear indication of the gradually diminishing role of Finland as an operational base for the industry. The limits for growth have been reached in Finland, and in order to grow into globally prominent players, the Finnish companies have had to become increasingly international. It is easy to predict that the currently prevailing trend towards increased internationalization is likely to continue, because, despite all the recent consolidation, the field still

remains quite fragmented. Consequently, consolidation has not yet run its full course in the global forest industry.

To conclude the discussion, some considerations regarding the game-playing perspective and its suitability for the analysis of phenomena linked to internationalization will be presented. By addressing the internationalization development of the companies as a dynamic game-playing activity, several advantages over the static approaches are achieved.

First, the utilization of the game-playing perspective for the analysis of internationalization processes provides an adequately broad frame of reference covering the multitude of possibilities for increasing (or decreasing) a firm's international involvement. This is important in order not to needlessly limit the examination of the phenomenon, which results in a fragmented and excessively narrow view, something typical of the IB field (see e.g. Toyne & Nigh, 1998; Stopford, 1998; Macharzina & Engelhart, 1991). Hence, the game-playing perspective provides a way of combining features derived from the internationalization process models with features derived from FDI models: a combination of gradual, organic processes with discontinuous changes such as acquisitions. Also, the overall internationalization development can be linked with the wider market context.

Second, as internationalization is ultimately seen as a process (see e.g. Vernon, 1966; Gruber, Mehta & Vernon, 1967; Johanson & Wiedersheim-Paul 1975; Johanson & Vahlne, 1977; Welch & Luostarinen, 1988), whether a stepwise and ordered one, or an evolutionary yet ordered one, looking at it from the game-playing perspective incorporates the missing strategic viewpoint into the study of internationalization processes (Melin, 1992) and their analysis.

Third, the game-playing perspective offers not only a way to incorporate the strategic viewpoint, but also the often neglected time dimension (Macharzina & Engelhard, 1991; Kutschker & Baurle 1997; Kutschker, Baurle & Schmid, 1997) through its inherent action orientation. Both the strategic viewpoint and the time consideration are important starting points for the analysis of internationalization processes, as decisions regarding international involvement are typically the crucial decisions affecting the future direction of a company. Thus, decisions regarding internationalization, its form and extent are inherently strategic by nature.

The inclusion of the time dimension in the analysis of internationalization is of obvious importance. As internationalization processes involve learning (Johanson & Vahlne, 1977; Luostarinen 1979), they are time-consuming whether seen as evolutionary and gradual processes, based on the theory of the growth of the firm (Penrose, 1959), or as revolutionary and discontinuous processes, based on the "quantum view" of structural change (Greiner, 1972; Miller & Friesen, 1980; Miller, 1982). Since the development process is made up of a series of interrelated episodes over time, which may be regarded either as small steps or as revolutionary events in the overall development, depending on the scale and importance of a given episode, by seeing the episodes as parts of an ongoing game, the game-playing perspective allows the time factor to be taken into consideration in both the evolutionary and revolutionary senses.

The game-playing perspective and the analytical frameworks utilized provide a useful way of incorporating time considerations into the analysis of these lengthy processes, thus enabling adoption of a longitudinal perspective. The game-playing perspective and the analytical frameworks offer further the opportunity to include different time perspectives in the analysis of these lengthy

processes. Indeed, it has been suggested that internationalization processes should be divided into different categories, both for analytical and managerial purposes, as the different categories are seen to vary in their speed, duration, scope of change and overall relevance (?importance?) for the corporation (Kutchker, Baurle & Schmid, 1997; Melin, 1992).

The game-playing perspective and the analytical frames of reference utilized allow the use of varied time perspectives in the analysis. Although Melin and Kutchker, Baurle and Schmid differ somewhat in the terminology they use, they share the view that internationalization processes may be divided into episodes and epochs, and that episodes are shorter in duration than epochs. Kutchker, Baurle and Schmid (1997) also include evolution in their frame of reference, whereas Melin's (1992) view of internationalization as a strategy process can be seen as planned evolution.

The insights provided by the use of the game-playing perspective for the analysis of internationalization processes of the Finnish forest industry companies, and the approach itself closely resemble in spirit the approach proposed by Kutchker, Baurle and Schmid (1997). The moves performed by the players may be seen to represent the episodes, the periods constructed through a retrospective analysis may further be seen to represent the epochs in the development. Moreover, the overall development of the companies and the succession of moves over the whole timeframe of the study may be seen to be congruent with Melin's (1992) planned evolution view of internationalization, since increased international involvement is the result of the strategic action of the players.

In other words, the patterns of action, the realized strategies of internationalization followed by the companies, are uncovered and made visible through the integrative framework provided by the game-playing perspective. The analytical framework may be seen to integrate views from entry mode literature into the examination of the internationalization process, as it takes into consideration a number of ways by which a company may choose to establish itself or to reduce its commitment in a given market. It further integrates the strategic view and market situation considerations through elucidating the atmosphere of game. The atmosphere of the game may be seen as partially reflecting the current situation in a given market where the game-playing action is situated.

Thus, the game-playing perspective and the analytical frames of reference presented in this paper provide a flexible tool for the holistic analysis of internationalization processes. The approach and the analytical frames adopted in this paper would, with only minor adjustments being needed, be well suited for the analysis of other strategic change processes in other industries, too.

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THE GLOBAL NET-ENHANCED ORGANIZATION

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ABSTRACT

In the digital, Net-based economy, there is extraordinary pressure on local, regional, national, and international industries to drive down costs and increase productivity. For organizations operating in this economy, pressures come from not only traditional, but also "virtual" organizations. Successful organizations are forced to innovate and continually reinvent themselves and compete. As organizations move many of their sales and operations to the Net, they evolve from local or regional companies to players in the global arena.

The evolution to a global enterprise requires a systemic change throughout the organization. Success, or perhaps survival demands continues to demand that every organizational decision be focused on the wants and needs of their customers. After moving into the global arena, this challenge is dramatically more difficult when faced with differing time, language, and cultural differences. These successful companies, as they evolve into the global arena will develop, support, and sustain a customer-centric organizational culture.

Global customers demand the same 24/7/365 level of service as domestic customers. The powers of the Net offers organizations the ability to effectively and efficiently respond to these demands. Organizations that successfully respond to these demands have the potential to develop life-long customers with long-term loyalties.

The global arena brings a whole new set of challenges for organizations. Although the Net is able to make distance irrelevant, global customers have different cultures, languages, and time zones. In this paper, we discuss strategies that can be used as they evolve into global Organizations.

INTRODUCTION

The new millennium has arrived and with it a world consumed by the Internet (Net). It has changed relationship both inside and outside organizations. This new, digital, Net-based economy demands that organizations drive out inefficiency, lower costs, increase productivity, and make customers the driving force in all decisions. Organizations must make significant changes to their structure and overall culture to meet the needs of their customers. Success requires moving away from "how it was" and move towards "how it will be." For these organizations, innovation and change is continuous. An organizational commitment to moving every possible operation to the Net, provides the impetus for success. Traditional organizations recognize that fast and flexible new Net-based companies are taking on dominant incumbents, both in high and low tech industries.

It is important to understand that eBusiness dramatically changes the way business is conducted and challenges traditional organizational culture and leadership. It is not merely having

a "cool web site," but rather its about how organizations can use the power of the Net to improve all aspects of their operations. The goal of eBusiness for any organization should be to improve the overall experience of their customers. To achieve this lofty goal requires organizations to be flat, flexible, collaborative, and willing to innovate and change. The demands of consumers must be the driving force behind all organizational decisions.

Table 1 explains how the customer, employee, and organization roles have changed in the evolvement from eCommerce to eBusiness. The purpose of eCommerce was to extend the reach of the sales and marketing department through the use of the Net. Many organizations felt that by putting their catalogs online they were maximizing the benefits available when conducting business online. From an organizational standpoint, all decisions were based on what was in the best interests of the company. The needs or the demands of the customer were not a consideration. In eBusiness, the entire organization is involved and the entire focus of the organization is on the needs of the customer. Based on dialogue with customers, products and services are customized to meet their needs. Organizations in eBusiness seek to extend or enhance traditional services through online activities. Employees are not only allowed, but encouraged to communicate directly with customers. Companies participating in eBusiness focus on the customer and their feedback is used in the allocation of resources. The demands of the customers provide are responsible for providing organizational direction.

	Customer	Employee	Organization
Ecommerce	Online Catalogs Limited Choice Little Input	Directed by Sales & Marketing Departments Contact limited to online order takers	Focus is on Organizational Needs
EBusiness	Customization Open Dialogue Online Product Information & Support	Entire Organization Involved Contact With Customers Encouraged	Focus is on the Customer Customer feedback used to adjust products and production

When companies are committed to eBusiness, it is difficult to separate the organization from its Net activities. Operations performed on the Net are natural extensions of the organization's off-line operations. EBusiness enhances, or in some instances may completely replace the traditional ways that organizations do business. EBusiness activities are not separate from other organizational processes, but rather a valuable ingredient in all activities.

ECommerce was a first step for organizations doing business online. Encouraged by their early marketing and sales successes, they looked for other online opportunities. EBusiness is the evolution from eCommerce to using the power of the Net to dramatically transform every business process in the organization to take advantage of the Net.

THE IMPORTANCE OF eBUSINESS

Early on, the Net was touted for its ability to connect companies and consumers in real-time, regardless of their geographic locations. Initially, because of the cost of computers and consumer fears of technology, there was limited use of the Net. Now, driven by the lower cost of personal computers and the consumer's acceptance and comfort with the use of the Net, growth has increased at a phenomenal rate. Some estimates indicate that there are over 300,000 eCommerce sites, with that number growing at an amazing rate. As the Net grows in popularity, consumers and organizations are finding new, innovative ways to take advantage of the online experience. The opportunities on the Net are available to organizations, regardless of size. The Net has leveled the playing field allowing small start-up companies to successfully compete with well-established industry leaders.

The hours of operations for organizations doing eBusiness are twenty-four hours a day, seven days a week (24/7). Each and every day on the Net, millions of organizations and individuals correspond and exchange vast amounts of information in real-time. They are also able to do comprehensive research on goods and services for little or no cost. Organizations are using power of the Net and eBusiness to reinvent their businesses. It is also allowing them to increase service to customers and function on a 24/7/365 (twenty four hours per day/7 days per week/365 days per year) basis.

Industries are no longer run by a tiny handful of huge companies. The New Economy thrives on the free market system and has a way of eliciting unexpected, fast-growing start-ups that evade direct competition against the industry giants. As a defensive strategy, many entrenched traditional organizations are using mergers and acquisitions (M&As) to respond to new competitors. Historically, the purpose off M&As (in any industry) is not to provide consumers with something fresh and imaginative. Rather, the "old boys" assume that if they consolidate to do more of the same - only cheaper and with broader marketing - consumers will forget about the offerings of the new rivals. In the New Economy, driven by eBusiness, the customer won't allow this to happen. Economies of scale are secondary to the demands of the customer.

Entirely new eBusiness organizations are disrupting the sales, manufacturing, and distribution "rules" that traditional industries have always followed. For Old Economy organizations, the profitability embedded in the entire value chain is being threatened. The lessons learned are that today's financial successes, market share, and awards are not guaranteed predictors of future successes. In the New Economy, yesterday's results are a reflection of yesterday's decisions. To capitalize on the opportunities available in the New Economy, organizations must understand that decisions must be made using future, not past information. This is the essence of eBusiness in the New Economy.

EVOLUTION TO eBUSINESS

Sound business models and management principles are not industry specific, but rather applicable across industries and businesses. Organizations in the New Economy will use traditional basic management principles, adapted to the requirements of the New Economy, to successfully

compete. In this section, the foundation will be laid for the challenges that organizations face in developing sound business models and management principles that will allow them to successfully function in the New Economy.

Yet as the new millennium dawns and the rules for business change, the basic tenets of management remain. There are challenges for organizations as they move from the "Old Economy" to the "New Economy." Organizations are accustomed to a relatively simple environment in which their role is fairly clear. In the New Economy, the horizon is a mass of curves and obstacles that provide no clear message for organizations. Compounding this uncertainty is an economic terrain littered with the spoils of failed eBusinesses in the New Economy. In order to successfully survive the terrain of the New Economy, management will have to embrace an organization culture that encourages and rewards innovation. Moving into the New Economy requires planned organizational change. There must be a purposeful attempt by management and employees to move the organization from the "Old Economy" to the "New Economy."

Successful organizations will adopt sound business models and use good management principles in their pursuit of eBusiness. They must address the fundamental management issues and not merely be swept up in the "electronic" frenzy. The purpose of eBusiness is to use its power to leverage, not replace other organizational resources. Management will be challenged to bring a pragmatic approach to design, develop, and implement solutions to the challenges of eBusiness.

In order to respond to the challenges of the New Economy, organizations will have to continually reinvent themselves. They will have to streamline and integrate business processes in order to reduce costs and better serve customers. Many organizations, in their rush to keep up with the frenzied speed of eBusiness, ignore the need for sound management principles and business models. For the past 20 years management experts have preached the need for "flat" organizational structures with as few hierarchy layers as possible. Functional departmentalization, or the separation of work and workers into separate units to make them responsible for specific tasks does not work in the New Economy. Operating on the Net in real-time does not allow the time for decisions to be made up the hierarchy ladder. Customers demand real-time answers to their questions and problems. Employees throughout the organization must be empowered to respond to the needs of customers. Organizations are challenged to develop a managerial structure which has the ability to successfully respond to these customer demands.

Means and Faulkner (2000) postulate successful companies in the New Economy will follow entirely new business models and use enormous discipline and management competence. They accomplish this by breaking away from "Old Economy" rules for their industries and take chances on using the "appropriate" business models that will allow them to dominate their industries in the near future. The "appropriate" business models from their perspective will be governed by the following rules:

The Past Is Not Prologue-But It Helps - While the past provides an excellent foundation, it may not offer any direction for the future. During the transformational period, companies will have to "just figure it out." They offer that "moving out of the box" requires an understanding that the box contains tremendous insight and wisdom on management and value creation.
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Business Excellence and Discipline - In order to create and implement innovative ideas, management must have tremendous discipline and excellent business models. Necessary components include an understanding of business life cycles, supply chain management, backroom process excellence, and a commitment to continuous learning and professional development.

Companies Must Be e-Enabled - They use the power of the Net to create and review as many ideas as possible, develop them rapidly, and then use this information to launch them in an expeditious manner. They must develop and maintain strong knowledge management systems which promote the capture and exchange both internal and external environments.

Dynamic Innovation Is Strategy - Strategy for the organization must be as dynamic as the New Economy. A concerted organizational effort must be made to create an agile and responsive innovation culture that embraces change from a proactive rather than reactive approach.

Strong Business Management - Management teams must have exceptional business competence. They must adhere to sound business principles and when necessary, have the flexibility to move quickly and instinctively.

Freedom to Incubate and Fail-Once (Maybe Twice) - The New Economy is composed of organizations that have tried many different ideas with as little as 25% being successful. It is important to create the organizational culture that encourages, in spite of failure, the commitment to try new ideas. This should include a strict business discipline that results in a declining average failure rate while at the same time maintaining a dynamic and innovative culture.

A New Style of Organization and Management - Management must be willing to cannibalize the core organization. The organization must recognize that if the entire industry is undergoing a transformation, transformation within their organizations will be required as a key to success (Means & Faulkner, 2001).

Organizations must develop a pragmatic approach, grounded on sound management principles and business models in order to achieve the competitive advantage opportunities available in eBusiness. These organizational strategies must be based on the assumption that eBusiness will be integrated in all activities and significantly change all business processes. No longer can organizations use a "seat of the pants" strategy, but will require a more disciplined approach to dealing with the challenges of eBusiness. It should not be considered a "technical" issue, but rather a new direction in organizational culture.

THE GLOBAL IMPACT OF eBUSINESS

Unquestionably eBusiness has dramatically changed the ways in which organizations conduct business. It is also having a significant impact on society, on federal, state, and local governments, and in the global economy. To reach 50 million viewers, it took a combined 38 years of radio, 13 years of television, and 10 years of cable TV. The Net has connected over 50 million people in just 5 years (Fellenstein and Wood, 2000). The acceptance and shift for individuals to technology has been truly amazing. Whether locally, regionally, nationally, or on a global basis, the Net and eBusiness has created a virtual community of global e-societies.

The United States is clearly the global leader in eBusiness. Most industry experts agree that the U.S. leadership in computer and software technology is responsible for this lead. For example, Internet penetration in the U.S. is far above the European average. However, Internet usage in Europe (EU) is expected to increase by 40% in 2000 as compared to a 25% increase in the U.S. The population in the Asian-Pacific market provides the perfect environment to take advantage of the

Net and the New Economy. In this section, we discuss the eBusiness potential for the European and Asian-Pacific markets.

Europe

The European Union (UN) is the effort by 15 countries with approximately 370 million citizens to develop a highly sophisticated "single market." This "single market" would seem to be the ideal scenario for the introduction of eBusiness. However, the 15 members seem to share several "common traits" that inhibit rather than encourage eBusiness. These "common traits" include:

No accepted common EU language;
Differing cultures, legal requirements, and attitudes when looking at consumers;
No common ground on consumer privacy;
And slow and laborious processes for negotiating and implementing new trade legislation.

The combined impact of these "common traits" initially limited enthusiasm by the members of the EU for eBusiness. Yet as awareness of the financial potentials of eBusiness increased, so did EU members desire to participate in the Net driven New Economy.

Estimates indicate that 1999 only 10% of European citizens use the Net will total eBusiness revenues of approximately \$19 billion. This figure represents approximately 20% of US eBusiness revenues but is expect to increase to \$430 billion (60% of US) by 2003. It is also anticipated by 2006 that over 50% of Europeans will be online (Weyer, 2000). As seen in Table 2 Europe has been slow to get online, but is expected to rapidly increase usage as early as 2002.

Many of the EU members are faced with the need to make significant financial investments in an infrastructure (telecommunications, wiring, etc.) that will support eBusiness. Britain on the other hand has the advantage of one of the best telecommunications infrastructures in Europe. In addition to this infrastructure, Britain also has a large pool of skilled employees and a common language. While these factors provide Britain with a significant advantage, they are also challenged with an eBusiness legislative framework that is still in its infancy.

Germany is the leading eBusiness member of the EU. They share 15.5% of the global eBusiness market, Britain has 6.6% and France follows with 3.8%. While leading the EU in eBusiness activities, Germany continues to be inhibited by its consumer protection laws. However, the potential for significant financial rewards have driven them to take steps to encourage, rather than discourage eBusiness.

The Commission Enterprise and Information Society in Hanover, Germany in February, 2000 outlined several goals to bring about an eEurope. The purpose of these goals is to accelerate the transition in Europe to an information society. Included were three key objectives from the political arena at its highest level that included:

First, bring on-line every home, every school, every business and every public administration.

Second, create a digitally literate and entrepreneurial Europe, which benefits from dynamic investors ready to develop and finance new ideas.

Third, ensure that the transition to the digital age is a socially inclusive process - that it builds consumer trust and strengthens social cohesion.

In their opinion this effort must be on a collaborative basis and include participation by European industries. Although this is considerably less than the U.S., it is anticipated to continue to grow (Liikanen, 2000). EU members agree that speed and openness are keys to success in eBusiness and effective legislation must use these concepts as their driving forces. In eBusiness the most successful form of regulation seems to be "self-regulation."

In order to establish an eBusiness standard for the EU, they have adopted or have pending the following regulatory guidelines:

Legal directives which include a common framework for electronic signatures, agreement on certain aspects of copyright and other rights;

Tax directives that include in preliminary information on value-added tax (VAL) and electronic invoicing; and
And other policy related documents that include items such as domain names and policy priorities.

A major challenge for the EU members is capturing taxes on the profits of eBusiness entrepreneurs. The geographic location of these eBusiness entrepreneurs could be anywhere in the world. Different members of the EU may use generous tax treatment as a method of encouraging eBusiness organizations to reside in their countries. For example, while the average business tax rates are 30% across Europe, Ireland has offered e-businesses coming to their country a 12% tax rate. This can be compared to the standard tax rate of 28% for traditional "bricks and mortar" Irish businesses. Other countries have not ruled out similar incentives, consumers and entrepreneurs can be expected to set the pace in eBusiness development. The most successful EU countries will be those with the best combination of business incentives and favorable eBusiness legislation.

Asia - Pacific

The Asia-Pacific region lags behind the US and EU in eBusiness, but is making significant, rapid progress. As of March 2000, the region has 69 million internet users as compared to 83 million in Europe. Experts expect the global eBusiness market to increase from \$43 billion in 1998 to \$1.3 trillion in 2003. The majority of this increase is expected to go to the Asia - Pacific region. Within this region is the largest concentration of population in the world and is expected to do approximately \$32 billion in eBusiness by 2003.

Although Asia shares common eBusiness challenges with other countries in the region, they have other problems unique to their country. Some of the major problems faced by Asia to participate in the global eBusiness include:

Transaction settlements - Most transactions in Asia involve cash. Very few Asians have access to credit or credit cards.
Software Piracy - Asia is known for its frequency of software piracy and copy infringements. In order to operate in the global eBusiness, these issues will have to be addressed.
Distribution - No established distribution network exists in Asia. Challenged with the vast geographical area, successful eBusiness will require the establishment of a distribution infrastructure.
Telecommunications Infrastructure - Citizens with Asia do not have broad access to the Net. For eBusiness to prosper in Asia, its citizens must have access to the Net.
Legal and Regulatory - The laws and regulation of eBusiness can be expected to vary greatly from country to country in the Asian region.

Another challenge is that the Asian market is not homogeneous. It can be considered a region of "haves" and "have nots." The language, culture, literacy and wealth varies greatly from region to region. EBusiness entrepreneurs operating in these regions will have to deal with these significant challenges.

While the EU is issuing tax collection directives and the US seeks some method to collect sales taxes, the Asia-Pacific region has taken a "wait and see" approach. In their opinion, the collection of sales taxes would hinder, rather than promote eBusiness. However, they are actively tracking online transactions and may at a future date use this information to "revisit" their legal and sales tax collection policies. Table "2" provides an overview of the "Legality of Transactions" and "Tax Policy" for several countries in the Asia-Pacific region.

Country	Legality of Transactions	Tax Policy
Australia	Security & Electronic Transactions Act administers online transactions	Developed the Australian Tax Office(ATO) to oversee tax concepts related to eBusiness
China	Does not have any general legislation regulating online transactions	The State Administration of Taxation(SAT) has an internal committee reviewing eBusiness but has not released and general public reports
Japan	No specific legislation for online transactions, but uses their general laws for governance	Has established the Working Group on Electronic Commerce and has released a report recommending that the Japanese government consider appropriate taxation methods
Hong Kong	Has a comprehensive Electronic Transactions Ordinance and uses the Hong Kong Post Office as its certification authority	Hong Kong's territorial-based tax system only taxes Hong Kong source income and is therefore expected that eBusiness taxation is inevitable
Singapore	Has developed legal status for the use of electronic records and signatures	To encourage eBusiness, Singapore approved a cyber trader tax that provides a 10% concessionary tax rate on income derived from transactions over the internet

The continuing debate in the Asia - Pacific region is "globalism" versus "nationalism." EBusiness brings that age-old debate back to the forefront. In order to share in the potential eBusiness financial rewards, they must open their markets and their methods of doing business to the eBusiness entrepreneurs. To many, the price is extremely high and quite unsettling. While this is especially true to China, other countries such as Singapore, Thailand, Malaysia, and the Philippines are busily restructuring to encourage eBusiness. For example, they have all passed recent legislation that accepts the legal standing of electronic contracts and digital signatures.

However, experts agree that the economies of Asia -Pacific will not be reinvented overnight. In reality there still exists many cultural and infrastructure barriers to the New Economy for these countries. Table "3" describes some of these barriers.

Country	Japan	South Korea	Taiwan	India	China
Barriers	Info-tech sector is about the only rising star in an economy just emerging from recession. Still carrying a lot of dead weight in sunset industries	Runaway fascination with online trading and smart phones all the rage. Still, financial sector is a basket case, and more corporate restructuring a must.	Powerhouse in production of laptops, and other computer hardware. Aims to triple size of software industry to \$4.5 billion.	Surprising new entrant, and info tech sector is growing. Although few of the foundations of a New Economy exist, its engineers have a knack for making software	Boasts fast-growing Internet and mobile phone markets. Beijing worried about e-dissidents. State-run companies facing shake-up.
Netizens	20 million	7.8 million	4.2 million	2.1 million	10 million
PC Owners (% of households)	30%	23%	35%	2.5%	1.7%

Source: Business Week/January 31, 2000 Page 91

Change is in the air in Japan as it collects its resources and makes a charge to catch up with the West and build a New Japan. The young entrepreneurs in Japan have embraced the Internet driven New Economy. In a recent speech, Masayoshi Son, 42 years old and the founder of Softbank Corporation explained to a group of young Japanese professionals "The most amazing opportunities await you." His message to these young Japanese entrepreneurs was clear "Japan's businesses are going through a social upheaval in their rush to modernize and if you don't get on board - you will miss the boat (Kunii, 2000)."

Software Corporation has invested approximately \$400 million in Japanese Internet start-ups who have a current vale of almost \$50 billion. Some observers call these growing families of Japanese Internet start-ups funded Son and other investors "keiretsu". Others think they show a greater resemblance to the family-run industrial combines, called "zaibatsu". The "zaibatsu" started out as retail ventures and grew into large powerful groups engaged in trading, insurance, and

shipping. Many, however have coined a totally new word "Net-batsu" to describe these New Economy Japanese start-ups.

Regardless of what you call them, they are dramatically different from the traditional Japanese organization. They have the potential to bring profound changes in business cultures and society. Table "4" provides information on the investors that are funding the Japanese Internet start-ups.

	Softbank	Hikari Tsushin	Trans Cosmos	InterQ
Net Builder	Masayoshi Son, 42, president and CEO is the master Net empire builder. His conglomerate holds stakes in 300 Internet companies in the US, Japan, Europe, and other parts of Asia. Today, Softbank manages about \$4 billion in venture capital funds for global investments.	Yasumitsu Shigeta, 35, has invested in more than 70 WeBusiness or mobile Net-based ventures in Japan and the US, including Tumbleweed Communications and Phone.com. Shigeta is also developing businesses that take advantage of the growth of the Internet and mobile communications.	Koki Okuda, 63, has been making strategic investments in Real Networks, Liquid Audio, and DoubleClick. Last year his firm set up the local operations for Autobyte Japan. The company also formed a \$100 million venture with Nikko Securities last November.	Masatoshi Kumagai, 36, is Japan's newest Internet star. A high school dropout, Kumagai founded Voicemedia, a multimedia communications company. He took interQ public August 1999. In 1995, he moved into ISP services, and is now investing in promising start-ups.
Market Cap	\$180 billion	\$62.1 billion	\$11.3 billion	\$7.7 billion
Sales	\$4.5 billion	\$2.4 billion	\$454 million	\$34.3 million
Stock Price	\$1648, up 139% in 3 months	\$2009, up 25% in 3 months	\$465, up 152% in 3 months	\$630, up 128% in 3 months
Operating Profits	\$161 million (fiscal year 3/00)	\$51.5 million (fiscal year 8/99)	\$44 million (fiscal year 3/00)	\$6.6 million (fiscal year to 12/99)
Source: Business Week/March 13, 2000, page 85				

The Japanese Internet start-ups are the driving force behind the re-invigorated Japanese economy. The challenge will be for Japan to revise its rigid political and business structures to meet the needs of these start-ups. The New Economy entrepreneurial spirit in Japan, just as in the US, continues to stimulate growth.

CUSTOMER FOCUS

The rules for business in the New Economy include an accelerating shift toward the importance of the consumer. For organizations to successfully move to a customer focus requires a fundamental change in the way they conduct business. EBusiness provides the tool that allows

the organization/customer linkage. It is the force behind the rethinking of the New Economy, industry by industry. The New Economy refuses to accept the status quo and the superiority of entrenched players. Merely offering extensions of existing products or services is no longer acceptable. Rather new innovative goods and services are produced when, where, and in the amount demanded by customers. Successful organizations in the New Economy will develop a business model based on the Win/Win/Win paradigm for organizations, customers, and suppliers.

The Net now makes technology and the latest business innovation instantly available to anyone, anywhere - almost instantaneously (i.e. real-time). It has the potential to level the global playing field by speeding the flow of information. The consumer now has the power to ignore everything the vendor's business has been built on and no longer is required to go to a retail store or even buy a physical product. The customer determines what they want to buy and where it will be purchased. EBusiness is evolving at Net speed and attention to customers has never been more critical.

The New Economy puts pressure on existing industries to drive down costs and other inefficiencies while continuing to focus on the needs of customers. Organizations in the New Economy, in an unrelenting drive for efficiency, focus on core competencies and outsource other functions. Organizations continue to be "attacked" and forced to innovate and continually reinvent themselves, subject to the demand of consumers.

CONCLUSION

Customers throughout the world demand products and services tailored to their specific needs. Organizations competing in the global economy can expect these customer demands to change and evolve with time. The organizations that successfully respond to these demands have the potential to develop life-long customers with long-term loyalties.

While the Net offers organizations a global marketplace, it also creates direct competition with business from around the world. Federal Express Senior Vice President David Shoenfield explains challenges in the global arena when he says "The transition to a technology-enabled, customer-focused company is never easy, but it is a lot easier if you start out as a customer-focused and then enhance that with technology" (Stein and Sweat, 1999).

As eBusiness becomes more prevalent in global economies, the interaction with international markets will continue to bring additional challenges. Companies have to understand the unique challenges that expanding globally presents. Cultural differences, language barriers, and different customer expectations and needs are only a few of these challenges (Herkemij, 2001). As organizations move into the global arena, success or even survival may well depend upon their ability to meet these challenges.

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FINANCIAL REPORTING FOR HONG KONG CHARITIES AN UPDATE: HAVE CHANGES BEEN MADE?

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ABSTRACT

The purpose of this research was to gather information about the financial reporting practices for charitable organizations in Hong Kong. Sixty-five annual reports were examined in this study. Reports were for fiscal years ending in 1997, 1996 and 1995. Data was collected to compare to a 1997 study. The 1997 study established that Hong Kong charity accounting practices varied during the sample years, 1992-1994. After 1994, many complaints were still being heard about charity practices (Nadel, 1995). More overseas agencies were set up in Hong Kong after 1994 so competition also increased during this period. Has the increased competition and awareness improved the charity accounting practices since 1994? This study examined if the accounting practices have changed since 1994.

Accounting practices still vary greatly for charities. New regulations including permit requirements were not effective until 1999 (Johnstone, 1998). Charities should encourage the adoption of some uniform guidelines. When different financial statement presentations (i.e., cash and accrual) are used, comparisons can be very difficult. It also seems the perceived professionalism of charities is diminished when there is a great diversity in reporting practices.

There have been improvements. The firms that present a statement of cash flows have increased significantly. Depreciation is now recognized by 49% of companies as compared to 26% in 1997 study. Now many groups (38% compared to just 4%) include a statement of functional expenses as part of their financial statements. The use of alternate procedures or approaches will probably continue unless an authorized representative group mandates one method. Conflicts continue to exist between the accounting practices for charities in Hong Kong. Charities may need to increase the comparability of their respective financial statements. These issues will continue to be important to those interested in charities and their respective accounting practices. Additional research is needed to clarify some of these issues.

PURPOSE

The purpose of this research was to gather information about the financial reporting practices for charitable organizations in Hong Kong. A previous study was conducted in 1997 (Miller, 1997). The objective of the 1997 project was primarily descriptive. This 2001 study will update the charity situation but the purpose is still primarily descriptive. It may be useful for accountants in other countries to become aware of the accounting practices for Hong Kong charities. Many complaints

are still being heard about charities. For example, the Hong Kong Council of Social Services said it received 374 calls from March 1994 to December from people worried about fund-raisers (Nadel, 1995). Investigations showed 40 percent of the collectors were bogus. The true figure may be much higher. The council's hotline coordinator said she believed the problem was underestimated because many people paid without bothering to ask even the name of the fund-raising agency (Nadel, 1995).

Further improvements in the financial reporting for charities may help these types of organizations provide potential donors with a clearer view of the objectives of the respective charity. My preliminary review of actual annual reports has shown the accounting practices for charities still vary greatly. For example, many charities do not use the accrual method of accounting but some others do. This variability may make comparisons of charities' financial statements difficult and may also diminish the financial credibility of charities. Some additional background may be helpful.

BACKGROUND

In the past, the Hong Kong government had proposed requiring charities carrying out fund-raising drives for more than \$50,000 to submit audit reports (Nadel, 1995). No action was taken for many years. As of 1998, new rules were at the proposal stage pending the official passing by the Hong Kong Legislative Council. Public concern about accountability of funds raised for charities has been particularly high since 1992 when only about five percent of \$4 million made by a television show for the elderly was spent on them (Nadel, 1995). The organizer claimed the rest went on production and administration costs (Nadel, 1995). Others have claimed that millions of dollars have been used to cover charity expenses instead of going to the indicated cause (Staff, SCMP, 1997). Some have called for more scrutiny of fund-raising activities. For example, Po Lung Kuk, a charity that helps needy children, stated in 1995 that up to 70 percent of the \$300,000 collected at a Victoria Park fun day was used to pay expenditures. A spokesperson claimed that the day was only a promotion "to let people know about PoLeung Kuk, and not a specific fund-raising event" (Staff, SCMP, 1997). Some or many donors may not have been aware of this objective. As of December 1998, no specific rules existed other than some internal administrative guidelines.

Other problems have continued to be reported. In September 1998, forty groups were blackballed because these charitable groups failed to file a proper audit report. The assistant director of the Hong Kong Council of Social Services stated that some groups were not able to explain how funds were spent after collection (Wan, 1998a). As discussed, the department plans on introducing new laws to increase accountability. For example, campaigns collecting more than \$200,000 would be required to file an audit report within 180 days. (Wan, 1998b). However 2,700 groups including some churches will still be exempt from applying for a permit for each drive. Most local and overseas organisations do need to apply for a permit in advance of a specific fund-raising campaign.

There have been other problems. The director of the Hong Kong Council of Social Services has stated, "There are so many organisations with similar names out there, it's difficult to tell whether they are genuine or not" (Wan, 1998a). For example, the United Nations International Children Emergency Fund filed a writ in the Hong Kong High Court to prevent a group from calling itself the World Children's Fund as there had been inquiries from the public. In another case, the

Social Welfare Department is investigating two groups that stated they were collecting funds for the North Korean famine sufferers and mainland flood victims respectively because each group claimed the same address. Several donors had noticed the same address for the two groups (Wan, 1998a). In another case, a man was arrested in October 1998 for selling sets of McDonald's Snoopies on behalf of a bogus charity. The man claimed he was selling the sets on behalf of a charity with a name similar to the Save the Children Fund (Johnstone, 1998).

Other countries are facing similar issues. In 1993, a record number of United Kingdom charities were involved in a variety of fraudulent activities including the use of unlawful fundraising activities. Sixty percent of the cases involved inadequate management or financial controls (Sweet, 1994). In the United Kingdom, there have been improvements since 1993 in charity reporting practices. However, some charities still omit full financial accounts (Collett, 1994). In the United States, Mr. Kenneth Albrect, Head of the National Charities Information Bureau, a New York based industry watchdog has stated, "Charities are toying with the credibility and integrity of their financial statements. We have an epidemic" (Khalaf, 1992). Russy Sumariwalla, a charity accounting expert who heads United Way International has stated, "The system is not designed to honestly disclose to the donor the real picture" (Khalaf, 1992).

Before 1999, there were no specific Hong Kong laws for charity activities. As discussed later, the United States has provided some specific guidance to US charities since 1987. In 1993, Financial Accounting Standards Board (FASB) issued FASB No. 116 and 117 (discussed in international experience section). In Hong Kong before 1999, only events in public places need permits from the Social Welfare Department. The new rule proposed to take effect in 1999 requires all organisations to apply for a permit for all charitable fundraising activities. All groups will need to file a set of auditing and reporting requirements established by the Social Welfare Department (Johnstone, 1998). In the next section, some general background is provided.

HONG KONG EXPERIENCE

Hong Kong charities generally use funds donated by the public and enjoy tax-exempt status. Thus, most charities have a responsibility to clearly report how resources have been used, as the public, including potential donors, do have donation alternatives. There are officially 179 charities or Non-Governmental Organisations (NGOs) in Hong Kong (Daswani, 1998). These NGOs operate approximately 2,800 centres including homes for orphanages and for the elderly. For example, The Community Chest is one of the largest which raised \$195 million from July 1997 to June 1998 to support 140 organisations (Daswani, 1998). In 1994, only forty-eight groups applied for a permit even though there are thousands of charities in Hong Kong (Marshall, 1995). In 1995, donations that were tax deductible exceeded \$1.9 billion (Manuel, 1997). Most funds are collected privately through organized activities such as charity balls. Obviously charities are a big business in Hong Kong. Few other "business" groups have so little regulation. Some legislators have made repeated calls for such regulations but so far very little has been done. The executive director of the Hong Kong Council of Social Services, Hui Yin-Fat, has stated he has grave concerns about the lack of regulation of charities. Also he has said, "The Government says that if the rules are too stringent

it will make people reluctant to give. But people tell the very opposite, they want to know more" (Nadel, 1995).

Others have different views. A consultant for charities and donors who headed Oxfam HK for five years, Mr. Chris Bales, believes almost all charities meet or exceed their obligations to the public. He believes that tighter regulations may do a disservice to the bulk of aid groups that are honest. Too many controls would add to the charities' administration costs and burden according to Mr. Bales (Nadel, 1995). Apparently, there are different opinions on the subject.

A donor may want to know about the financial health of a particular charity so he or she will have some assurance as to its continued existence. If these assurances cannot be obtained, the donor may contribute to another charity. Charities in Hong Kong are facing greater competition from both local and overseas charities. Kay Ku Yin-kay, assistant development director of the Hong Kong Council of Social Service, has said that donation tax exemptions had attracted many well-known international fund-raising agencies, such as Oxfam and World Vision, to set up offices in Hong Kong (Kwok, 1995). Also he stated that the number of these groups is increasing so more people have to share the pool of available funds. Therefore, because of increased competition, charities may have to compete for limited resources with other charities and other non-profit entities.

At the present time there are three groups that register and monitor charities in Hong Kong. These groups are 1) The Community Chest of Hong Kong, which subsidizes various charities, 2) Council of Social Service that provides guidelines but in most cases can not enforce the guidelines, and 3) the Inland Revenue Department (IRD), which conducts random checks on the 2,402 organizations (about 2,900 in 1998) registered as nonprofits (Marshall, 1995). Some information is, therefore, available for some entities.

INTERNATIONAL EXPERIENCE

New accounting standards in other countries have been developed and these standards may be helpful as guidelines for charities in Hong Kong. In 1993, the Financial Accounting Standards Board (FASB) issued Statement No. 116, "Accounting for Contributions Received and Contributions Made" and Statement No. 117, "Financial Statements of Not-for Profit". Each statement may provide some guidelines for possible approaches to standardize and increase the comparability among charities. For example, under FASB No. 117, the following three basic statements are required, 1) a statement of financial position, 2) a statement of activities and 3) a statement of cash flows.

In the United States starting in 1987 under a new rule passed by the American Institute of Certified Public Accountants, charities are allowed to classify some fundraising costs as "educational costs" under certain situations (Khalaf, 1992). For example, almost every charitable solicitation comes with a newsletter, sticker or some other "educational" material that allows the charity's executives to deflate their reported fundraising costs. This allows the charity to decrease the ratio of fundraising costs to total contributions. Many donors have indicated that this ratio is one of the common ways a donor evaluates a charity (Khalaf, 1992).

As of 1990, there were over 175,000 charities registered with the Charity Commission in England and Wales (Charities Aid Foundation, 1990). The income for the group was approximately

fifteen billion pounds. However, there has been relatively little financial scrutiny despite the large financial activity. There has been a diversity of accounting practices that has made evaluation and comparisons among charities very difficult (Smith, 1990).

The issue of Statement of Recommended Accounting Practice 2 (SORP2) in May 1988 provides some needed guidance. The Accounting Standards Committee (England and Wales) did state it was a major attempt to "improve the quality of financial reporting within the charity sector and to reduce the diversity in accounting practice and presentation (ASC, 1988). However, the Public Accounts Committee (1988) stated that requirements were largely ignored by registered charities. Most charities still did not have audited statements (Palmer and Finlayson, 1992). The group suggested strongly that the Charity Commission should take all practical steps to make improvements. Hines and Jones (1992) concluded that there is no evidence the issue of SORP2 has influenced the UK charity accounting practices.

Researchers have studied various aspects of non-profit accounting. Evans and Taylor (1982) found only slight compliance with five non-mandatory international standards in six countries as of 1981. There have been improvements, but Nobes (1990) found no evidence that international accounting standards have had a significant influence on US corporate financial reporting. McKinnon and Jannell (1984) concluded that the International Accounting Standards Committee (IASC) has not been able to change existing standards or influence the setting of new standards.

Some research indicates that the monitoring incentives are much weaker in the nonprofits sector as compared to the for-profit sector (Zimmerman, 1977 and Evans and Patton, 1987). The cost benefit tradeoff may be different because there are more principals with a relatively smaller stake for each in the nonprofit sector. For example, members of the board of directors for nonprofits may have little knowledge about the somewhat unique nonprofit environment. Meyer (1979) discovered at that time that boards are often "composed of the established rich who are accustomed to operating with limited accountability and who have on occasion demonstrated minimal sophistication". Perhaps the situation has changed recently, but no empirical data is available at this time.

Other principals have been identified. Debtholders, government bodies and taxpayers are all possible principals for charities. Donors have also been identified as important resource providers. In some cases, individual donors may place restrictions as to the future use for their donations. These donors may not then demand public disclosure of accounting information. Groups of donors such as foundations and corporate supporters in the US may require audited financial statements in grant applications (Glazer and Jaenicke, 1991).

METHODOLOGY

The Council of Social Service in Hong Kong maintains a library of annual reports for charities. It must be noted, again, that most charities do not apply for a permit because the charities collect donations privately. Sixty-five annual reports were examined in this study. A systematic random selection process was used to select the companies for the study. Each charity had an equal chance of being selected for the study. Reports were for fiscal years ending in 1997, 1996 and

1995. The various financial variables analyzed are summarized for the sixty-five charities in the next section.

The 1997 study examined annual reports with fiscal years ending in 1994, 1993, and 1992. As discussed, many complaints are still being heard. The current study examines the period 1995 to 1997 to see if accounting practices have changed because of the increased complaints and awareness.

SURVEY RESULTS

Eight selected variables were examined for each charity annual report. The discussion is grouped according to these variables.

Cash Flow

Only twelve charities (19%) included a statement of cash flows as part of their financial statements. At the present time, a statement of cash flows is required for all companies publicly traded in Hong Kong per HK Society of Accountants Statement of Standard Accounting Practice (HK SSP) Number 15. Recently in the United States, a similar requirement was expanded to include all nonprofit organizations when Financial Accounting Standard Statement Number 117 was issued in 1993. The United Kingdom has a similar rule (FRS 3) which was issued in 1992. It will be interesting to see if charities modify their statements in the future. As discussed, only twelve charities presented a statement of cash flows. For these twelve, the amount of detail varied. Therefore, at least, twelve charities felt it was important to provide a statement of cash flows.

Balance Sheet

Sixty-four of the sixty-five charities (98%) did include a balance sheet in their respective financial statements.

Depreciation

According to standards for Hong Kong, UK and United States, fixed assets should be capitalized on the balance sheet and allocated periodically to the revenue and expenditure statement as an expenditure. Some argue depreciation is not appropriate for nonprofit organizations based on the replacement accounting concept. Under the replacement concept of accounting there should be no depreciation charges while the old asset is being used. When the old asset is replaced, depreciation would be recognized in the financial statements.

However, for the United States, this approach has not been approved and depreciation has to be recognized when the asset is being used. In 1987, FASB issued Statement number 93., "Recognition of Depreciation by Not-for-Profit Organizations" that mandated the use of depreciation. For Hong Kong, no similar statement exists at this time for nonprofit organizations. In my study, only thirty-two charities (49%) clearly indicated depreciation was recognized in their statements. Fourteen charities did not recognize depreciation and for the remaining nineteen it was

not clear what the policy was concerning the recognition of depreciation. A policy explanation was not included in the footnotes for these nineteen.

Functional Expenses

Twenty-five charities (39%) included a statement of functional expenses as part of their financial statements. If the charities would include a statement, it would probably be easier to analyze individual cost areas. Most charities show costs related to a specific program and because of this it is difficult to determine cost breakdowns. For example, it would be useful to know the functional areas such total educational costs or salary expenditures for a given period.

Educational Expenses

Six charities (9%) classified part of their expenditures as "educational". Some potential donors may want to know what percentage of each donor dollar actually goes to the specified purpose. At this time there is no requirement to disclose how much was donated and where it was spent. Possibly a charity could spend over ninety percent of the donated salaries and administration and still not violate any laws. In the United States, starting in 1987 under a new rule passed by the American Institute of Certified Public Accountants, charities are allowed to classified some fundraising costs as "educational costs" under certain situations (Khalaf, 1992). As discussed, this allows the charity to decrease the ratio of fundraising costs to total contributions. Many donors have indicated that this ratio is one of the ways a donor evaluates a charity (Khalaf, 1992). Obviously the charities are allowed to play "games" with their respective financial information. For example, in the United States almost every charitable solicitation comes with a newsletter, sticker or some other "educational" material that allows the charity's executives to deflate their reported fundraising costs and inflate the percentage they pay out to the programs they are supposed to support. In my study, only eight charities (12%) highlighted the ratio, charitable spending/total expenditures. Perhaps the financial reporting for charities could be improved if this disclosure was mandated or at least recommended.

Disclosure

Disclosure of accounting policies is a requirement for profit motivated companies in Hong Kong, United States, and the United Kingdom. The International Accounting Standards also mandate disclosure of accounting policies (IAS No. 1). However, at the present time, there is no requirement for disclosure of policies for not for profit companies in Hong Kong. In my study, fifty charities (76%) disclosed accounting policies, but the other fifteen did not have any disclosures. Again, this situation may make it difficult to compare charities.

Accrual

The accrual system of accounting is part of generally accepted accounting principles for all profit motivated companies. However only forty-three charities (67%) indicated that the accrual system was being used for their charity. For the other twenty-two, the accrual system was not being used. In most cases, the auditors for the cash basis charities probably felt the difference between the results for the accrual basis and the cash basis was not material so the use of the cash basis was not a violation of generally accepted accounting principles.

Auditors

Twenty-two charities (34%) were audited by one of the then "Big Six" accounting firms. Forty-two charities were audited by other local firms. Therefore ninety-eight percent did disclose that the financial statements were audited. It should be noted that the annual reports reviewed in some cases were several years old. The later reports were not available or the reports may not have been sent to the council.

SUMMARY

Accounting practices still vary greatly for charities. Charities should encourage the adoption of some uniform guidelines. When different financial statement presentations (i.e., cash and accrual) are used, comparisons can be very difficult. It also seems the perceived professionalism of charities is diminished when there is a great diversity in reporting practices. In addition, there may be additional regulatory pressure if present reporting practices continue. A summary of my findings follows:

	2001 Study	1997 Study
1. Firms that presented a statement of cash flow.	19%	6%
2. Firms that presented a balance sheet.	98	93
3. Firms that recognized depreciation in their financial statements.	49	26
4. Firms that included a statement of functional expenses as part the financial statements.	39	4
5. Firms that disclosed educational expenses.	9	1
6. Firms that disclosed accounting policies.	76	75
7. Firms that indicated the accrual system of accounting was being used.	67	74
8. Firms that were audited by one of the "Big Six" firms.	34	35

The percentages for most of the variables increased for the 2001 study. For example, the firms that present a statement of cash flows have increased significantly. Depreciation is now recognized by 49% of companies as compared to 26% in the 1997 study. Now many groups (38%

compared to just 4%) include a statement of functional expenses as part of their financial statements. 9% of the firms disclosed information about educational expenses. The use of alternate procedures or approaches will probably continue unless one method is mandated by an authorized representative group.

The percentages decreased for two variables. First, the number of firms that indicated that the respective charity used the accrual system actually declined from the 1997 to the 2001 study. However, those results must be interpreted carefully because as discussed some charities use the cash approach because the difference between the cash and accrual systems was not material. The percentage of firms that were audited by one of the "Big Six" decreased slightly. The small decrease is not considered significant.

Conflicts continue to exist between the accounting practices for charities in Hong Kong. Charities may need to increase the comparability of their respective financial statements. These issues will continue to be important to those interested in charities and their accounting practices. Additional research is needed to clarify some of these issues. It is to be hoped that this study has provided some helpful information for users and preparers of charity financial statements. In addition, it is hoped the project provides some insight as to the direction future research should take. Financial officers responsible for a charity's financial statements in other countries may be able to learn from the Hong Kong experience.

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A TEST OF FACTORS AFFECTING THE U.S. RICE EXPORT: AN ECONOMETRIC MODELING USING U.S. WORLD PARTNERS AND ONE MAJOR COMPETITOR

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ABSTRACT

The purpose of this study was primarily assessing how major U.S. exchange partners in rice export namely: Indonesia, Republic of Korea, Nigeria, and Canada affect the overall U.S. rice export. Thailand was also included because of its position as a major competitor of the United States. A two-Stage Least Square method (2SLS) was applied to the U.S. sub-model using historical data. Because of a simple recursive model reflected by its only major competitor namely Thailand, an ordinary-Least Square method (OLS) was applied to each relationship. In the U.S. model, wholesale price of milled rice was an important factor affecting the quantity of milled rice demanded for both food use and brewer. Price of wheat, price of corn, and per capita income were the other factors, as indicated by their significant coefficients. Estimated elasticities of milled rice were inelastic for both rice for food use and beer processing. While caution must be exercised in applying and interpreting the theory, this information is useful in international business, export opportunities and price competitiveness.

INTRODUCTION

Rice and wheat are the most important cereals used as food. In the Third World, the demand for rice has often exceeded the available domestic supply. To contend with such continued deficit, increasing quantities have to be imported from abroad. In the United States, even though rice is not a major crop for consumption, it is a major crop in international trade. Twenty-one per cent of all rice traded in the international market comes from the United States, despite a low share (1.46%) of the world production. The world's major rice producers are China, India, Bangladesh, Thailand, Burma, and Japan, all accounting for more than 78% of the total world's production (USDA reports, 1997-2002).

In the United States, there are three basic groups of rice produced; long grain (58%), medium grain (32%), and short grain (10%). Sixty percent of U.S. rice production goes to export and the remaining forty percent goes to domestic consumption. Rice for food use, one type of domestic consumption in the United States, may either be used directly or indirectly. When used directly, it includes precooked, parboiled, and brown rice. When used indirectly, it includes cereal, soup, baby food and package mixes. Rice is also used in beer brewing and livestock feeds preparation as well. U.S. rice exports are of two types; first, there are commercial rice shipments that go through business channels. Others operate through the Commodity Credit Corporation (CCC), a commercial

financing program for U.S. agricultural commodities. Second, there is the U.S. government assistance program, PL 480. Rice shipments under this program (by far the most important of the government export program) was intended to help countries lacking foreign exchange to purchase U.S. agricultural commodities and to facilitate U.S. foreign aid effort by providing donation or low interest, long term credits (USDA reports, 1997-2002).

The Third World, especially Asia has been the largest market for U.S. rice export. The U.S. grain industry is part of a worldwide system. It has always faced stiff competition from another important rice exporter, Thailand. At some point before 1972, the domestic wholesale price of U.S. rice as measured at the mills was above the world price as represented by the export price for Thai rice. In an effort to export U.S. rice to the world markets at a competitive price, the U.S. Department of Agriculture began an export plan in December 1958, through export payments. These payments represented the difference between the U.S. support price and the expected world price level. Export payments were suspended when the world price level approached the U.S. support level in 1966. They were reinstated in March 1969 and continued until December 1972. No export payment has been made since 1972. (USDA reports, 1960-1977).

METHODOLOGY, OBJECTIVES, ESTIMATION, AND DATA

The present study attempts to find out more about the structural relationships of the factors affecting the demand for U.S. rice by way of econometric modeling of the world rice trade. In estimating elasticities of the dependent variables with respect to the explanatory variables in these relationships, a better definition and understanding of these associations is expected.

The study covers the period from 1970 to 2000. Major U.S. exchange partners will be considered: Indonesia, Republic of Korea, Nigeria, and Canada. Thailand was also included because of its position as a major competitor of the United States in rice exports. The U.S. rice export economy is described by sub-models involving Thailand and the major importing countries.

The Thai sub-model includes the domestic wholesale price of Thai rice at Bangkok and the Thai export price. A series of equation describing the relationships of various factors that affect the U.S. rice import demand in the countries that are major U.S. customers is also presented. Two-Stage Least Square method (2SLS) in estimating the coefficients for all explanatory variables in the U.S. sub-model was performed. Because of a simple recursive model reflected by the Thai relationships, Ordinary-Least Square method (OLS) was applied to each relationship. In the importing countries sub-models, the export prices of the U.S. and Thailand were treated as exogenous variables when appearing in the set of explanatory variables. Because other explanatory variables beside the two export prices were also exogenous variables, OLS was applied in estimating the coefficients for each relationship in these sub-models. Whenever the error terms were autocorrelated, the Cochrane-Orcutt Iterative Method was applied to correct this problem. Finally, each elasticity was estimated at the mean of the sample data in order to evaluate the effects of factors that determine U.S. rice export quantities. Price flexibility coefficients were calculated at the mean of the sample data.

Data from 1970-2000 were collected from various sources. Some are from Agricultural Statistics, USDA; Production Yearbook, FAO; Rice Outlook and Situation, USDA; International Monetary Fund Year Book, United Nations.

ANALYTICAL FRAMEWORK	
U.S. Model	$QF = f[PM, PW, YUS]$ $QB = f[PM, PC, YUS]$ $QEUS = QPUS - QF - QB + QCUS$ $PE = f[QEUS, D1, D73]$ $PM = PE + EP$
Thailand Model	$PWT = f[YT, T, T72]$ $PT = f[PWT, QP3, D73]$
Indonesia	$QE1 = f[QCUST, QRP1, D2]$ $QRM1 = f[QCP1, QCR1, YM1]$
Korea	$QE2 = f[PE, QRP2, YM2]$
Nigeria	$QE3 = f[(PE/PT), YM3]$ $QRM3 = f[PT, YM3, QCP3]$
Canada	$QE4 = f[PE, YM4, QPP4, D61]$
<p>Endogenous Variables:</p> <p>PE = export price of U.S. milled rice PM = U.S. price, milled rice PT = export price of Thai rice PWT = Wholesale of Thai rice QB = Per capita quantity U.S. brewer rice QE_i = Per capita quantity of U.S. milled rice imported by country QEUS = Per capita quantity of U.S. milled rice exportable QF = Per capita quantity of U.S. milled rice for food use QRM_i = Per capita quantity of total milled rice imported by country</p> <p>Exogenous variables:</p> <p>D1 = Dummy variable for years which had export payment, 1970-88 and 1970-72 = 0, and 1 elsewhere D2 = Dummy variable for years that had limited P.L.480 program for rice; 1974 = 0 and 1 elsewhere D61 = Dummy variable for change in taste in Canada for U.S. imported rice D73 = Dummy variable for OPEC crisis, 1973-80 = 1, 0 elsewhere EP = Export payment for U.S. rice PC = Price of corn in U.S. QCP_i = Per capita cassava production of i-th country QCR1 = Per capita rice carryover at the beginning of the marketing year of Indonesia QCUS = Per capita rice carryover at the beginning of the marketing year of the U.S. QCUST = Total rice carryover at the beginning of the marketing year for the U.S. QPP4 = Per capita potato production for Canada QPUS = Per capita rice production of the U.S. QP3 = Average per capita rice production of the U.S. , China, and Burma QRP_i = Per capita rice production of the i-th country T = Yearly time trend T71 = Dummy variable for change in trend after 1971. Before 71 = 0, after 71 = 1 YM_i = Per capita gross domestic product of the i-th country YT = Per capita gross domestic product at 1975 price of Thai baths YUS = Per capita gross domestic product at 1975 price U.S.dollars</p>	

EMPIRICAL RESULTS

The statistical and theoretical reliability of the coefficients estimates and the sign are of major importance in the analysis. The first was evaluated based on the t-value for a one-tail test at .05 level of significance (significant when different from zero at a .05 level of significance). The signs of the explanatory variables coefficients estimate were scrutinized for consistency with supply and demand theory.

Food Use Demand

Retail price levels were not available. Wholesale price at the mill (PM) was substituted instead. In a price-dependent demand equation, the price of wheat (PW), a strong substitute for domestic milled-rice in the United States showed significance at a t-value equal to 3.120. (Table 1). Also were significant, per capita rice carryover at the beginning of the marketing year in the United States (QCUS), per capita rice production in the United States (QPUS), exports payments periods (D1), and US per capita income (YUS).

Table 1
Estimated Relationships for U.S. Model: Food Use, Brewer Rice and U.S. Export Price, 1970-2000
(per capita basis; t-values in parentheses)

I. The Estimated Equations Obtained from the First Stage of 2SLS ¹										
1	Domestic Milled-Rice Price					R ² =0.9351				
	PM = - 8.19563	+	1.85165 PW	+	0.0323 YUS	+	1.40057 PC	-	0.04580 QPUS	
			(3.120)*		(4.3)*		(0.78)		(-4.55)*	
	- 0.01965 QCUS	+	0.42495 EP	+	2.45130 D1	+	1.94638 D73			
	(-1.93)*		(0.85)		(1.740)*		(0.820)			
2	Exportable Quantity of U.S. Milled Rice									R ² =0.9949
	QEUS = -33.50964	+	0.500883 PW	-	0.00255 YUS	-	17.86986 PC	+	0.88124 QPUS	
			(0.210)		(-0.81)		(-2.54)*		(22.190)*	
	+ 0.92183 QCUS	-	2.10700 EP	-	2.91468 D1	+	19.52600 D73			
	(22.930)*		(-1.06)		(-0.53)		(2.080)*			
II. The Estimated Equations Obtained from the 2nd Stage of 2SLS										
3	Food Use									R ² =0.6395
	QF = 35.05729	-	2.01680 PM	+	7.31417 PW	+	0.00540 YUS			
			(-2.749)*		(3.531)*		(3.174)*			
4	Brewer Rice									R ² =0.7806
	QB = 0.54722	-	0.40317 PM	+	7.500 PC	+	0.0027163 YUS			
			(-1.413)**		(3.288)*		(3.982)*			
1	Unrestricted reduced-form equations									
*	p < .05									
**	p < .1									

Brewer Rice Demand

Corn grit, one of the major ingredients in beer brewing had a significant price effect. Once again, price received by farmers for corn grit is a proxy because of the lack in reporting on a continuing basis for corn grit prices at the retail level. The coefficient of price received by farmers PC ($b=7.500$) indicates a significant effect ($t=3.288$) on the demand for brewer rice. However, a change in the milled rice price (PM) had only a minor effect on the quantity of brewer rice demanded (Equation 4, Table 1). This is probably because corn grit is a major ingredient in beer brewing. Finally the other important factor is per capita income.

U.S. Export Price Level

Two economic factors appear to affect the U.S. export price level, the exportable quantity of U.S. milled rice and OPEC (Organization of Petroleum Exporting Countries) as indicated by the dummy variable D73, created to show the impact of the OPEC crisis of the 1970's (Equation 5, Table 1).

Thailand Model

This model was exactly identified because the relationships of the model were recursively determined. Ordinary Least Square estimators of the structural coefficients are consistent with the theory because each relationship is in reduced form. The coefficient estimate refers to the total effect of change in any exogenous variable on a dependent variable of interest. The wholesale price level of milled rice at Bangkok (PWT) is affected by per capita income in Thailand. OPEC also had a significant effect showing its leverage on wholesale price of milled rice in Thailand (for dummy variable D73, $t=3.932$). The variable T, for yearly time trend was not significantly different from zero. Its negative coefficient appears to indicate that wholesale price was decreasing until 1973. PT, the export price of the Thai rice is affected by two important factors; the wholesale price level (PWT) at Bangkok and rice production of the major exporters as represented by the average per capita rice production in the U.S., China and Burma (QP3). The positive coefficient of wholesale price indicates that the Thai export price has been changing in the same direction as the change in wholesale price while QP3 had a negative effect.

Importing Countries Models

Indonesia

Despite its position as a major rice producer, Indonesia stands as one of the biggest rice importers in the world. Thailand and Burma are its main sources. In settling the total quantity of rice imported (QRM1), per capita rice carryover (QCR1) of Indonesia at the beginning of the crop year, the per capita income YM1 and domestic per capita cassava production of Indonesia (QCP1) were significant components. Per capita income had a positive effect as indicated by the positive

coefficient outcome, while the domestic per capita cassava production shows a negative effect on total imported rice. This confirms the role of cassava products as good substitutes for rice. It is obvious as well that per capita Indonesian rice production determines the quantity of rice imported from the United States (QE1). Indonesia had a contract to purchase rice from Asian countries based on its rice carryover at the beginning of the crop year and the expected rice production in the country. Although current own rice production was not statistically significant in ascertaining the Indonesian rice import from the world, it remained significant in determining imports from the United States. Between 1963 and 1969, 0 to 60% of the total imported rice in Indonesia was from the United States. Accurate estimations are sometimes difficult to do because of fluctuating purchases made from Asian countries. Rice import from Asian countries was omitted from the set of explanatory variables for rice imported from the United States because of data limitations. This may have resulted in the low R-square of .56. Another factor explaining the variation of QE1 is the total U.S. rice carryover (QCUST). Indonesia was under P.L.480 program and QCUST is the major factor that determines the quantity of rice available for this program. Total U.S. carryover's coefficient was positive as expected and statistically significant.

Table 2
Estimated Relationships for U.S. Model: Food Use, Brewer Rice and U.S. Export Price, 1970-2000
(per capita basis)

5	U.S. Export Price PE = 11.9098	-	0.01722 QEUS (-1.758)*	+	2.01161 D1 (1.7)*	+	13.720123 D73 (6.835)*	R ² =0.8343
*	p < .05							
**	p < .1							

Table 3. Estimated Relationships for Thailand Model: Wholesale, Price at Bangkok and Thai Export Price, 1970-2000

1	Wholesale Price at Bangkok PWT = 10.534974	+	0.00021 YT (1.649)*	-	0.10312 T (-0.847)	-	1.46825 T72 (-0.766)	+	6.55616720123 D73 (3.322)*	R ² =0.8229
2	Thailand Export Price PT = 11.70833	+	0.5126 PWT (1.880)*	-	0.06874 QP3 (-2.14)*	+	7.94316 D73 (3.28)*	R ² =0.7862		
*	p < .05									
**	p < .1									

South Korea

Most imported rice in South Korea comes from the United States, more than half under P.L.480 programs. Therefore, the U.S. export price is not an important factor in determining the quantity of imported rice. Even though the sign of U.S. export price was negative as demand theory would suggest, its coefficient was not significantly different from zero. Rather, significant factors

were per capita domestic rice production (QRP2) and per capita income (YM2). The negative sign of rice production and the positive sign of per capita income were as expected. After applying OLS to this relationship and obtain the first round estimates (Equation 1, Table 5), the error term indicated autocorrelation, a violation of OLS assumptions.

Table 4. Estimated Relationships for Indonesia Model: Rice imported from the U.S., and total rice imported, 1970-2000

1	Imported from the United States						$R^2=0.5618$
	QE1 =	-10977.1	+ 0.341944	QCUS -	1.90105	QRP1 -	12728.27 D2
			(3.954)*		(-0.6123)		(0.00)
2	Total Rice Imported						$R^2=0.7862$
	QRM1 =	2656.183	- 1.0075	QCR1 -	0.18362	QCP1 -	010478 YM1
			(-2.985)		(-2968)		(8.653)
*	p < .05						
**	p < .1						

Table 5. Estimated Relationships for South Korea Model: Rice Imported from the U.S., 1970-2000 (per capita basis)

The First-Round Estimated Relationship of Rice Imported from the United States							$R^2=0.8075$
1	QE2 =	1592.73132	- 3.30451	PE +	0.33346	YM2 -	8.27815 QRP2
			(-0.669)		(4.039)*		(-6.413)*
The Autocorrelation Relationship of the Error Terms et-1							
2	et =	-0.38289	t-1				
			(-1.435)**				
The Final Estimated Relationship							$R^2=0.8704$
3	QE2~ =	2284.0~	- 3.77072	PE~ +	0.34559	YM2~ -	8.59416 QRP2~
			(-0.977)		(5.262)*		(-7.739)*
where QE2~ = QE2 - QE2t-1 PE~ = PE - PEt-1 YM2~ = YM2 - YM2t-1 QRP2~ = QRP2 - QRP2t-1							
		(-0.38289)		(-0.38289)		(-0.38289)	(-0.38289)
	2284.0~ = b0 [1-(-0.38289)] where b0 is the true intercept.						
The relationship of the normal data should look as follows:							
4	QE2 =	1651.6136	- 3.77072	PE +	0.3456	YM2 -	8.5942 QRP2
	where 1651.6136 = 2284.0/[1-(-0.38289)]						
*	p < .05						
**	p < .1						
For methodology, see Appendix Table 1.							
~ Transformed variables given autocorrelation of the error terms.							

To correct and secure a non-autocorrelated error term structure, the original data was transformed by using the estimated autocorrelation coefficient (-0.38289). OLS was then applied to the transformed data to obtain the second-round coefficient estimates and the second-round error terms. The estimated autocorrelation coefficient of the second-round error terms was almost the same as the first-round error terms', i.e., the estimate of the autocorrelation coefficient was converted. This process of estimating the autocorrelation coefficient of the error term and the transformation were by Cochrane-Orcutt Iterative Method. (for a summary see Appendix 1). Therefore, the estimation process stopped after OLS was applied to the first round transformed data (Table 5).

Table 6. Estimated Relationships for Nigeria Model: Rice Imported from the U.S., and Total Rice Imported 1970-2000 (per capita basis)

Rice Imported from the United States					$R^2 = 0.9045$
1	QE3	=	70.19679 - 85.29768 (PE/PT) + 141.38337 YM3		
			(-4.589)* (13.188)*		
The Linear Relationship of the Rice Imported from the U.S.					
2	QE3	=	-28.816475 - 7.25144 PE + 8.41745 PT + 141.3833 YM3		
Total Rice Imported					$R^2 = 0.9045$
3	QRM3	=	54.94535 - 0.22114 PE + 11.22370 YM3 - 0.360 QCP3		
			(-4.394)* (9.009)* (13.188)*		

* $p < .05$

** $p < .1$

Table 7. Estimated Relationship for Canada Model: Rice Imported from the U.S., 1970-2000 (per capita basis)

QE4	=	15.65958	-	0.01877	+	0.00319 YM4	-	0.03606 QPP4	+	32.87821 D61	
				(-0.66)		(4.274)*		(-0.296)		(11.554)*	
$R^2 = 0.9411$											

* $p < .05$

** $p < .1$

Nigeria

Per capita income is an important factor in rice import as indicated by the positive and significant coefficient of per capita income (YM3) in the rice imported from the United States (Equations 1 and 3, Table 6). Thailand is a major competitor of the United States in Nigeria's rice market and is also a major rice supplier to this country as shown by the high t-values of the price ratio (PE/PT) and Thailand export price (PT) coefficients (Equation 1 and 3, Table 6). Cassava is

a good substitute for rice in Nigeria as it was in Indonesia. A change in domestic per capita cassava production (QCP3) had a significant negative effect on the quantity of rice imported.

Since the price ratio (PE/PT) between the U.S. export price and the Thailand export price does not show the effect of each individual variable, the price ratio was linearized as suggested by Klein to determine the separate effect of PE and PT on rice imported from the U.S. (see Appendix 2).

Canada

The United States is the only rice supplier to Canada. Rice imported by Canada are both rough rice (paddy rice) and milled rice but only the latter is included in this study. Per capita income (YM4) is the only economic variable in the set of explanatory variables that had a significant effect on the quantity of rice imported. Neither the U.S. export price nor the Canadian per capita potato production (QPP4) had any effect as indicated by the non-significance of their respective coefficients. Wheat was tested as a substitute good for rice but the coefficient was positive. This may imply that wheat is not a substitute for rice in Canada. While per capita wheat production was increasing over time, per capita rice imports also showed increasing trends. Per capita wheat production was dropped from the equation. Another variable in the equation is the dummy variable D61 expressing change in taste.

Elasticities of Demand and Price Flexibility

In measuring the effect of change in each explanatory variable on the dependent variable of interest, the elasticity of demand and or the price flexibility coefficient were calculated at the mean. Commonly, price flexibility is a measure of the market price's response to a change in quantity available (%change p/% change q). It was attempted in the present study to investigate the change in price associated with variables other than quantity (i.e. income and other prices). Price elasticities of demand for food use and brewing use in respect to milled rice in the U.S. model were as follows:

$$(\partial QF/\partial PM) \times (PM/QF) \quad \text{and} \quad (\partial QB/\partial PM) \times (PM/QB).$$

These elasticities were calculated from the coefficient estimates of the milled rice price (PM) in the structural equations. This was made possible because the other explanatory variables (PW, YUS, and PC) in the two U.S. equations are exogenous variables. The "ceteris paribus" condition applies here. Price flexibility coefficient for the U.S. exports with respect to the exportable U.S. rice is $(\partial PE/\partial QEUS) \times (PE/QEUS)$. The price flexibility coefficient of the wholesale price for the Thai rice with respect to per capita income is $(\partial PWT/\partial YT) \times (YT/PWT)$. The price flexibility coefficient of the Thailand export price with respect to wholesale price of Thai rice and the per capita rice production of the other major price exporters are $(\partial PT/\partial PWT) \times (PWT/PT)$ and $(\partial PT/\partial QP3) \times (\partial QP3/PT)$. For the importing countries, price elasticities for imports with respect to U.S. and Thailand export prices are $(\partial QEi/\partial PE \times PE/QEi)$, $(\partial QEi/\partial PT) \times (PT/QEi)$ and $(\partial QRMi/\partial PT) \times (PT/QRMi)$. The ceteris paribus condition also holds in this case since the other explanatory

variables are all exogenous variables and both export prices were treated as predetermined variables. Other elasticities computed are elasticities of demand of the importing countries, income elasticities and elasticities of substitution between rice and other crops:

Income elasticities of demand for food use and brewer rice are:	$(\partial QF/\partial YUS) \times (YUS/QF)$ and $(\partial QB/\partial YUS) \times (YUS/QB)$;
Cross elasticities of demand between rice and wheat are:	$(\partial QF/\partial PW) \times (PW/QF)$;
Cross elasticities of demand between rice and corn are:	$(\partial QB/\partial PC) \times (PC/QB)$.

Because the value of the milled rice price was determined by other endogenous variables and could not be held constant, cross elasticities of demand between rice and corn could not be calculated unless restricted reduced form equations of the U.S. model were estimated (see Appendix 3). The price elasticities of demand for food use and brewer rice with respect to milled rice price were estimated to be $-.3071$ and $-.2278$ respectively. That is a 1% change in rice price was associated with opposite directional changes of $.3071$ and $.2276\%$ in the quantities of milled rice demanded for food use and beer brewing respectively. The milled rice demand for both food and brewer use were found to be inelastic (Table 8). The income elasticities of milled rice demand for food use and beer were $.3558$ and $.6989$ respectively showing that milled rice in the U.S. was a normal good. The estimated cross-price elasticities of milled rice demand for food use and beer with respect to wheat and corn prices were $.5130$ and $.4981$ respectively. Thus, wheat was a substitute for rice in food uses and corn was a substitute ingredient for rice in brewing beer as indicated by the positive signs of both elasticities (Table 8). The response of U.S. export price to change in the quantities of U.S. exportable rice was measured by the price flexibility coefficient of PE, estimated to be $-.3218$ (Table 8). Therefore changes in U.S. exportable rice had a proportionally small impact on the export price.

Table 8. Elasticities of Demand and Price Flexibility Coefficients for the United States

Endog. Var	PM	PW	PC	YUS	QEUS
QF	-0.3071	0.5130	-	-	-
QB	-0.2278	-	0.4981	0.6089	-
PE	-	-	-	-	-0.3218

Table 9. Price Flexibility Coefficients for Thailand

Endog. Var	PM	PW	PC
PWT	1.7746	-	-
PT	-	0.4017	-0.6335

Thailand

The price flexibility of the wholesale price of milled rice at Bangkok with respect to per capita income is 1.7746. This means that a one percent change in income is associated with a same directional change of 1.7746 percent in the wholesale price of milled rice (Table 9). This is likely so because rice is a necessary food for Thailand. The demand for rice with respect to price is inelastic in Thailand. The Thai export price with a price flexibility of .4017 is not very responsive to the domestic wholesale price as a 1 per cent change in domestic wholesale is associated with a same directional change in export price of 0.4017 percent. The Thai export is also affected by the ability to export by the U.S. and the main Asian producers (China and Burma) as represented by the average per capita rice production for those countries (QP3). The price flexibility coefficient of the Thai export with respect to QP3 is -0.6335.

Importing Countries

Price elasticities of demand with respect to U.S. export price were -0.0051 for Canada and -0.2782 for Korea, two countries for which the United States is a major rice supplier. For the rest of the countries studied (Indonesia and Nigeria), the United States is not the only major supplier of rice (Table 10). The effect of a change in the U.S. export price on the quantity of U.S. rice imported is almost equal to the effect of a change in the Thai export price on the U.S. rice imported for each country but in different direction. It appears that the estimated price elasticities of U.S. with respect to U.S export price were elastic in countries where U.S. had major competition.

For Nigeria, the absolute value of total rice import demand with respect to Thailand export price was greater than one, making it elastic. Income elasticity of demand for U.S. milled rice was 3.0369 for Nigeria while income elasticity of demand for total rice import for the same country was -2.9535.

Elasticity of Substitution for Rice

The responsiveness of total imported rice to the change in domestic cassava production was tested to measure the degree of substitution of cassava for rice in two countries. Since its elasticity of substitution was -48.2258, cassava was found to be an important substitute for rice in Nigeria. This primarily reflects how cassava is the most important staple food in Nigeria. Cassava is also a good substitute for rice in Indonesia as indicated by its elasticity of substitution (-1.466). For Canada, the elasticity of substitution of potatoes for rice was measured by the percentage change in total rice imported with respect to one percent in per capita potato production. Potato showed only a small degree of substitution for rice in Canada as indicated by the small -0.0849 elasticity of substitution value.

Table 10. Elasticities of Demand and Substitution for Importing Country Models

Country	Endo. Var	PE	PT	YM	QRP	QCP
Indonesia	QE1	-	-	-	-1.8120	-1.4666
	QRM1	-	-	0.6237	-	-
Korea	QE2	-0.2782	-	0.9208	6.5937	-
Nigeria	QE3	-7.1446	7.1445	3.0369	-	-
	QRM3	-	-2.299	-	-	-48.23
Canada	QE4	-0.0051	-	0.2826	-	-

CONCLUSION

The present paper attempted to identify, measure and evaluate the effects of the factors that determine the quantities of U.S. milled rice imported by some of the major customers of the United States. Models were developed for these countries, as well as for Thailand, the U.S.' prime competitor in the world rice markets. Emphasis was placed on assessing the impact of Thai exports quantities and export prices. The United States rice export economy was identified using a system model which includes submodels for the U.S., Thailand and importing countries. Thai rice is scrutinized for export policy making in the United States because Thai export prices were hypothesized to be an important factor affecting rice exports in the United States. The establishment of both domestic wholesale price and export price of Thai rice formed a recursive model. The OLS method was applied to estimate the coefficients of the explanatory variables in the submodel. For the importing countries, the export prices of both the U.S. and Thailand were treated as given factors for these countries because both prices were affected by the factors within their model. Also, the OLS method was applied. Elasticities of demand and price flexibility coefficients were calculated at the mean of the sample data. In the U.S. model, wholesale price of milled rice was an important factor affecting the quantity of milled rice demanded for both food use and brewer. Price of wheat, price of corn, and per capita income were the other factors, as indicated by their significant coefficients. Estimated elasticities of milled rice were inelastic for both rice for food use and beer processing. In the U.S. model, export price was determined by factors within the U.S., i.e, rice production, carryover, and domestic consumption. In the Thailand submodel, the per capita income of Thailand had a positive effect on the variation of wholesale price of Thai rice. In turn the wholesale price was found to be a significant factor affecting the export price for Thailand. However, Thai export price was also influenced by external factors, i.e, the rice production in the U.S., China, and Burma. Any increase in these countries tended to depress Thailand export price. For the importing countries, Thailand was found to be the major competitor of the U.S. as indicated by the positive and significant effect on the quantities of U.S. rice imported by these countries in association with an increase in Thai export price. Per capita income was a primary factor affecting rice imports. Cassava showed a high degree of substitution for rice in Nigeria and Indonesia as indicated by the significant effect of a change in per capita cassava production on the total quantity

of rice imported. Potato was not a good substitute for rice in Canada as indicated by a non-significant effect of a change in per capita potato production on the quantity imported (elasticity of -0.0849). Finally the elasticities of U.S. milled rice demand with respect to U.S. export price were inelastic for Korea and Canada but elastic for Nigeria. For Canada, price was not a significant factor affecting quantity of rice imported, i.e., the price elasticity was -0.0051.

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Appendix 1. Transformation Process Given Autocorrelation of the Error Term

Given the simple regression model

$$y_t = b_0 + b_1 x_t + e_t$$

and

$$e_t = \tilde{n} e_{t-1} + u_t$$

where

y_t = dependent variable
 x_t = independent variable
 e_t = error term of regression model
 b_i = parameter, $i = 0, 1$
 \tilde{n} = first-order autocorrelation coeff., $\tilde{n} < 1$
 u_t = error term of autoregressive model

The transformed dependent variable:

$$y_t^* = y_t - \tilde{n} y_{t-1}$$

$$y_t^* = (b_0 + b_1 x_t + e_t) - \tilde{n}(b_0 + b_1 x_{t-1} + e_{t-1})$$

$$= b_0 (1 - \tilde{n}) + b_1 (x_t - \tilde{n} x_{t-1}) + (e_t - \tilde{n} e_{t-1})$$

$$y_t^* = b_0^* + b_1^* x_t^* + u_t$$

The relationship between the parameters of the original data (b_i) and the parameters of the transformed data (b_i^*) are as follows:
 $b_0^* = b_0 (1 - \tilde{n})$ or $b_0 = b_0^* / (1 - \tilde{n})$ and $b_1^* = b_1$.

This transformation process can be applied to a multiple regression model.

Source: Neter, John et al. Applied Linear Statistical Model, Dec. 1973, pp. 361-62

Appendix 2. Estimated Restricted Reduced-form Coefficients for the U.S. Model

Endog.	Exogeneous Variables of the U.S. Model				
	Intercept	PW	YUS	PC	QPUS
QF	10.8113	7.0703	0.0051	-0.2500	0.0333
QB	-4.1997	-0.0487	0.0027	7.4500	0.0076
QEUS	-6.5116	-7.0216	0.0078	-7.2000	0.9600
PE	12.022	0.1209	0.0001	0.1240	-0.0165
PM	12.022	0.129	0.0001	0.1240	-0.0165
	QCUS	D1	D73	EP	
QF	0.0333	-3.8955	-26.5635	-1.9361	
QB	0.0067	-0.7787	-5.3102	-0.3870	
QEUS	0.9600	4.6742	31.8737	2.3232	
PE	-0.0165	1.9315	13.1711	-0.9600	
PM	-0.0165	1.9315	13.1711	-0.9600	

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