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Editorial Note

A number of scholarly papers were presented at the 2008 International Academy of Business Disciplines Conference in Houston, Texas. Some of those papers were selected for a second round of review for possible publication in the *JIBD*. Upon completion of the review process, the editorial board members recommended a small collection of the high quality papers for publication in the fall 2008 issue of *JIBD*, which is presented to educators and practitioners throughout the Global Earth.

I would like to express my appreciation to the President of Frostburg State University, Jonathan Gibralter; Dean of FSU*Business* at Frostburg State University, Danny Arnold; Board of Directors of IABD; and my distinguished colleagues who served on *JIBD* Editorial Board, for making this publication possible.

My special thanks to Kathleen O'Connor, editor; Louis Falk, web coordinator; Reza Eftekharzadeh, IABD VP for Administration; and Robert Page, managing editor for their outstanding contribution towards completion of this task.

The Editorial Board members and I hope that you enjoy reading this issue. We will continue our commitment to publishing high quality scholarly papers in the future issues of *JIBD*.

Ahmad Tootoonchi, Chief Editor
Journal of International Business Disciplines

Contents   Volume 3, Number 1, November 2008

THE ANTECEDENTS AND CONSEQUENCES OF UTILIZATION IN INTERNATIONAL STRATEGIC ALLIANCES

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ABSTRACT

In this conceptual paper, the authors examine the postinternational strategic alliance establishment process by focusing on the interrelationships surrounding utilization as a resource coordinating activity. As the antecedents of utilization, they have gleaned from the literature four communication variables (i.e., formal, informal, competitive, and cooperative communications). Employing as a theoretical foundation the resource-based view of the research stream on strategic alliances, they have developed a conceptual model that depicts the influences of the four communication variables on utilization and, subsequently, on international strategic alliance (ISA) performance. They have also constructed a 2x2 table to illustrate the impact of these variables on utilization when they interact. In this paper, the authors seek to fill a research gap that is rich in evaluating the beginning and the end of the ISA operation, yet is very poor in studying the post-ISA establishment process. Using the derived model, the authors generate propositions and discuss conclusions and future research directions.

INTRODUCTION

International strategic alliances (ISAs) have helped firms achieve numerous competitive advantages in the global business environment. Some of these benefits include (a) expanding the firm's market base by entering new markets, (b) acquiring unique and cheap resources (new technology or labor), developing new products, and improving overall operational effectiveness. These tangible advantages have prompted numerous firms to engage in these fruitful cross-border alliances (Inkpen & Beamish, 1997; Kang & Sakai, 2000; Kaufmann & O'Neill, 2007; Simonin, 2004; Voss, Johnson, Cullen, Sakano, & Takenouchi, 2006; Wahyuni, Ghauri, & Karsten, 2007), while scholars continue to explore ISA viability.

Diverse research streams have been explored to better understand design issues, operation factors, and their overall performance (Gulati, 1998; Reus & Ritchie III, 2004; Robson, Spyropoulou, & Al-Khalifa, 2006; Rodriguez, 2005; Wong, Tjosvold, & Zhang, 2005). However, the literature has focused on the beginning and ending operational stages of the ISA, neglecting to examine

fully the middle operational stages of the ISA (Dyer, Kale, & Singh, 2001; Reuer, 2000). Little attention has been given to how ISA partners should develop their relationship after the ISA is created, especially how they should cooperate to effectively manage resources contributed by each partner to achieve each partner's alliance objectives (Reuer, 2000). The current ISA research on the dynamics of the postformation, alliance process and how the process affects ISA performance are limited (Das & Teng, 2000; Doz, 1996; Reuer, Zollo, & Singh, 2002).

To fill the research gap addressed above, the authors first develop the concept of utilization, which presents the resource management process after an ISA is formed. Second, they examine a subsequent investigation of the effects of utilization on ISA performance. Third, they employ the concept of utilization as the focus variable in delineating the post-ISA formation processes. Fourth, they present the theoretical and conceptual model illustrating the antecedents (i.e. communication dimensions) and consequences (ISA performance) of utilization. Fifth, to explore the robustness of the concept of utilization, they address the impact of moderating variables (cultural sensitivity and technological turbulence) on the utilization and ISA performance relationship. Finally, they derive their propositions pertaining to the relationships between and address conclusions and future research directions.

LITERATURE REVIEW

A strategic alliance is usually developed through cooperative and collaborative strategies between the partners after the alliance is initially formed (Arino & de la Torre, 1998; Teng & Das, 2008; Wong et al., 2005). A firm's primary motivation for engaging in a strategic alliance is to obtain the resources that it needs but lacks. Successful ISA partnerships allow the participating firms to capitalize on the resources that their partners bring to the table (Luo, Shenkar & Gurnani, 2008; Oliver, 1997; Simonin, 2004). To accomplish a successful ISA operation, ISA partners are required to recognize, share, exchange, and learn about each other's resources. The processes of sharing, exchanging, and learning require ISA partners to communicate effectively to successfully manage pooled resources to achieve their alliance objectives (Griffith & Harvey, 2001; Tucker, Meyer, & Westerman, 1996; Robson et al., 2006). However, the current ISA research lacks an investigation of the processes of resource aligning or coordinating between partners after an ISA initiation hinders the understanding of post-ISA formation process and its effects on ISA performance (Berdrow & Lane, 2003; Robson, Leondidou, & Katsikeas, 2002; Wahyuni et al., 2007). The resource-based view of strategic effectiveness provides a theoretical foundation for this phenomenon.

THE RESOURCE-BASED VIEW

According to the Resource-Based View (RBV), each firm has a bundle of idiosyncratic and heterogeneous resources that bring the maximum value to it through their optimal deployment (Das & Teng, 2000; Hoskisson, Hitt, Wan, & Yiu, 1999; Wernerfelt, 1984). However, these resources and their subsequent deployment might not be sufficient to achieve a competitive advantage in global markets. Therefore, each firm will attempt to form ISAs to acquire the resources it lacks by which unique resources of each firm can be combined, resulting in above-average economic returns and a sustainable competitive advantage to the firm (Ireland, Hitt, & Vaidyanath, 2002; Oliver, 1997; Wahyuni et al., 2007).

After an alliance is formed, each partner firm should continuously contribute its tangible or intangible resources to the alliance to achieve its alliance objectives. The coordinated pooling, deployment, and use of the resources provided by each partner become essential in fully utilizing the resources available within the alliance (Das & Teng, 2000; Oliver, 1997). To obtain the maximum benefits of the alliance, partner firms should effectively combine, share, transfer, and exchange resources (Barringer & Harrison, 2000). In other words, alliance partners need to develop the processes of effectively utilizing the resources contributed by each partner to achieve their alliance objectives. Therefore, the effective utilization processes of the resources will provide resource-constrained partners with chances to create value-development activities and to improve their strength against the impact of the uncertain external environment (Varadarajan & Cunningham, 1995). This is accomplished through the utilization of resources contributed by each partner firm.

UTILIZATION

Applying the above arguments about the RBV, utilization is defined as the extent to which alliance partners undertake coordinating activities to capitalize on the resources contributed by each partner to accomplish the strategic objectives of the alliance in the target markets (Choi, 2004). Utilization comes from one partner understanding the strengths and weaknesses of the other partner, thereby allowing the partnership to maximize its pooled resources effectively. The knowledge and skills of each partner are used to exploit market opportunities, carry out various alliance strategies, and generate a substantial profit. Utilization is not merely the retrieval of integrated resources to take advantage of new opportunities. It is the ability of an alliance to effectively harness and deploy resources to implement successfully its market strategy (Moorman, 1995). Moreover, the execution of new strategies sustains the competitive edge that these opportunities present.

The importance of utilization in the ISA cannot be understated. When alliances effectively utilize the partnership's resources, they can execute efficient strategies that lead to increased performance. Thus, utilization becomes one of the key indicators of alliance capabilities that help an alliance remain competitive in the marketplace (Das & Teng, 2000; Majumdar, 1998). Thus, utilization is employed as the key variable in the ISA resource utilization model.

THE ISA RESOURCE UTILIZATION MODEL

International strategic alliances are formed to take advantage of resource sharing. Together, the allies enjoy a truly symbiotic relationship while projecting a more synergistic existence. Significant increases in the chance of mutual survival, performance, and profitability underscore the importance of these alliances to the international landscape. Thus, we have now delineated a conceptual model to guide future empirical inquiry of the interrelationships of many important factors of this paradigm (see Figure 1).

COMMUNICATION FACTORS AS ANTECEDENTS OF UTILIZATION

Communication has been recognized as one of influential factors that can be effectively employed to strengthen the bond of interorganizational partner relationships (Anderson & Narus,

1990; Gassenheimer, Baucus, & Baucus, 1996; Tucker et al., 1996; Walker & Reukert, 1987). Communication is the key variable that allows interorganizational partners to facilitate mutual interactions, and information sharing and gathering (Harrison & Doerfel, 2006). In other words, communication provides opportunities for alliance partners to learn from each other and to coordinate their activities to develop and maintain a viable relationship (Yavaş, Eroğlu, & Eroğlu, 1994; Robson, Leonidou, & Katsikeas, 2006). Thus, ISA partners can accomplish and sustain a satisfactory alliance relationship through developing effective communication strategies (Griffith & Harvey, 2001; Mohr, Fisher, & Nevin, 1996). To demonstrate the possible impact of communication on utilization, we introduce two distinctive communication dimensions—frequency (formal and informal) and type (cooperative and competitive)—with four communication variables. We then explore how the four variables influence utilization.
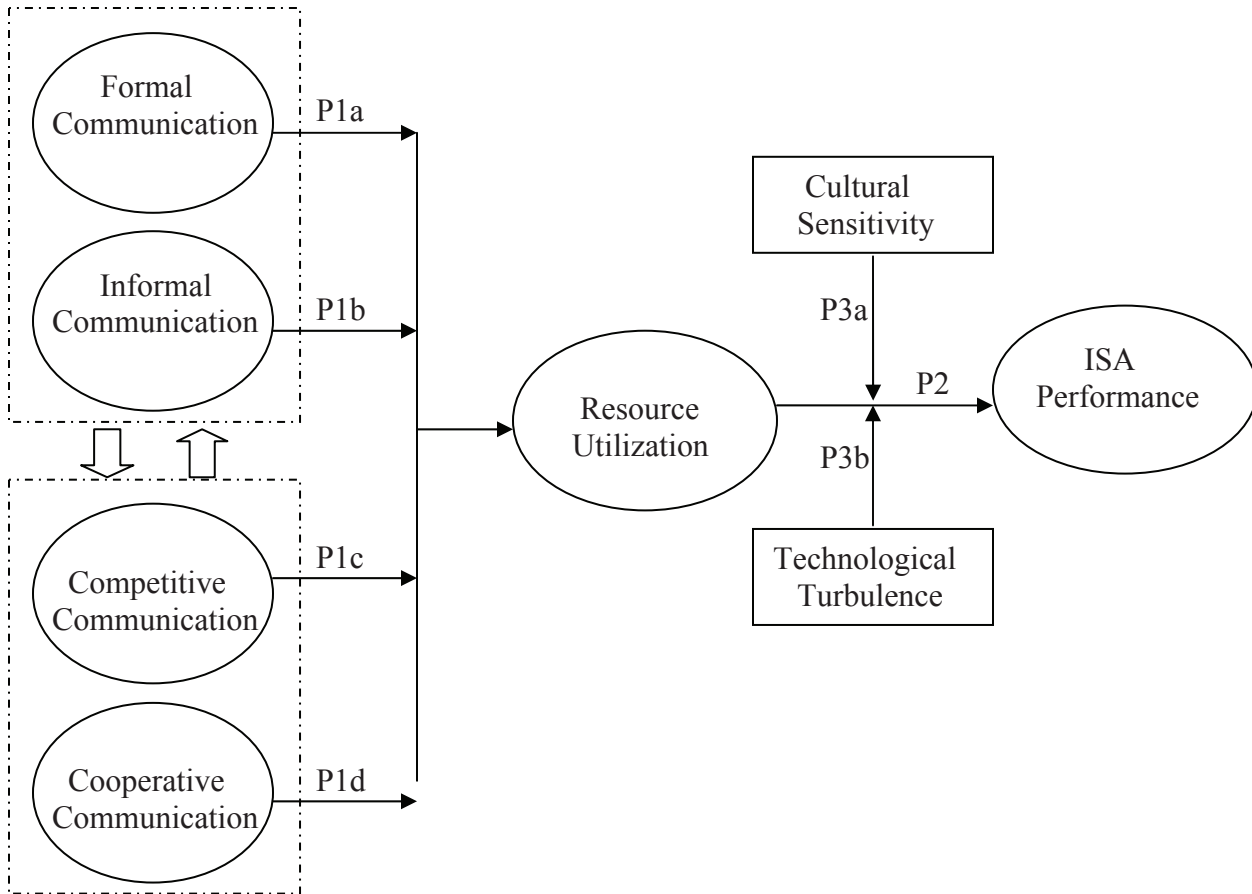
FIGURE 1: THE ISA RESOURCE UTILIZATION MODEL

Formal communication is the extent to which communication flows through written, formal rules and standardized procedures between alliance partners (Walker & Ruekert, 1987). Formal communication reduces role conflict and the ambiguity of channel members (Mohr & Nevin, 1990) and guards against alliance partner opportunism (Dahlstrom & Nygaard, 1999). Thus, it results in a higher bonding between the partners through which the exchange and sharing of knowledge can be facilitated (Tucker et al., 1996). Formal communication also provides opportunities for alliance partners to align their perceptions and expectations and to promote integrative argument, which builds a trusting alliance atmosphere (Li, Zhou, Lam, & Tse, 2006).

P1a:　Formal communication is related positively to the utilization of resources in the international strategic alliance.

Informal communication is defined as personalized and spontaneous communication between alliance partners, commonly called "hall talk," "word-of-mouth" news, or news heard "through the grapevine," or forms of ad hoc communication (Mohr et al., 1996). Informal communication can provide more opportunities for each interfirm partner to adjust to the needs of its counterpart (Heide & Miner, 1992; Walker & Ruekert, 1987). However, this type of communication often leads to misperceptions and misunderstandings between ISA partners. Informal communication is filled with "culture-specific" sayings, jargon, and clichés. It might reduce the credibility of any knowledge communicated between interorganizational partners (Maltz, 2000). When different business practices, distinctive cultures, and varying alliance objectives exist (Rodriguez, 2005), informal communication can create an environment in which one partner demonstrates that it has the knowledge to operate in a particular cultural environment, while the other partner might feel culturally isolated. Informal communication is necessary, but it is not necessarily a sufficient condition for promoting a reliable atmosphere in the ISA (Fisher, Maltz, & Jaworski, 1997). Therefore, although informal communication might increase the understanding of the partners, its undesirable effects might outweigh its benefits in ISA operations.

P1b:　Informal communication is related negatively to the utilization of the resources in the international strategic alliance.

Competitive communication is the extent to which alliance partners express or interchange ideas with each other (Harrison & Doerfel, 2006; Wong et al, 2005). Therefore, to achieve its own goals first at the expense of others, an alliance partner might not provide relevant and necessary information or resources to its partners (Tjosvold, Morishima, & Belsheim, 1999). When alliance partners employ a competitive communication strategy, they put the achievement of their personal goals as a priority, which discourages positive interactions with their partners (Harrison & Doerfel, 2006). Such communicative behavior does not support the development of quality relationships and might cause conflict among alliance partners (Wong et al., 2005). Thus, competitive communication is likely to set a tone of deceit, suspicion, and mistrust among alliance partners (Tjosvold & Wong, 2000).

P1c:　Competitive communication will be related negatively to the utilization of the resources in the international strategic alliance.

Cooperative communication is the extent to which alliance partners jointly engage in sharing goals and efforts (Harrison & Doerfel, 2006). This communication strategy involves reliance on mutual support and respect to promote integrative solutions using open and accurate information and resource exchange (Alexander, Schul, & McCorkle, 1994; Tjosvold et al., 1999). In cooperative communication atmospheres, alliance partners feel that their goals are connected with each other; thus, they can enhance interactions because doing so is in their own self-interest (Wong et al., 2005). Cooperative communication facilitates their mutual efforts to reach their goals and begets supportive and empathetic communication interactions between alliance partners (Harrison and Doerfel, 2006). Cooperative communication helps to build a more reliable and trusting environment for ISA partners.

P1d: Cooperative communication will be related positively to the utilization of the resources in the international strategic alliance.

INTERACTIVE EFFECTS OF COMMUNICATION FACTORS

One of the major criticisms of conceptual academic models is that they do not realistically illustrate the full effect of interactive independent variables on the outcome. In the ISA resource utilization model, we give the individual effects of the independent variables and provide predictions regarding these impacts. However, scholars understand that, in a field as dynamic as communication, these variables interact on a daily basis and that, by ignoring the interactions, the applicability of the model to "real life" situations becomes very limited.

Table 1 examines the communication interactions that could occur in ISA partnerships. Employing the competitive–cooperative and formal–informal dimensions of communication, a 2x2 diagram is created to illustrate the interactive effects of these variables on utilization. We adequately addressed the individual influences of the communication variables in the ISA resource utilization model; nevertheless, to omit no scenario, Table 1 focuses on the interactive nature of these variables. This framework will also provide a strong, applicable foundation for future empirical inquiry.

When ISA partners exhibit both formal and competitive communication styles, one can expect only moderate utilization of the ISA's resources (A). Formal communication has been linked positively to utilization and competitive communication has been negatively so linked; thus, a professional, but untrustworthy environment is created that leads to moderate utilization. Moderate utilization is also the byproduct of ISA partners who exhibit cooperative, informal communication styles (D). Although this communication interaction will lead to a more helpful and trusting environment, the environment will include constant misperceptions and miscommunications throughout the ISA's processes. Over time, these misunderstandings will erode the feelings of trust and commitment that might have been fostered by a previously cooperative environment. Therefore, these two sets of communication interactions lead to moderate utilization of ISA resources.

The final two communication interactions produce environments that are at opposite sides of the utilization spectrum. When ISA partners engage in an informal, competitive communication (B), they will exhibit low utilization of the ISA's resources. This result is due to the negative impact that both communication styles have on utilization. Alternatively, a formal, cooperative communication style (D) will create a professional, trusting, committed relationship that will lead to a high utilization of ISA resources. This ISA relationship should find the most success, be the most profitable, positively affect ISA performance at the highest level, and stand the test of time.

In summary, Table 1 provides a practitioner-oriented view of communication interactions. Visualizing and understanding how these interactions influence resource utilization and how they subsequently influence ISA performance is the first step that scholars must take in a research area where these studies are truly lacking. Of more importance to the current authors, is the

application of this paradigm to the numerous postformation ISA processes. In this fruitful area of operations, we believe practitioners will find this proposed view extremely helpful.

TABLE 1: *THE LEVEL OF UTILIZATION AND COMMUNICATIONS*

	Formal Communication	Informal Communication
Competitive Communication	(A) Moderate Utilization	(B) Low Utilization
Cooperative Communication	(C) High Utilization	(D) Moderate Utilization

RESOURCE UTILIZATION AND ISA PERFORMANCE

The heart of the theoretical model and its central tenet is resource utilization. The influence of utilization on ISA performance is the main effect of this model. Utilization comes from collective learning processes between alliance partners and helps them effectively and efficiently share the mutual resources available in the alliance (Muthusamy & White, 2005; Jian & Li, 2008). Utilization is the coordinated processes of transforming the mutual, heterogeneous, and unique resources into alliance resources upon which members can capitalize to accomplish their objectives. Thus, utilization is the efficient deployment and alignment of alliance resources for the successful accomplishment of alliance objectives (Das & Teng, 2000). Therefore, utilization becomes an important factor for alliance success because it allows the partners to take optimal advantage of the resources they each contribute (Dyer et al., 2001). In sum, ISAs that are proficient in their resource utilization will be more globally competitive than those that squander their resources by not maximizing their utility.

P2:   The utilization of resources in an international strategic alliance is related positively to ISA performance.

The Moderators: Cultural Sensitivity and Technological Turbulence on the Relationship Between Utilization and ISA Performance

International environments where ISAs operate present unique challenges that domestic alliances do not easily encounter. Unique cultural idiosyncrasies that foreign firms face and the technological turbulence in the market generally are two frequent obstacles that ISAs should overcome to be successful in accomplishing their objectives. Such obstacles can help or constrain their mutual sharing and learning and can positively or negatively affect partnership development (Sarkar, Echambadi, Cavusgil, & Aulakh, 2001; Robson et al., 2002; Rodriguez, 2005; Voss et al., 2006). To illustrate how these obstacles can influence the utilization process and ISA performance, we present cultural sensitivity and technology turbulence and discuss their moderating effects on the relationship between utilization and ISA performance.

Cultural sensitivity refers to a partner firm's openness to other cultures and its willingness to tailor itself to the cultural differences of its partner firms (Voss et al., 2006). The willingness to accommodate cultural differences between ISA partners underscores the fundamental tenet of cultural sensitivity. Diverse business and cultural practices can easily complicate the understanding of their mutual, genuine intentions and actions, which can insert unexpected

misunderstandings, misperceptions, or suspicions between ISA partners. These situations will not promote "a healthy third culture" in which ISA partners are fully aware and appreciate each other's cultures (Rodriguez, 2005; Skarmeas, Katsikeas, & Schlegelmilch, 2002). Therefore, a low level of cultural sensitivity between ISA partners cultivates conflicts, fosters opportunistic tendencies, and creates impediments to knowledge transfer between the partners (Johnson, Cullen, Sakano, & Takeonuchi, 1996; Simonin, 1999). However, when a high level of cultural sensitivity exists between partners, it generates high-quality information change, eases the handing of managerial and strategic discrepancies, and increases the level of more meaningful and intimate trust between ISA partners (Sarkar et al, 2001; Shapiro, Ozanne, & Saatcioglu, 2008).

P3a: Cultural sensitivity among ISA partners will moderate the relationship between the utilization of the resources and the performance of the alliance.

Technology turbulence is the change of technology in the market (Calantone, Garcia, & Dröge, 2003). A turbulent technology market is one in which the market changes over time (i.e., dynamic), market conditions are volatile (i.e., not easy to predict), and ISA firms have difficulty conducting orderly business because of changing market technologies (Chakravarthy, 1997).

When technology in the market is changing, these changes require alliance partners to cooperate to accommodate the operational changes in the alliance (Calantone et al., 2003). An alliance should monitor technology advances or innovations and react effectively to these changes to provide enhanced value to its customers. If not, the alliance cannot remain competitive in the market (Sarkar et al., 2001). An alliance that can deal with hanging technologies can also provide novel products and services to continue to be competitive in the market; therefore, monitoring technology turbulence and adjusting to it is essential if the alliance plans to develop appropriate strategies to utilize effectively their resources to achieve alliance objectives. Therefore, technological changes necessitate coordination among alliance partners to create closer and stronger links to cope with the changes (Jap, 1999). These changes are necessary for the alliance to deploy its resources effectively and to capitalize on the resources to achieve successfully the alliance objectives.

P3b: Technology turbulence in the market where an ISA operates will moderate the relationship between the utilization of the resources and the performance of the alliance.

FUTURE RESEARCH AND CONCLUSION

The primary objective of this direction in future research is to test empirically the derived propositions and the proposed interactions. This testing should give us tremendous insight to the relative influences of the important factors in the conceptual model. The comparison between equity and nonequity ISAs in terms of their resource utilization and the impact of communication styles relevant to utilization is another area of research. Equity and nonequity ISAs differ in their resource commitment to the operation of the alliances; therefore, investigation of the levels of resource utilization and the impact of communication factors on utilization, depending on the two different types of communication, will significantly increase the understanding of the overall ISA operation processes. One further inquiry lies in exploring the relationship between the

much-developed constructs (i.e., trust and commitment) in the literature on interorganizational utilization. Trust and commitment are known factors affecting interorganizational partnership development (Aulakh, Kotabe, & Sahay, 1996; Johnson et al., 1996); therefore, future research on the relationships between these factors and utilization might be meaningful and fruitful, for the research will provide an additional theoretical development to the understanding of the operation of post-ISA formation.

The lack of research on the processes of post-ISA establishment demonstrates the need for the theoretical development of the middle-ground operation of ISAs and its impact on ISA performance. To address this conceptual objective and that we might make a significant contribution to the field, we have introduced utilization, presented the four communication factors as antecedents of utilization, discussed their potential interactions, and revealed the performance implications of utilization. Therefore, we lay a theoretical foundation to better understand the process of ISA operations and, as such, emphasize the importance of after-alliance formation dynamics. We expect the theoretical foundation to enhance the understanding of the processes of the post-ISA initiation operations, thus, enabling ISA partners better to direct their success.

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THE ETHICS OF TAX EVASION: AN ANALYSIS OF CERTIFIED PUBLIC ACCOUNTANTS BY VARIOUS CHARACTERISTICS

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ABSTRACT

This study examined Certified Public Accountants (CPAs) by measuring personal views on the ethics of tax evasion. Study participants provided demographic information and responded to 15 statements related to tax evasion. Likert scale measurements were employed to determine the strength of responses. Responses were then were analyzed to determine what effect certain demographics (e.g., gender, age, religious involvement, marital status, years in the profession and years since certification) would have on the views of the ethics of tax evasion. The study found that statistically significant relationships were related to the variables of gender, years since certification, and level of religious involvement.

INTRODUCTION

The primary purpose of this study was to provide descriptive data about the ethics of tax evasion related directly to CPAs. Currently, the profession has limited descriptive data and has attempted little formal research on CPA views about tax evasion. It is hoped that the results of this study will make a contribution to the overall understanding of tax evasion behaviors and beliefs related to accountants entrusted to certify publicly consumed financial information. Although many studies have been done on tax compliance, very few have examined noncompliance from the perspective of ethics.

LITERATURE REVIEW

Most studies on tax evasion examine the issue from the perspective of either public finance or economics. Although tax evasion has been examined from a variety of perspectives (Allingham & Sandmo 1972; Alm 1991; Bardach 1989: Beck & Jung 1989; Bergman 1998; Grasmick & Scott 1982; Horowitz & Schneider 1992; Kirchler 1999; Klepper & Nagin 1989; McBarnett 1991; Roth, Scholtz, & Witte, 1989; Schwartz & Orleans 1967; Scott & Grasmick 1981; Thurman, Quint, St. John, & Riggs, 1984), little has been done to examine how tax evasion relates to ethics. Torgler (2003) examined tax evasion from the perspective of public finance, discussing both its psychological and philosophical dimensions. Martin Crowe (1944) completed a doctoral dissertation entitled *The Moral Obligation of Paying Just Taxes*. Crowe's dissertation examined the theological and philosophical debate that had been perpetuated in the Jesuit community for over 500 years.

Morales (1998) examined the economic and sociological views of Mexican, street vendors, finding that their loyalty to their families exceeded their loyalty to the government. McGraw and Scholz (1991) examined tax compliance by focusing on an individual's self-interest. Armstrong and Robison (1998) discussed tax evasion and tax avoidance from the view of an accounting practitioner, employing Rawls' decision framework to analyze practitioner views. Oliva (1998) examined evasion views of a tax practitioner focusing on the ethical and legal contradictions. Welch, Xu, Bjarnason, Petee, and O'Donnell (2005) indicated that individuals who reported that they had cheated on their taxes also reported a greater willingness to cheat in the future. The same holds true for those respondents who perceive that many members of their community commit tax evasion. However, individuals who believe that tax evasion is morally wrong report that they are less inclined to cheat, as are those who fear the social disapproval that cheating might provoke. Additionally, perceptions that tax evasion is widespread within the community tend to mitigate individuals' judgments about the moral wrongfulness of tax evasion and reduce the potential threat that informal sanctions against tax evasion normally evoke.

Several studies have been conducted to examine tax evasion behavior in different countries. The focus of these studies was most often on government corruption and a widespread belief that there is no moral obligation to pay. Ballas and Tsoukas (1998) focused on Greece, Smatrakalev (1998) examined Bulgaria, and Vaguine (1998) and Preobragenskaya and McGee (2004) examined Russia. McGee (1999) concluded that there were two main reasons for evasion: (a) a lack of a strong collection procedure and (b) a widespread opinion that the government does not deserve a portion of a worker's income. Some empirical studies and surveys have been conducted to determine the views on tax evasion in several countries. McGee (1999) conducted a survey to determine why tax evasion is so prevalent in Armenia. Country studies have also been conducted for China (McGee & An, 2006; McGee & Guo, 2006), Germany (McGee, Nickerson, & Fees, 2006), Guatemala (McGee & Lingle, 2005), Hong Kong (McGee & Ho, 2006), Macau (McGee, Noronha, & Tyler, 2006), Poland (McGee & Bernal, 2006), and Romania (McGee, 2006).

A few studies have applied utilitarian ethics and rights theory to particular taxes or particular arguments found to justify certain tax policies in the public finance literature. Tax policies examined in the literature include an examination of whether the ability to pay principle is ethically bankrupt (McGee, 1999) and the related argument of whether discriminatory tax rates are ethically justifiable (McGee, 1999). McGee (2004) also addresses these issues in a book that discusses the various philosophies of taxation. Additionally, McGee (2005) surveyed international business professors and found little support for tax evasive actions. He hypothesized that this finding was because the majority of business professors are strongly against tax evasion. However, McGee did find that women were significantly more opposed to tax evasion than were men. McGee and Lingle (2005) confirmed this finding in a survey of law students in Guatemala. Additionally, they found that business students were more opposed to tax evasion than law were students.

Yet other studies have focused on various personal characteristics (e.g., sex, age, and marital status). Gender was employed to compare ethical attitudes by Akaah (1989), Boyd (1981), and Hoffman (1998), each finding that women were more ethical than were men. Other researchers either found men to be more ethical than women (Barnett & Karson, 1987; Weeks, Moore,

McKinney, and Longenecker, 1999) or that no relationship was based on gender (Browning & Zabriski, 1983; Harris, 1990; Nyaw & Ng, 1994). Alm & Togler (2004) and McGee & Tyler (2007) used age to examine for a statistical relationship. Both studies found that older individuals possessed a stronger respect for governmental authority than younger did individuals. McGee (2007) employed marital status in his study, concluding that divorced individuals were significantly more opposed to tax evasion than were either single or married individuals.

Additional articles have been authored regarding religious perspectives. Cohn (1998) and Tamari (1998) discuss the Jewish literature and ethical belief related to tax evasion. Gronbacher (1998) examined tax evasion from a Catholic perspective. Schansberg (1998) examined the Biblical literature for guidance. Pennock (1998) discussed the "just war theory" in connection with the moral obligation to pay just taxes and to not pay unjust taxes. Smith and Kimball (1998) examined tax evasion from a Mormon view. McGee (1998, 1999) commented on Christian views and found that highly religious individuals possessed stronger moral condemnation of tax evasion than individuals with less religious beliefs did. Murtuza and Ghazanfar (1998) discussed the ethics of tax evasion from a Muslim perspective while DeMoville (1998) discussed a Baha'i perspective. The results of these studies indicate that Jews, Baha'is, and Mormons are strongly opposed to tax evasion, whereas Christians and Muslims are more flexible on the topic.

The literature indicates that the ethics of tax evasion varies dramatically from country to country and is influenced by various demographic characteristics. This study included the following characteristics (variables) included in previous research: gender, age, marital status, and religious involvement. In addition, this study includes the following CPA characteristics to gain insight into their years since certification and years in the profession.

PURPOSE, RESEARCH QUESTION AND PROCEDURES

The primary purpose of this study was to provide descriptive data about the ethics of tax evasion that might be directly related to CPAs. To accomplish the purpose the study considered the following research question:

> Are there differences in certified public accountant (CPA) beliefs about the ethics of tax evasion with regard to various demographic characteristics?

This study employed a survey based upon the 15 factors developed by Crowe (1944). A total of 50 CPAs were randomly selected to participate in the study. Forty-three surveys were completed and captured electronically on SurveyMonkey.com. The resulting data was downloaded in Microsoft Excel format and uploaded to Stastical Package for the Social Sciences (SPSS) 15 (2007) for analysis; no manual conversions were involved in the capturing or recording of data. From the literature review, the following demographic data (independent variables) were included:

Gender – nominal data, binomial, male, or female

Age – nominal data, four age ranges in years (20–30, 30–40, 40–50, and 50+)

Years since certification – nominal data, binomial, < 5 years and 5 years or more

Marital status – nominal data, three categories (single, married, or other)

Years in the profession – nominal data, four categories (0–5 years, 5–10 years, 10–20 years and over 20 years),

Organized religious involvement – Likert scale interval data, ranges from *No Involvement at All* to *Highly Involved*

The *t* test was employed to test for statistical significance regarding gender, years since certification, and the revised marital status measure. The *t* test is the appropriate statistical test for a binomial independent variable and its effect upon an interval dependent variable.

Age and years in the profession were analyzed employing the analysis of variance procedure, the appropriate statistical procedure for examining a "grouping" independent variable effects upon an interval dependent variable.

The correlation coefficient and regression procedures were employed to test for a relationship between the level of organized religious involvement and statement responses. These procedures are the appropriate statistical test for examining two interval variables on "goodness of fit" and strength of relationship.

All statistical tests were conducted at the 95% confidence level and the .05 level of significance ($p < .05$).

FINDINGS

The purpose of this study was to provide descriptive data about the ethics of tax evasion related directly to CPAs. A total of 43 surveys were completed. Table I presents mean scores for all 15 tax evasion statements. It is very interesting to note that, even with a potential response range of 1–7, the responses of the CPAs only ranged from a low of 6.28 to a high of 6.91. The CPA sample appears to be more homogenous than the population at large. Other researchers (virtually all other studies) have presented findings with significantly more dispersion of respondent scores. The tightness of the responses in this sample makes the study less sensitive to independent variable effects and does indicate a weakness that should be addressed in future examinations of professional accountants.

TABLE 1. *MEAN VALUE OF ALL SAMPLE RESPONDENTS*

Statement: Tax evasion is ethical	Likert score
1 …if tax rates are too high.	6.74
2 …even if tax rates are not too high because the government is not entitled to take as much as it is taking from me.	6.77
3 …if the tax system is unfair.	6.60

Statement: Tax evasion is ethical	Likert score
4 …if a large portion of the money collected is wasted.	6.56
5 …even if most of the money collected is spent wisely.	6.79
6 …if a large portion of the money collected is spent on projects that I morally disapprove of.	6.44
7 …even if a large portion of the money collected is spent on worthy projects.	6.77
8 …if a large portion of the money collected is spent on projects that do not benefit me.	6.70
9 …even if a large portion of the money collected is spent on projects that do benefit me.	6.77
10 …if everyone is doing it.	6.86
11 …if a significant portion of the money collected winds up in the pockets of corrupt politicians or their families and friends.	6.28
12 …if the probability of getting caught is low.	6.74
13 …if some of the proceeds go to support a war that I consider to be unjust.	6.70
14 … if I can't afford to pay.	6.63
15 …even if it means that if I pay less, others will have to pay more.	6.91

GENDER

Table II presents the *t* statistic related to each of the 15 tax evasion statements tested by gender. The null hypothesis related to this variable is as follows:

H$_o$ 1: There exists no statistically significant difference in the mean responses to each of the 15 tax evasion statements between male CPAs and female CPAs.

TABLE 2. *MEAN VALUE OF SAMPLE RESPONDENTS BY GENDER AND RESULTING* T *STATISTIC*

Statement: Tax evasion is ethical	Male	Female	*t*
1 …if tax rates are too high.	6.58	6.88	2.243*
2 …even if tax rates are not too high because the government is not entitled to take as much as it is taking from me.	6.63	6.91	2.328*
3 …if the tax system is unfair.	6.37	6.83	2.280*
4 …if a large portion of the money collected is wasted.	6.43	6.84	2.401*
5 …even if most of the money collected is spent wisely.	6.66	6.90	1.603
6 …if a large portion of the money collected is spent on projects that I morally disapprove of.	6.47	6.78	1.726
7 …even if a large portion of the money collected is spent on worthy projects.	6.69	6.90	1.593
8 …if a large portion of the money collected is spent on projects that do not benefit me.	6.58	6.88	2.297*
9 …even if a large portion of the money collected is spent on projects that do benefit me.	6.69	6.90	1.593
10 …if everyone is doing it.	6.78	6.90	1.119
11 …if a significant portion of the money collected winds up in the pockets of corrupt politicians or their families and friends.	6.14	6.55	1.738

Statement: Tax evasion is ethical	Male	Female	t
12 …if the probability of getting caught is low.	6.69	6.90	1.717
13 …if some of the proceeds go to support a war that I consider to be unjust.	6.59	6.90	1.895
14 …if I can't afford to pay.	6.57	6.88	1.891
15 …even if it means that if I pay less, others will have to pay more.	6.74	6.93	1.588

Note. $* p < .05$.

The table indicates a statistically significant difference between Male CPAs and Female CPAs with regard to their responses to Questions 1, 2, 4, and 8. The null hypothesis was rejected for each of the four questions, in each case female CPAs ranked the statement higher (i.e., less likely to accept evasive behavior) than their male colleagues. The finding that gender had an influence upon an individual's willingness to accept evasive behavior as ethical supports the work of previous research by Akaah (1989), Boyd (1981), and Hoffman (1998).

AGE

Table 3 presents the *F* statistic related to each of the 15 tax evasion statements tested by age. The null hypothesis related to this variable is as follows:

H_o 2: There exists no statistically significant difference in the mean responses to each of the 15 tax evasion statements among the age groupings of CPAs.

TABLE 3 ñ F *STATISTIC FOR CPA RESPONSES GROUPED BY AGE*

Statement: Tax evasion is ethical	F
1 …if tax rates are too high.	1.624
2 …even if tax rates are not too high because the government is not entitled to take as much as it is taking from me.	1.483
3 …if the tax system is unfair.	1.462
4 …if a large portion of the money collected is wasted.	2.184
5 …even if most of the money collected is spent wisely.	1.096
6 …if a large portion of the money collected is spent on projects that I morally disapprove of.	1.880
7 …even if a large portion of the money collected is spent on worthy projects.	1.345
8 …if a large portion of the money collected is spent on projects that do not benefit me.	1.170
9 …even if a large portion of the money collected is spent on projects that do benefit me.	1.345
10 …if everyone is doing it.	1.289
11 …if a significant portion of the money collected winds up in the pockets of corrupt politicians or their families and friends.	1.513
12 …if the probability of getting caught is low.	1.624
13 …if some of the proceeds go to support a war that I consider to be unjust.	0.869
14 … if I can't afford to pay.	1.950

Statement: Tax evasion is ethical	*F*
15 …even if it means that if I pay less, others will have to pay more.	0.635

*Note. * p < .05.*

The table indicates that no statement reflected a statistically significant difference among the various age categories. The null hypothesis was not rejected.

YEARS SINCE CERTIFICATION

Table 4 presents the *t* statistic related to each of the 15 tax evasion statements tested by years since certification. The null hypothesis related to this variable is as follows:

H_o 3: There exists no statistically significant difference in the mean responses to each of the 15 tax evasion statements between CPAs who have been certified for less than 5 years and CPAs who have been certified for 5 years or more.

TABLE 4. *MEAN VALUE OF SAMPLE RESPONDENTS BY YEARS SINCE CERTIFIED*

Statement: Tax evasion is ethical	< 5 Years	5 Years or More	*t*
1 …if tax rates are too high.	6.48	7.00	2.386*
2 …even if tax rates are not too high because the government is not entitled to take as much as it is taking from me.	6.52	7.00	2.279*
3 …if the tax system is unfair.	6.24	6.95	2.248*
4 …if a large portion of the money collected is wasted.	6.14	6.95	2.781*
5 …even if most of the money collected is spent wisely.	6.57	7.00	1.956
6 …if a large portion of the money collected is spent on projects that I morally disapprove of.	6.00	6.86	2.600*
7 …even if a large portion of the money collected is spent on worthy projects.	6.52	7.00	2.169*
8 …if a large portion of the money collected is spent on projects that do not benefit me.	6.48	6.91	1.892
9 …even if a large portion of the money collected is spent on projects that do benefit me.	6.52	7.00	2.169*
10 …if everyone is doing it.	6.81	6.91	0.929
11 …if a significant portion of the money collected winds up in the pockets of corrupt politicians or their families and friends.	5.90	6.64	2.036*
12 …if the probability of getting caught is low.	6.48	7.00	2.386*
13 …if some of the proceeds go to support a war that I consider to be unjust.	6.43	6.95	1.743
14 … if I can't afford to pay.	6.29	6.95	2.596*
15 …even if it means that if I pay less, others will have to pay more.	6.81	7.00	1.486

*Note. * p < .05*

The table indicates a statistically significant difference between recently certified CPAs (less than 5 years) and CPAs certified for 5 years or more with regard to their responses to Questions 1, 2, 3, 4, 6, 7, 9, 11, 12, and 14. The null hypothesis was rejected for each of the 10 questions, for, in each case, more recently certified CPAs ranked the statement lower (more likely to accept evasive behavior) than their more senior colleagues (those certified for more than 5 years). The finding that years since certification had an influence upon the CPA's willingness to accept evasive behavior as ethical was unexpected and warrants further consideration.

MARITAL STATUS

In the original survey, there were three classifications of marital status: single, married, and divorced or other. Due to a small number of responses in the divorced or other category (indicating divorced) the responses were added to the single category for analysis. Table 5 presents the t statistic related to each of the 15 tax evasion statements tested by the revised marital status classifications. The null hypothesis related to this variable is as follows:

H_o 4: There exists no statistically significant difference in the mean responses to each of the 15 tax evasion statements between single and divorced CPAs, and married CPAs.

TABLE 5. *MEAN VALUE OF SAMPLE RESPONDENTS BY MARITAL STATUS AND RESULTING* t *STATISTIC*

Statement: Tax evasion is ethical	Single or divorced	Married	t
1 …if tax rates are too high.	6.33	6.85	1.881
2 …even if tax rates are not too high because the government is not entitled to take as much as it is taking from me.	6.33	6.88	2.122*
3 …if the tax system is unfair.	5.78	6.82	2.740*
4 …if a large portion of the money collected is wasted.	5.78	6.76	2.747*
5 …even if most of the money collected is spent wisely.	6.33	6.91	2.170*
6 …if a large portion of the money collected is spent on projects that I morally disapprove of.	6.78	6.62	1.997
7 …even if a large portion of the money collected is spent on worthy projects.	6.33	6.88	2.002
8 …if a large portion of the money collected is spent on projects that do not benefit me.	6.33	6.79	1.622
9 …even if a large portion of the money collected is spent on projects that do benefit me.	6.33	6.88	2.021
10 …if everyone is doing it.	6.78	6.88	0.792
11 …if a significant portion of the money collected winds up in the pockets of corrupt politicians or their families and friends.	5.78	6.41	1.400
12 …if the probability of getting caught is low.	6.44	6.82	1.345
13 …if some of the proceeds go to support a war that I consider to be unjust.	6.00	6.88	2.460*
14 … if I can't afford to pay.	6.33	6.71	1.107

Statement: Tax evasion is ethical	Single or divorced	Married	t
15 …even if it means that if I pay less, others will have to pay more.	6.78	6.94	1.023

Note. * *p* < .05.

Table 5 indicates a statistically significant difference between single or divorced CPAs, and married CPAs with regard to their responses to Questions 2, 3, 4, 5, and 13. The null hypothesis was rejected for each of the five questions, for, in each case, married CPAs ranked the statement higher (i.e., less likely to accept evasive behavior) than their single or divorced colleagues. The finding that marital status had an influence upon an individual's willingness to accept evasive behavior as ethical supports the work of previous research.

YEARS IN THE PROFESSION

Table 6 presents the *F* statistic related to each of the 15 tax evasion statements tested by age. The null hypothesis related to this variable is as follows:

H_o 5: There exists no statistically significant difference in the mean responses to each of the 15 tax evasion statements among the years in the profession groupings of CPAs.

TABLE 6. F *STATISTIC FOR CPA RESPONSES GROUPED BY YEARS IN THE PROFESSION*

Statement: Tax evasion is ethical	F
1 …if tax rates are too high.	2.008
2 …even if tax rates are not too high because the government is not entitled to take as much as it is taking from me.	1.830
3 …if the tax system is unfair.	1.844
4 …if a large portion of the money collected is wasted.	2.796
5 …even if most of the money collected is spent wisely.	1.344
6 …if a large portion of the money collected is spent on projects that I morally disapprove of.	1.214
7 …even if a large portion of the money collected is spent on worthy projects.	1.656
8 …if a large portion of the money collected is spent on projects that do not benefit me.	1.626
9 …even if a large portion of the money collected is spent on projects that do benefit me.	1.656
10 …if everyone is doing it.	0.791
11 …if a significant portion of the money collected winds up in the pockets of corrupt politicians or their families and friends.	2.607
12 …if the probability of getting caught is low.	2.008
13 …if some of the proceeds go to support a war that I consider to be unjust.	1.100
14 … if I can't afford to pay.	2.485
15 …even if it means that if I pay less, others will have to pay more.	0.773

Note. * *p* < .05.

Table 6 indicates that no statement reflected a statistically significant difference among the various years in profession categories. The null hypothesis was not rejected. This finding is also unexpected. The finding was that years since certification had an influence upon a CPA's willingness to accept evasive behavior, which might have resulted from a maturation process in the profession. However, the finding that age (in and of itself) did not reflect a statistically significant influence, buttressed by this finding related to years in the profession, further strengthens the idea that certification has a stronger influence than any other factor in the avoidance of evasive behaviors.

RELIGIOUS INVOLVEMENT

Table 7 presents the regression *F* statistic related to each of the 15 tax evasion statements tested for a statistically significant relationship to religious involvement. The null hypothesis related to this variable is as follows:

H_o 6: There exists no statistically significant relationship between the mean responses to each of the 15 tax evasion statements and the CPA's level of religious involvement.

TABLE 7. F *STATISTIC FOR REGRESSION RESULTS OF RELATIONSHIP BETWEEN CPA RESPONSES AND LEVEL OF RELIGIOUS INVOLVEMENT*

Statement: Tax evasion is ethical	*F*
1 …if tax rates are too high.	2.502
2 …even if tax rates are not too high because the government is not entitled to take as much as it is taking from me.	2.825
3 …if the tax system is unfair.	5.722*
4 …if a large portion of the money collected is wasted.	3.280
5 …even if most of the money collected is spent wisely.	3.823
6 …if a large portion of the money collected is spent on projects that I morally disapprove of.	1.640
7 …even if a large portion of the money collected is spent on worthy projects.	3.710
8 …if a large portion of the money collected is spent on projects that do not benefit me.	3.445
9 …even if a large portion of the money collected is spent on projects that do benefit me.	3.710
10 …if everyone is doing it.	3.574
11 …if a significant portion of the money collected winds up in the pockets of corrupt politicians or their families and friends.	4.328*
12 …if the probability of getting caught is low.	3.610
13 …if some of the proceeds go to support a war that I consider to be unjust.	3.469
14 … if I can't afford to pay.	5.067*
15 …even if it means that if I pay less, others will have to pay more.	2.392

Note. * $p < .05$.

Table 7 indicates that three statements reflected a statistically significant relationship between

the level of religious involvement and tax evasion; thus, the null hypothesis is rejected. In each case, the higher the level of religious involvement the higher the statement ranking. This finding supports the work of other researchers who also found that religious involvement led to stronger rankings against tax evasive behaviors.

SUMARY OF FINDINGS

The statistical analyses led to the following findings:

Gender – Statements 1, 2, 3, 4, and 8 all indicated a statistically significant difference in the statement rankings by gender. In each case, male respondents were more willing to accept evasive actions (lower rankings) than females.

Age – No statement led to statistical significance.

Years Since Certification – Ten statements (only 5, 8, 10, 13, and 15 did not reach significance) reflected statistically different responses between the two groups. In each case, the CPAs that have been certified for more than 5 years in the profession ranked the statement higher than the CPAs with less than 5 years of certified experience in the profession.

Marital Status – No statement led to statistical significance.

Years in the Profession – No statement led to statistical significance.

Level of Religious Involvement – Statements 3, 11, and 14 indicated a statistically significant relationship between the level of religious involvement and statement rankings, the higher the religious involvement the less likely the CPA was to accept evasive actions.

The CPA is subject to a code of conduct that requires integrity, honesty, and objectivity. The impact of the CPAs' codes of conduct can be observed directly in the responses to the 15 statements. With a response range of 1–7, the range of the average response of all CPAs was 6.28 to 6.91. The responses are very conservative. It is very interesting that the lowest average ranking of a statement was 6.28 and indicates that the majority of CPAs would still consider evasion unethical, even when "a significant portion of the money collected winds up in the pockets of corrupt politicians or their families and friends" (Statement 11; see Tables 1-7).

CONCLUSIONS AND RECOMMENDATIONS

The purpose of this study was to determine whether tax evasion opinions among CPAs differed with regard to various demographic characteristics. Differences did surface related to gender, level of religious involvement, and years since certification. From the study results, it can be concluded that there are characteristics of CPAs that managers might take into consideration when assigning clients and jobs. The finding that gender was significant confirms the findings of previous researchers (Akaah, 1989; Boyd, 1981; Hoffman, 1998). Although the variable age did

not achieve statistical significance, the finding that CPAs who had been certified longer (> 5 years) were less likely to accept evasive actions, buttresses the previous research finding that older individuals were less likely to engage in evasive actions (Alm & Togler, 2004; McGee & Tyler, 2007) and might lead to assigning only more experienced CPAs to clients who tend to take aggressive tax positions. The finding that years since certification had an influence upon a CPA's willingness to accept evasive behavior might have resulted from a maturation process of "just getting older" or passing through life experiences. Additionally, the finding that age (in and of itself) does not reflect a statistically significant influence buttresses the feeling that it is the length of time you are certified and working in the field, that the observed significance is not just a side effect of getting older.

The finding that religiosity is significant (i.e., that individuals who are more religious are also less likely to engage in evasive behaviors) supports the findings of other researchers (Cohn, 1998; Tamari, 1998; Gronbacher, 1998; McGee, 1998, 1999).

The tightness of the responses and their consistently high rankings (less evasive position) buttresses previous research on the moral reasoning ability of CPAs. Oglesby (2004) found that CPAs function at the "conventional" level of moral reasoning. As a result, CPAs approach ethical reasoning by living up to what is expected of them in their role (i.e., complying with laws and regulations) and doing what is best for the client or firm. From this extension, we might conclude that members of the accounting profession function at the conventional level of moral reasoning—the level of moral reasoning required in the role of the accounting profession where ethical integrity is a desirable characteristic. Musschenga (2001), indicates that CPAs with integrity exhibit "consistency between what they say, profess and promise, and what they actually do, not only under favorable but also under unfavorable circumstances" (p. 219). Integrity is the coherence and consistency of the actions of a person to match his or her beliefs. Integrity is not only desirable, but also desired in both internal and external accounting roles. The ability of accountants and auditors to act with integrity is influenced by the forces that come to bear during the exercise of judgment (i.e., when performing moral reasoning) as it relates to an accounting principle or disclosure requirements. This study indicates that the CPAs do indeed function with integrity and follow the rules even when their moral beliefs are challenged.

In addition, the findings clarify and extend previous work in several ways. In general, the research extends the effect of specific demographic factors (e.g., gender, level of religious involvement and years since certification) to practicing CPAs, especially the direct effects on their inclination to accept or commit tax evasion. More importantly, the effects of gender, level of religious involvement, and years since certification operate indirectly through their influence on the perceptions about a client's history of such misbehavior and judgments about the morality of tax evasion. The effects are statistically significant, substantial, and in the expected direction.

The findings lead to the following recommendations for further research:

Recommendation 1: Gender was found to be a statistically significant characteristic in the acceptance of evasive behavior and, in and of itself, is believed by many to be of no influence; therefore, environmental or sociological factors must cause the male CPAs to be more accepting of evasive behavior. Future research might want to examine the sociological and environmental

factors common to each gender and how the identified factors influence ethical choice.

Recommendation 2: More recently, certified CPAs were more likely to accept evasive behavior; therefore, an experiential antecedent must cause a migration from willingness to accept evasive behavior to a total unwillingness to accept, for many responses by the more experienced group resulted in average scores of 7.00 the maximum available. Therefore, future research might want to pursue a structured interview process examining the reasons why seasoned CPAs replied so strongly to many of the questions.

Recommendation 3: The study was conducted in the Midwest and previous research indicates the presence of a cultural and national influence upon a respondent's position on tax evasion; therefore, the study should be expanded to include other regions of the United States.

Recommendation 4: The study was limited to a sample size of 43 respondents; therefore, the study should be replicated in a larger setting to expand and strengthen the ability to generalize findings. It must be recognized that this research was conducted on a relatively small sample of certified public accountants and the findings should not be generalized.

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COMPARISON OF OUTCOME VARIABLES FOR PUBLIC RELATIONS MAJORS: AN INTEGRATED COMMUNICATION PERSPECTIVE

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ABSTRACT

Standards in the public relations profession must be translated to the students. One source of standards developed over the last 8 years or more focused on *outcome* variables for undergraduates and graduates. Both practitioners and academics agreed these outcomes were critical to the profession. This study used these outcome variables in testing undergraduate students enrolled in public relations courses as they progressed through the program. It was hypothesized that courses based on these outcome variables would show a different level of accomplishment when compared to the years completed in the program. This study focused on students' interpretation of new and more fully developed clusters of outcome variables based on the national Commission on Public Relations Education's earlier studies. This analysis compared and contrasted responses from lower and upper level students enrolled in the PR courses developed for the major.

INTRODUCTION

Two major studies on outcome variables were conducted in October of 1999 and November of 2006. These studies, conducted by the Commission on Public Relations Education, established a list of outcome variables that were key to establishing undergraduate and graduate public relations programs. Several research approaches were merged for the 2006 report. The original survey of public relations practitioners and educators was redone for verification of previous results (results supported previous findings). Another series of reports focused on personal interviews of leading senior practitioners and educators via telephone. There were surveys of leaders of public relations firms that were members of the Council of Public Relations Firms. Another survey contacted the faculty adviser to the Public Relations Student Society of America (PRSSA). The last survey contacted the leaders of public relations academic programs at colleges and universities. This latter survey established the development of the public relations curriculum since 1999.

Most importantly, it is essential to note the high agreement between practitioners and academics on these outcomes. When professionals from both the practitioner and academic side are in agreement, a more cooperative effort is likely to transpire. In this instance, this strong agreement gave the researchers confidence in establishing these outcome variables as a national standard and, since this publication, the results have been translated into Spanish, Russian, Portuguese, Arabic, and Chinese (full translation). A copy of the publications *Public Relations Education for*

the 21ˢᵗ Century: A Port of Entry (October 1999) and *The Professional Bond: Public Relations Education and the Practice* (November 2006) can be found at the Institute for Public Relations Web site at www.instituteforpublicrelations.org.

BACKGROUND INFORMATION

A major in public relations is more than merely "courses." With the support of professional organizations such as the Public Relations Student Society of America (PRSSA), the standards for a program to qualify for the PRSSA student chapter include at least five courses to be recertified annually. The commission talks about an ideal undergraduate major as having the following course content in public relations:

- Introduction to public relations (including theory, origin and principles)
- Case studies in public relations that review the professional practice
- Public relations research, measurement, and evaluation
- Public relations law and ethics
- Public relations writing and production
- Public relations planning management
- Public relations campaigns
- Supervised work experience in public relations (internship)
- Directed electives (Commission on Public Relations Education, 2006)

To qualify for PRSSA, public relations courses must be clearly identified as public relations, either in the title or in the course description and five or more courses must be offered. Furthermore, the PRSSA chapter must have both an academic adviser and a practitioner mentor. For many programs, three or more internships are recommended.

THE PUBLIC RELATIONS MAJOR IN THIS STUDY

This study focuses on a public relations major that has a recognized PRSSA chapter, including a student agency. This means five or more courses and other requirements are part of the program. For these students, the number of courses required for a major at the university are eight with three additional courses available, if requested. Table 1 shows the required and elective courses in this program:

TABLE 1. *REQUIRED AND ELECTIVE PUBLIC RELATIONS COURSES*

Required	Elective
Survey of Mass Communication	Independent Study
Principles of Public Relations	Honors
Advanced Public Relations	Honors Practicum
Public Relations: From Theory to Practice	
Community Relations	

Required	Elective
Crisis Communication	
Public Relations Research: A Seminar	
Public Relations Internship	

All majors are required to take the Survey of Mass Communication course. Majors and minors are found to be well represented in the next three or four courses. Majors are usually found on the research and internship level. Thus, there is an acceptable level of knowledge and expertise for both majors and minors.

Furthermore, two major characteristics of this program no doubt distinguish the experiences of these graduates. First, in the ideal list of undergraduate curriculum, *theory* is not represented. What passes for theory in most introductory courses is a combination of concepts and models. To have a program more fully grounded on theory is critical to the experience of the student. Second, each course is a theory-to-practice experience. These additional characteristics provide a more in-depth experience and develop a higher level of confidence and, thus, a greater potential for leadership (Neff, 2002).

METHODOLOGY

An instrument was developed to address the outcome variables identified in the two previous commission studies. These variables reflected areas of personal attributes, knowledge of public relations, personal understanding of theory and concepts, culture and languages, and a broad foundation of knowledge critical to an academically trained person. Seventy-seven outcome variables were represented from the categories listed above. Twenty-six of the variables were added to the outcomes developed by the commission study because they represented areas considered important to this program (Neff, 1998).

The additional outcome variables pushed the students in the direction of theory, organizational concepts (as in communication audits), and leadership characteristics. This program supports public relations functions that allow for leadership effort. Thus, the teams in the student agency and crisis situation opportunities stress a more advanced approach to the practice of public relations. An advanced student or a junior or senior will most likely have evidence of these kinds of experiences. Examples of the leadership can be found in the following roles:

1. Team leader for student agency team
2. Key PRSSA officer, providing organizational leadership such as developing a regional bid for a conference
3. Multiple internships within significant organizations
4. High-level competitive internships often within an agency setting
5. Major recipient of awards and recognitions

Students from the spring of 2008 public relations classes completed the outcomes variable instrument at the beginning of the course. Students had two, single-spaced lists of variables to respond to as their personal assessment of accomplishments on a scale of 1–7 (1 = *not evident at*

all through 7 = *meaning highly proficient in this particular outcome variable*). A second column asked the student to predict the value of a particular outcome to a future employer for an entry-level position. The students experience is varied and may not have as much familiarity with more advanced concepts like communication audits. Thus, when students were asked to respond as best as possible about their confidence in having such knowledge or skill and to respond as best as possible to an employer's appreciation of outcome variables, one hoped the response would be strong.

Table 2 lists the attributes tested. The outcome variables in the second column were incorporated into the study although they were not part of the original commission effort. The students complete this instrument as a preassessment and postassessment in each public relations course.

TABLE 2. *OUTCOME VARIABLES IN PUBLIC RELATIONS COURSES*

Original CPRE variables	Added study variables
Communicate publicly	Leader in PR projects
College PR activities	Plans special events
PRSA (Public Relations Student Society of America)	Budgets project
Active in college media	Reads accounting ledger
Aware of social trends	Speaks a second language
Info on mass media	Writes in a second language
Creative	Experiences other cultures
Problem solving	Knows PR code of ethics
Critical thinking	Makes ethical decisions
Skill in technology	Willing to travel globally
Internship	Sensitive to other cultures
Flexible	Sensitive to diversity
Telephone protocol	Reflects diversity in work
Good attitude	Works well in teams
Good resume/references	Conducts communication audits
Portfolio	Knows theory
Radio news reporting	Applies theory to work
Research	Knows assessment tools
Self-starter	Knows evaluation techniques
Social science background	Knows PR professional associations
Sorts fact and opinion	Has a mentor in public relations
Statistics	Handles crisis communication

Original CPRE variables	Added study variables
Strategic thinking	Has two or three internships in public relations
Takes criticism	Experience in handling clients
TV production	Interviewing expertise
Type – 45wpm	Group decision-making expertise
Knows business	Leader in PR projects
Protocol (media)	Plans special events
E-mail/work processing	Budgets project
Desktop publication	Reads accounting ledger
Interpersonal skills	Speaks a second language
Interest in culture	Writes in a second language
Internet	Experiences other cultures
Current events	Knows PR code of ethics
Liberal arts background	Makes ethical decisions
Organized	Willing to travel globally
Photography	Sensitive to other cultures
Pragmatic	Sensitive to diversity
Presentational software	Reflects diversity in work
Writes ads	Works well in teams
Writes brochures	Conducts communication audits
Writes features	Knows theory
Newsletters	Applies theory to work
News clips	Knows assessment tools
Write news releases	Knows evaluation techniques
Reports	Knows PR professional associations
Pitch letters	Has a mentor in public relations
Video clips	Handles crisis communication

RESULTS

The data was analyzed in three groups: Freshman and sophomores, juniors, and seniors. The freshmen and sophomores were clustered because few freshmen begin their studies declaring a major or minor, consequently the population for this category is less. A total of 50 students responded to the assessment outcomes. Fifteen freshman and sophomores, 12 juniors, and 23 seniors took the assessment at the beginning and near the end of the spring 2008 semester.

RESULTS: PERSONAL ATTRIBUTES

The pretest results indicate the students in their various categories have somewhat different levels of evaluation of personal strength. However, the results do not suggest that a statistically significant test of difference was needed, for the initial assessment scores were high and did not allow for much room for difference. The average of the variables for pretest and posttest personal evaluations was as shown in Table 3 on a scale of 1–7:

TABLE 3. *STUDENTSí PERSONAL ASSESSMENTS*

	Freshman and Sophomores $n = 15$	Juniors $n = 12$	Seniors $n = 23$
Pretest	5.60	5.48	5.49
Posttest	5.75	5.98	6.10

This decrease in personal ability ratings from freshman and sophomores to seniors seems contrary to what one would expect on the pretest. However, in adding narrative to the scores, it seems that the first two classes come in with a higher sense of their abilities. As freshmen and sophomores, the students lack the experience to evaluate their expertise in the outcomes identified. The juniors and seniors have almost the same average for personal evaluation, but have lower pretest sores than the freshmen and sophomores. However, this realistic adjustment suggests that upper level students are more aware of their strengths and more aware of their weaknesses after taking one or perhaps two public relations courses.

The hypothesis for this study is focused on course impact as measured by pretest and posttest outcome variable scores. The pretest is taken before the course, the posttest allows for more impact with the class almost completed, and the upper level courses particularly provide a more targeted impact on their experience and should move the posttest score significantly. Therefore, the posttest responses should reflect a higher level of accomplishments and, of course, the assessment indicated the courses accomplished this goal. However, almost all of the scores are well above the middle point and suggest an overall strong evaluation of personal attributes. As mentioned, lower level students do seem to do quite well generally on the pretest outcome variables initially due to greater confidence. However, the upper level student who does not yet have the impact of the more advanced classes, as measured by the pretest, reflects only the learning curve of fundamental courses and consequently his or her confidence level is lower initially. The advanced learning experience brings more confidence to their previous assessment as higher posttest scores reflect. Their view of the employer attributes indicate that something else is reflected.

RESULTS: EMPLOYER ATTRIBUTES

On the pretest, freshmen and sophomores were most likely to rate the internship as one of the lowest personal abilities. This simply reflects the short time that they have been students and their lack of knowledge about how to obtain an internship. The internship rating was slightly better for juniors, for their peer network was more active. The portfolio was ranked low for the

juniors. The freshmen and sophomores rated the portfolio as a "1" or literally nonexistent. The results seem to indicate the portfolio concept seems to be a final-year effort and, thus, not part of the pretest evaluation.

Overall, "ability to take criticism" was most likely to be lower for seniors prior to completing the most advanced public relations courses. This probably reflects some resistance to receiving constructive feedback. In fact, the students might have been likely to rate the employees as not valuing criticism as important. Yet, the practitioner publications will indicate "taking criticism" is a major problem among new employees.

The results indicate the students' view of the employers' requirements of attributes were much higher on the posttest (i.e., after they had completed the courses targeted for this study). However, although the freshmen and sophomores rank their pretest perceptions of the employers' requirements at a 6.53 level, the juniors were lower in their expectations at a 6.12 level (i.e., prior to completing the course). The seniors were even lower at 6.00. Therefore, the posttest assessment reflects the impact of the learning process and greater understanding of what public relations is and a more personal understanding of what aspect of public relations one is interested in pursuing. As the students are clearer about the functions of public relations for their personal career interests, some of the more technical outcome variables are less important. Only the few who intend to do more with a specialty area rank these attribute highly. Therefore, some students have a better understanding of what outcome variables are more fundamental as entry-level, public relations requirements and the interest is greater in developing these tactical skills. Nevertheless, the more strategic abilities are usually better assessed after all the courses are completed and the clustering of the last two levels precludes a refined analysis of this idea Thus, Table 4 provides the total sum for all the variables on perceptions for employee requirements at the pretest and posttest points, before a class is taken and after the fundamental class is completed.

TABLE 4. *STUDENTS VIEWS ON EMPLOYERS*

	Freshman and Sophomores	Juniors	Seniors
Pretest	6.53	6.12	6.0
Posttest	6.72	6.80	6.88

Not surprisingly, the students were convinced that the employers were looking for more specifics than they had originally thought. Thus, the responses to the outcomes increased over time. The feedback indicated that the students were seeing more clearly how the employers' expectations were aligned with the course objectives. The more experiential approach to the public relations major greatly supported the employer viewpoint.

DISCUSSION

Students find the different outcome clusters a challenge. Personal attributes, for example, especially the outcome variables dealing with the "ability to take criticism" and "being flexible" are major learning curves. The skill levels of writing and speaking are particularly difficult in

public relations. The variety of writing styles and the need to be very facile in oral communication makes the major difficult, but also a standard that allows the higher levels of learning to be achieved (i.e., those that are more strategic and teach leadership). Students then reach the level of being valuable to campus divisions (e.g., university relations, alumni relations, institution development, and the campus media). Such skill development provides a great training ground for internships and preparation for entry-level positions.

Perhaps the greatest area of future development is in the leadership potential of public relations professionals where the practitioners' knowledge of diversity and global relations brings a greater sense of perspective. The understanding of ethics and the integration of law into the discipline is likely to provide the kind of moral meaning that is essential for organizations that lack such understanding. It is notable that the role and function of public relations in organizations is developing rapidly within the nonprofit, corporate, agency, and governmental realms. These attributes also contribute to the integrated communication effort.

The adaptation of professional outcome variables to reflect student interpretations was not done without some issues. By expanding responses from a personal interpretation to the perspective of an entry-level employer, the students were greatly challenged. First, students did not always understand words such as "pragmatic" and indicated this. Second, the effort to expand the students' experience to a perspective of another (i.e., the employer) was a new experience for most of them. However, this also suggests the need to address further the issues in transitioning a student to a career mentality, not merely to a job.

CONCLUSIONS

Studies that describe the development of undergraduate students in public relations is critical to understanding what professionals need. The profession is moving beyond war stories and a "flying-by-the-seat-of-the-pants" approach; therefore, an approach with more research and evaluation is critical. The public relations role is a more nurturing and healing in the integrated communication matrix. It will also be a greater connective relationship to a public audience, leading to a stronger bond with that audience. The role of public relations leadership is crucial to an organization; thus, the education and training of these professionals is a serious mission.

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DIGITAL MARKETING IN SPAIN:
SEARCH ENGINES AND SOCIAL NETWORKS

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ABSTRACT

The main frame of digital marketing is the Web used through specialized search engines. The objective of digital marketing is to answer marketing questions one by one using technological tools. Digital marketing promotes online services to attend its clients' demands. This process implies commercialization, publicity, brand management, or market research. We assist the strengthening of the Internet industry. We attend to the power of the Web to encourage collective intelligence, the interaction of users who act as codevelopers. Web 2.0 is the transition of traditional applications to a new approach where applications are focused on the final user. Digital marketing is based on strategies of using social Web 2.0 as an interactive platform. We are in a time of social networks. This is a new era for advertising between *You* and the social Web—and Spain is there, too!

INTRODUCTION

The aim of Web marketing is the promotion of goods and services online to put them to the disposition of the client using Web-based tools. This process implies commercialization, publicity, brand management, and market research. The Web must be understood like a multiplatform where businesses of diverse natures (technical, design, marketing, communication, entertainment) come together to serve and address individuals, groups, and companies. The new tendencies in Web marketing go with the aims of the social Web (You and people network) over material goods. The convergence and segmentation that the Web is undergoing assume the incorporation of the social networks. In Spain in 2006, 160.3 million euros were spent in publicity for the network, a 33% more than in 2005, according to the study on investment on interactive means of advertising by PriceWaterhouseCoopers and Interactive Advertising Bureau (2006). Altogether, the advertising market reached 14,590 million euros, as opposed to the 13,743 million euros in 2005, an increase of 6.2%.

The high price of the tariffs of the telephone operators in Spain is slowing down the establishment of the new models of multiplatform businesses. The possibilities that mobile phones offer is a suitable environment for the development of new advertising formats. Spain has 41 million lines, 35 million users, and 90% of terminal multimedia (Telefónica, 2005).

The segment of video games, many of them online, is a new publicity support, with numbers that rise to around 9 million potential players in Spain.

The search engines have evolved from suppliers of information and content to key pieces for advertising services and electronic commerce between companies and individuals. It is calculated that 4–6 million Spaniards already buy on the Internet. Now, the positioning of the search engines has become a key piece of digital marketing.

The height of the binnacles, blogs, or personal pages conform the blogsphere, an essential part of the social Web 2.0. (Rojas, Alonso, Antúnez, Orihuela, & Varela, 2004). Orihuela (2007) makes a revision from 1997 to the present, current 62 million personal Web sites that are managed by their authors, and the 175,000 new sites that are created every day, consolidating the position of the Web log (blog) like the mass media that has experimented with the greater increase in history (Lara, 2007).

The blog has become a digital tool playing the role of an interactive communication channel between the corporate Web and its clients. Spanish companies of interactive digital marketing—the veteran TerritorioCreativo (territoriocreativo.es) and MagnoliArt (www.magnoliart.com), as well as the company that specialized in positioning search engines OjoBuscador (www.ojobuscador.com [Seeking Eye])—are a proof of the concept. The company LastInfoO (www.lastinfoo.es) provides professional publications and business blogs on the Internet, allowing the companies to create and develop their own content.

In this clear tendency of the convergence of technical multiplatforms, the navigators of the network incorporate new social applications. For example, in the future, social networks like MySpace (with 67 million users) and Facebook (with 29 million users) will include service. Facebook, a site where high school and college students can create and maintain their communities, was designed by two Harvard graduates and is the seventh most active Internet site. It is valued at over 2 billion USD. The key to its success is that it is able to build and create communities of great cohesion in a crucial stage of people's lives—and that makes it an ideal site for publicity.

LACK OF DEFINITION: SOCIAL WEB 2.O, SOCIAL WEB 2.1 OR WEB 3.0?

San Millán (Fernández), Medrano (García), and Mayorgas (Quintana) (2007) have established that lack of definition of labels, the failure to develop new tools, and the lack of reliable data or outdated statistical data make it difficult to analyze the evolution of this sector at a worldwide level. The main frame of digital marketing is the Web. It is intended to define the evolution of the Web with labels such as Web 1.0, Social Web 2.0, Social Web 2.1 or Web 3.0, with the aim to show its development, incorporating new tools and tendencies. Many contradicting definitions respond to a constant change in their parameters. The Web is a platform where businesses of diverse nature—technical, design, marketing, and communication— come together.

We are witnessing the power of the Web to operate collective intelligence, a concept that Google understood perfectly well**,** supporting interactivity with the users, whom it treats as codevelopers. The Web 2.0 concept answers the questions: Who makes the content? In that sense, Web 2.0 represents an alternative to the project of creating a corporate Web, based on Web sites from the time of the dotcom boom (Musser, O'Reilly, et al., 2006). It is a network of services where the user supposedly has the control: Meneame.com, Technorati.com, Del.icio.us, Dejaboo.net, Flickr.com or YouTube.com.

Users transform themselves into consumers, clients, voters, readers, and journalists, while

interacting with the surroundings that are also changing. It gives rise to the native digital definition, the e-generation of Life 2.0. It is *You* demanding. This evolution is depicted in Table 1.

TABLE 1. EVOLUTION FROM WEB 1.0 TO WEB 2.0

Web 1.0	Web 2.0
DoubleClick	Google AdSense
Ofoto	Flickr
Akamai	BitTorrent
Mp3.com	Napster
Britanica Online	Wikipedia
Personal Web sites	Blogging
Evite	Upcoming.org and EVDB
Domain name speculation	Search engine optimization SEO
Page views	Cost per click
Screen scrapping	Web services
Publishing	Participation
Content management systems	Wikis
Directories (taxonomy)	Tagging ("folksonomy")
Stickiness	Syndication

Note. From "What is Web 2.0: Design patterns and business models for the next generation of software," by Tim O'Reilly, September 30, 2005. Copyright 2005 by *OíReilynet.com*. Adapted with permission of the author.

The global use of the Internet is part of its social aspect. The production of contents is atomized and passes to the users. Nevertheless, according to De Ugarte (2006), the central question of the filtering of information continues open. Web 2.0 articulates an answer to the question, "Who makes the content?" and represents an alternative to the project of a corporate Web, and uses portals dating from the time of the dotcom boom. It is the net of services where the user apparently possesses the control. Examples include Meneame.com, Technorati.com, Del.icio.us, Dejaboo.net, Flickr.com, and YouTube.com.

The social Web 2.0 has its popularity in the users' innovation and the popularization of the free software, supporting the social software for the group interaction. The social net incorporates the sociotechnical structure that emerges as an organic form on which new patterns of use of the info-technology are observed. It possesses a structure that is imposed in all the environments: personal, labor, professional, managerial, or educational. Users become consumers, clients, voters, readers, and journalists when they interact with their environment, which (in turn) keeps changing. New definitions appear such as the digital native, the e-generation of Life 2.0. It is the demanding *You*.

Fumero, Roca, and Saez (2007) maintain that Web 2.0 is of polyhedral nature and it

represents the transition of traditional applications that work through the Web and are focused towards the end user, generating collaboration and services that replace desktop applications. The network has turned into social space, with the capacity for all social agents to give support to and take part in a true society of information, communication, and knowledge. It is a people's network as opposed to a data Web that uses the technology of AJAX (Ascynchronous Javascript) and XML to develop applications such as Flickr, and Del.icius.

A new user emerges and with it emerges a new consumer. The new consumer is prone to multitasks: watching television while chatting on Messenger and using P2P. Thus, the integration between different channels is necessary. Modern consumers define themselves by the following characteristics:

- Intelligent—having more information available because it increases their capacity to analyze and discern

- Fortified—having the capacity to decide what goods and articles they will consume versus manufacturers deciding their consumption

- Skeptical—they discuss a second boom, after they have surpassed the technological bubble

- Connected—within 4–5 years, there will be no longer be a distinction between being online or offline

- Busy—having a lack of spare time

- Disloyal—This characteristic is verifiable by observing the dominant position that older companies like AltaVista or Ask used to have in the search engine market, and who are now marginalized to residual portions of the market

The last tool incorporated to the interactivity chain is Twittr. It consists of miniblogs for mobile phones. For Estalella (2005), the true achievement of Twittr is its capacity to transfer platforms and connect the Web with mobile phones.

INTELLIGENT SOCIAL WEB OR WEB 3.0

Meanwhile, it is anticipated that the arrival of the Web 3.0, also denominated "semantic Web" or "of common sense" that promises to organize the world's information in a more logical way by comparison with the way the current search engines organize it. This will give more meaning to Web pages. Thus, Tim Berners-Lee (1999), author of the World Wide Web, calls it the "semantic Web." Thus, the net would be an intelligent guide, not merely a catalogue of items that are more or less orderly. On the other hand, Web pages could exchange information about their content. This will be knowledge versus information, with an extensive system of ontology that will cover all the domains of knowledge about which humans can reason and deduce answers or conclusions, not merely searches for information by means of key words.

DEMOCRATIZATION OF WEB 2.0: CIVIC JOURNALISM 3.0.

San Millán et al. (2007) asked whether the free culture, the open business, would have a place in the future of the Web. The convergence is leading to a concentration of the control of the channels of information, establishing two different pathways: a paying path, which is more powerful, and a free path, which is less flowing. Thus, the neutrality of the net is under siege.

The "citizenship journalism" or "civic journalism" 3.0 (again with undefined labels) praises the socialization of information. Thus, citizens have appropriated the information through the social means. The credibility crisis with the traditional press, the question of its objectivity, and the appearance of accessible digital tools all transform journalism into a conversation from which citizens do not want to be absent.

The labels 2.0 or 3.0 are necessary and almost unavoidable, for they highlight the idea that the germ of civic journalism is in the readers' letters to newspaper editors in the 19th century. The citizen not only becomes a collaborating reporter, but also participates in and decides the news.

Collective intelligence, built through the consensus of million users, is the immediate future of the social search engines, the base of Kratia and Gennio. Some communication tools will be needed so that the idea of collaboration will find itself able to construct a solid free community, that classifies labels, values and shares information. Gennio is not in fact a search engine, although it has a component of a search engine, for it uses third parties. It is divided in two components: the traditional search component, in which the technology of tags is applied, but combined with Google, Yahoo, and MSN; and another component in which the users can choose and label the favorite sites. Kratia is a new generation, democratic search engine that takes advantage of collective intelligence when arranging the search engine results of MSN Search and others, for the order of the results is determined by the votes of the users who also provide their opinions.

THE USE OF SEARCH ENGINES AS A MARKETING TOOL IN SPAIN

While making a revision of the existing literature on digital marketing, we found that a clear definition of digital marketing eluded us. Dans (2001) maintained that the objective of the digital marketing was to give an answer by means of the technology to the requirements of one-to-one marketing. Regarding Internet channels, digital marketing uses diverse strategies to understand the Social Web 2.0, a constant and changeable interactive platform (Macía & Gosende, 2006). These strategies include online publicity using interactive banners; positioning in the main search engines, with programs for advertisers as Google AdWords; outlining interrelation bonds with clients (e.g., news, blogs, wikis, articles, studies, comments, and forums); and viral marketing, or the phenomenon Second Life. The list is endless (Luna, 2007).

According to a study on EMarketing (2007), the publicity invested in search engines in the United States has passed from 47% in 2004 to 66% in 2007. The amount invested is distributed equally between Google and Yahoo, for they shared 50% of the market. The same study shows also that only 6% of the budget of the American companies is dedicated to the online publicity.

The innovative strategy of using Second Life (secondlife.com) for online marketing has

arrived in Spain. On March 9, 2007, at the Computer Science Faculty of the Polytechnic University of Madrid and, simultaneously, on the Second Life platform (uvvy.com/index.php/SLnegocios2007), the conference "Second Life as a Business Environment" was held. It gathered more than 140 people with a present attendance of 80 people (Nova Tierra, 2007).

Varela (2007) maintained that viral marketing, with the campaign "I Love Laura," tries to place promotional content in place of participative videotapes like YouTube.com or iFilm.com.

The main search engines in Spain are Google, Yahoo Search, Live, Noxtrum, and Ask.com. Search engine marketing includes promotion and publicity. According to a study of EMarketer (2007), the publicity placed in search engines in the United States from 2004 to 2007 has grown from 47% to 66%, where Google and Yahoo! share 50% of the investment pie. The same study reveals that only 6% of the budget of the American companies is destined to publicity online. The rankings of the top 10 global search engines are shown in Table 2.

TABLE 2. *TOP 10 GLOBAL SEARCH ENGINES*

Search engines	Global ranking	Unique audiences (mil.)	Percentage of active searches
Google Search	1	211.0	67
Yahoo!	2	77.5	25
MSN/Windows Live	3	64.0	20
AOL	4	33.2	22
Ask	5	20.1	6
Microsoft	6	8.1	3
AltaVista	7	6.6	2
Local.com	8	6.2	2
Voila	9	5.4	2
InfoSpace	10	5.0	2

Note. From "Estado de los buscadores: Un panorama general," by Gustavo Núñez, 2007. Congreso Ojo Buscador, March 8, 2007. Copyright 2007 Nielsen/NetRatings. Adapted with permission of the author.

Spanish SMEs have incorporated the corporate Web over 2005, with the tendency to reduce the distance between the medium-size companies and the large companies, although the breach will be prolonged. The same report stated that approximately 13.8% (128,400 companies) of Spanish companies have contracted publicity on the Internet in 2005, inserting announcements in Web sites, search engines, access suppliers of general use or in Web sites specifically directed to their sectors of activity which supposes a decrement of more than 1% with respect to 2004.

Internet continues being a minority means of advertising. Only those companies that invest in this channel of publicity reach significant numbers, for example, companies with more than

250 employees with a discreet 33% investment or medium-size and small-size companies where the investment percentage stays around 14%. Only IT companies, I+D companies, and other services clearly exceed the average of 14% of Internet advertising investment, with a not-too-encouraging percentage of 23% and 20% respectively.

This publicity is inserted mainly in specific Web sites related to the companies' activity, taking advantage of the great segmentation possibilities of the Internet. These numbers are almost identical to the measures in previous years that denote a certain degree of inertia in the companies' decisions regarding publicity. As Table 3 shows, the main search engines in Spain are Google, MSN (Live), and Yahoo Search, where Google maintains its absolute leadership with a market quota of more than 80%.

TABLE 3. *MAIN POSITION OF SEARCH ENGINES BY COUNTRY*

Country	Ranking				
	1	2	3	4	5
USA	Google	Yahoo!	MSN	Google Image	AOL
Brazil	Google	UOL Busca	Google Image	Yahoo!	MSN
Australia	Google	Google Image	NineMSN	Yahoo!7	Sensis
England	Google	Google Image	Yahoo!	MSN	Ask
France	Google	Google Image	Voila	MSN	Yahoo!
Germany	Google	Google Image	Yahoo!	MSN	T-Online
Italy	Google	Google Image	Alice	MSN	Libero
Spain	Google	Google Image	MSN	Yahoo!	noXtrum
Switzerland	Google	Google Image	MSN	Yahoo!	Bluewin

Note. From "Estado de los buscadores: Un panorama general," by Gustavo Núñez, 2007. Congreso Ojo Buscador, March 8, 2007. Copyright 2007 Nielsen/NetRatings. Adapted with permission of the author.

The increasing success of the two editions of the Seeking Eye Conference shows that the positioning in the main search engine is an emergent business in Spain. The growth rate of the market quota of the search engines in Spain is the second highest in the European Union with 21%, behind France that has 27%. Table 4 shows the top 50 Spanish companies that are best positioned on search engines.

TABLE 4. *TOP 50 SPANISH FIRMS BEST-POSITIONED ON SEARCH ENGINES*

Rank	Web site	Organization
1	http://www.bbva.es	BBVA
2	http://www.telefonica.es	Telefónica España
3	http://www.sogecable.es	Sogecable
4	http://www.elcorteingles.es	El Corte Inglés

Rank	Web site	Organization
5	http://www.elpais.com	Diario El País
6	http://www.rtve.es	Radiotelevisión Española
7	http://www.once.es	Organización Nacional de Ciegos de España
8	http://www.dgt.es	Dirección General de Tráfico
9	http://onlae.terra.es	Org. Nacional de Loterías y Apuestas del Estado
10	http://www.renault.es	Renault España
11	http://www.cocacola.es	Coca Cola
12	http://www.marsans.es	Viajes Marsans
13	http://www.mattel.com	Mattel España
14	http://www.movistar.es	Telefónica Móviles
15	http://www.ceac.es	Centro de Estudios CEAC
16	http://www.carrefour.es	Carrefour
17	http://www.nissan.es	Nissan Motor
18	http://www.lechepascual.es	Leche Pascual
19	http://www.vodafone.es	Vodafone
20	http://www.fox.es	Hispano Fox Films
21	http://www.nokia.es	Nokia
22	http://www.halconviajes.com	Viajes Halcón
23	http://www.peugeot.es	Peugeot
24	http://www.altadis.com	Altadis
25	http://www.citroen.es	Citroën
26	http://www.ford.es	Ford
27	http://www.opel.es	Opel
28	http://www.bmw.es	BMW
29	http://www.volkswagen.es	Volkswagen Audi
30	http://www.allieddomecq.com	Allied Domecq
31	http://www.danone.es	Danone
32	http://www.toyota.es	Toyota
33	http://www.planetadirecto.com	Planeta Directo
34	http://www.nestle.es	Nestlé
35	http://www.repsolypf.es	Repsol YPF
36	http://www.heineken.es	Heineken
37	http://www.seat.es	Seat

Rank	Web site	Organization
38	http://www.gallinablanca.es	Gallina Blanca
39	http://www.henkel.es	Henkel
40	http://www.corporaciondermoestetica.com	Corporación Dermoestética
41	http://www.mahou.es	Mahou
42	http://www.retevision.es	Retevisión Mobile
43	http://www.loreal.es	L'Oreal
44	http://www.mcdonalds.es	McDonald's
45	http://www.unilever.es	Unilever
46	http://www.esteelauder.es	Estée Lauder
47	http://www.nivea.es	Nívea
48	http://www.fiat.es	Fiat auto
49	http://www.pepsi.es	Pepsi
50	http://www.arbora-ausonia.es	Arbora & Ausonia

Note. From "Estudio Top 50: Análisis del posicionamiento en buscadores de las 50 empresas que más invierten en publicidad en España," by Emiliano Elías, 2007, pp. 10. Copyright 2007 by InZearch. Retrieved on April 5, 2007, from http://www.theslogan.com/es_content/index.php?option=com_remository&Itemid=23&func= showdown&id=7. Scholarly research.

Spanish companies, mainly the SMEs (small and medium-sized enterprises), show a great interest in using search engines as a marketing tool (OjoBuscador, 2007). A study by Baeza-Yates, et al. (2005) on the Spanish Web in 2005 shows that only 16% of corporate Webs had a unique name or title, indicating the level of optimization of the Spanish sites regarding search engines. The analysis made by Elías (2007) on the Spanish companies and their investment in publicity concludes that they do not use good strategy for marketing their Web sites. As Table 4 shows, the study included 50 companies with the highest investment in publicity in the Spanish market and showed that the millionaire amount of money destined for publicity off-line was not accompanied by an appropriate marketing strategy on the Internet so that the Web sites would have an equally good positioning on the Internet.

SOCIAL NETWORKS ON THE INTERNET

Social networks on the Internet have held fast the motors of advance within Web 2.0. Their origin goes back to 1995, when Randy Conrads created the Web site Classmates.com to find or maintain contact with former high school or college classmates. There are more than 200 sites of social networks, although Friendster has been better known to use the technique of the circle of friends. The popularity of these sites has grown quickly and some big companies have entered the space of the social networks on the Internet. Thus, Google created Orkut on the January 22, 2004. Other search engines like KaZaZZ! and Yahoo! have also created social networks in 2005.

The social networks have their origin and development from the theory of the six degrees of separation, by which it is asserted that all people in the planet are connected through not more than six people. Hungarian Frigyes Karinthy first proposed the chains theory in 1929, which

postulates that the number of known people grows exponentially with the sum of the connections in the chain.

San Millán and Medrano (2007) classify the social networks in different types:

- Leisure Networks—segmented generally by ages, for example, Festuc.com that is directed toward young people or MiPasado.com for adults (over 35 years old), or by likings, for example Oobgolf (www.oobgolf.com) for the lovers of golf, Tomajazz (www.tomajazz.com) for music lovers, or Literatura.com for lovers of literature.

- Encounter Networks—dating social networks where one can search for partners, for example, the French Meetic (meetic.com), a contact site with international participation and which, in 2006, had a turnover of 78.8 millions euros, 83.2 % more than the previous year (Blanco, 2007); the Spanish Contacts of Marqueze (contactos.marqueze.net/contactos.html) with more than 100 sites; and the world leader in the sector for the last 12 years, the North American Match.com, with a turnover of 240 million euros. Trying to establish itself in Europe, in February 2007, it bought Net Club, which was No. 3 in the sector in France, making Match.com the leader in Europe. Other network sites in Spain are trying to find a place in market, for example Amigos.com (www.netclub.fr), Parship, Be2, AdultFriendFinder, FriendScout24, Badoo, or Amigar.com. Blanco (2007) suggested that there would be more business in the segment of Mobile Dating, and that all these social contact networks must evolve by the incorporating characteristics of Web 2.0.

- Networks of systematic culture of professional contacts—for example, the German Xing, ex OpenBC, that has absorbed the Spanish Neuron and eConozco to introduce itself in the Spanish-speaking market; the Anglo-American LinkedIn (www.linkedin.com), the leader of the sector with 11 million members and 180,000 new members every week.

- Networks of College students—for example, theSquare (www.thesquare.com), with elitist touch being constituted by students of the some of the most prestigious universities in the world, like Yale, Oxford, or Harvard; entrepreneurs blog users like Iniciador (www.iniciador.com) with off-line meetings in Madrid on the second Wednesday of every month.

- Elitist networks—for example, ASmallWorld where exclusive executives and club members share firsthand information on leisure and company.

- Networks for commercial relations—for example, RefeNet (www.refernet.net), Shortcut, Shoomo; the Spanish NoticiasdelVino (www.noticiasdelvino.com) or Misterios, the social network of the mystery; PuroMarketing, a social network of marketing, publicity, and businesses.

In Spain, we are witnessing the growth of networking (Alastrauey, 2006) like strategic management of a network of professional contacts, with Xing playing a leading role with more than 200,000 users and networkers, and LinkedIn with around 65,000 active Spanish users.

MARKETING IN THE SOCIAL NETWORKS WEBSITES

Dans (2001) maintains that the objective of digital marketing is to answer the requirements of one-to-one marketing by means of technology. The primary aim of Web marketing is the promotion of goods and services online to put them at the disposition of the clients using Web-based tools. In this process, commercialization, publicity, brand management, and market research is implicit. Thus, the evolution–revolution of publicity is made clearer through marketing of interruption, user-controlled publicity, long tail, bidirectionality, and conversation.

In 2007, 48% of brand marketers were predicted to develop marketing campaigns in social networks channels, as opposed to 38% in 2006 (Riley, Card, Wigder, Mitskaviets, I., 2007). Although it is necessary to be aware of the social networks, Riley et al. (2007) maintains that marketing in communities online is not effective for all the advertisers. Before introducing itself in one of them, the brand must think about the audience it addresses there and how to attract it. In addition, Riley et al. (2007) sounds the alert that the social networks can cause a slower growth of the investment of the publicity online because the users of online communities and social networks have selective behavior. They are demanding Internet users, the *You* intelligent. They move on Web sites and own their own sites; they customize spaces, know friends and contacts and, what is worse for publicity and marketing, they usually feel annoyed when they are exposed to invasive publicity. Online behavior is different from the typical behavior of the mass user who one could denominate as being in Stage 1.0: a consumer of passive content who seeks general information and entertainment. Figure 1 shows the global distribution of social networks.
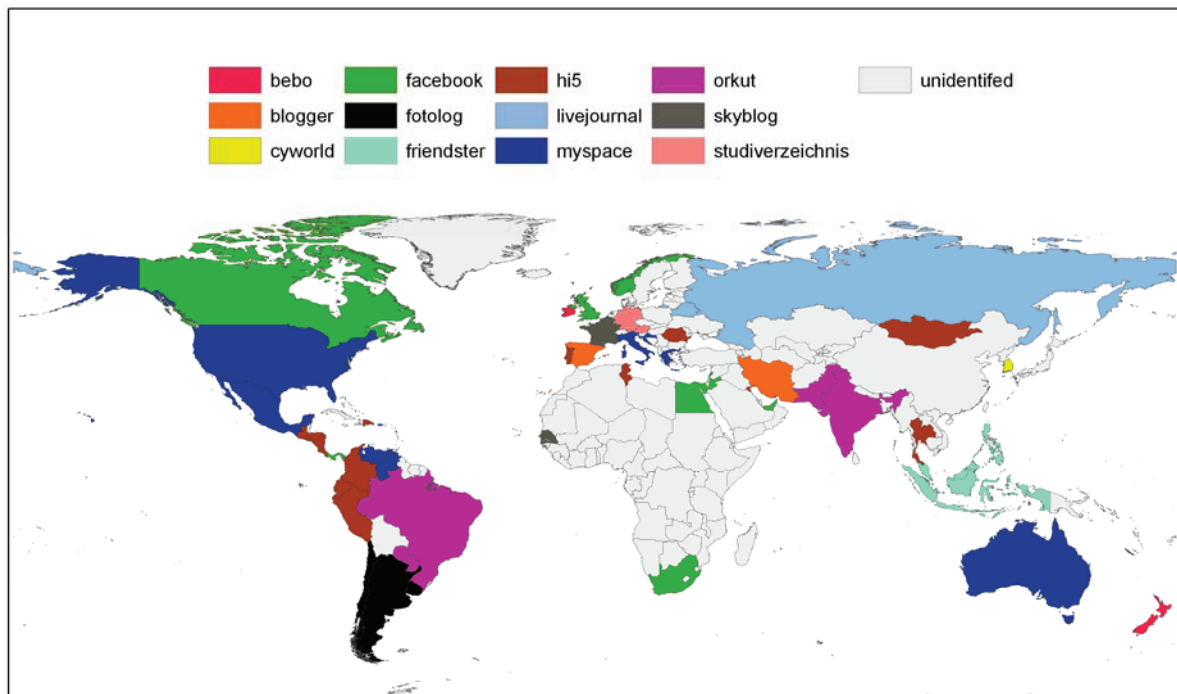

FIGURE 1. THE WORLD MAP OF SOCIAL NETWORKS

Note. The colors on the map are the Web site colors for the given social network. From "The World Map of Social Networks," by Nick Denton at Valleywag with Alexa.com data and Lucas Shaw/Wandamere for Valleywag (maps), published by Valleywag.com (June 28, 2007). Copyright 2007 by Lucas Shaw/Wandamere for Valleywag (maps) and Valleywag.com (data). Reprinted with the permission of the authors. Retrieved on

January 18, 2009, from http://valleywag.gawker.com/273201/tech/ data-junkie/the-world-map-of-social-networks. Also cited by Liz Martínez in "Blogger: La red social más usada en España," October 4, 2007, on *Etc.Territorio Creativo.es* (2007). Retrieved on January 14, 2008, from http://etc.territoriocreativo.es/etc/2007/ 10/blogger-la-red-social-mas-usada-en-espana.html. Although the data for the map is almost 2 years old now and the leading social network in many countries might have changed since it was published, it is yet useful to demonstrate as a snapshot and as a basis for future research. To the point, Bob Margel appears to have done an update in October 2008 viewable at http://blogs.msdn.com/robmar/archive/2008/10/23/favourite-social-network-by-country.aspx.

The users of social networks, let's call it Stage 2.0, use the network for more personal and communication intent, that is, not merely for information, but also for bidirectional communication. New users multiply the potential of the network and have a different concept of communication; this is why advertisers must yet discover how to announce themselves without causing a negative reaction. Meanwhile, they remain on the sites and classic Web pages, where they can advertize safely. Some experts like Group M, are forecasting a tendency toward an online publicity investment loss in the United Kingdom over the next few years. Table 5 displays the data behind the map showing the social network distribution by site and country.

TABLE 5. *GEOGRAPHIC ALLOCATION OF SOCIAL NETWORKS*

Bebo	Blogger	Cyworld	Facebook	Fotolog	Friendster	hi5	Livejournal	myspace	orkut	skyblog	studiverzei chnis
Irlanda	España	Korea Sur	Canadá	Argentina	Brunei	Colombia	Belarús	Australia	Brasil	Belgica	Austria
N.Zelanda	Irán		Egipto	Chile	Indonesia	Costa Rica	Rusia	Croacia	India	Francia	Alemania
			Jordania	Uruguay	Malasia	R.Dominicana		Grecia	Pakistán	Polinesia	
			Líbano		Filipinas	Ecuador		Italia	Paraguay	Guadalupe	
			Noruega		Singapur	El Salvador		Méjico		Martinica	
			Panamá			Guatemala		Puerto Rico		N.Caledonia	
			Sudáfrica			Honduras		Servia		Senegal	
			Gran Bretaña			Kuwait		EE.UU.			
			Emiratos Arabes			Mauricio		Venezuela			
						Mongolia					
						Nicaragua					
						Peru					
						Portugal					
						Rumania					
						Tailandia					
						Túnez					

Note. Table of "The World Map of Social Networks," by Nick Denton at Valleywag with Alexa.com data and Lucas Shaw/Wandamere for Valleywag (maps), published by Valleywag.com (June 28, 2007). Copyright 2007 by Lucas Shaw/Wandamere for Valleywag (maps) and Valleywag.com (data). Reprinted with the permission of the authors. Retrieved on January 18, 2009, from http://valleywag.gawker.com/273201/tech/ data-junkie/the-world-map-of-social-networks. Also cited by Liz Martínez in "Blogger: La red social más usada en España," October 4, 2007, on *Etc.Territorio Creativo.es* (2007). Retrieved on January 14, 2008, from http:// etc.territoriocreativo.es/etc/2007/ 10/blogger-la-red-social-mas-usada-en-espana.html. Although the data for the map is almost 2 years old now and the leading social network in many countries might have changed since it was published, it is yet useful to demonstrate as a snapshot and as a basis for future research. To the point, Bob Margel appears to have done an update in October 2008 viewable at http://blogs.msdn.com/robmar/archive/ 2008/10/23/favourite-social-network-by-country.aspx.

CONCLUSIONS

We are witnessing the socialization, location, and segmentation of Web 2.0 thanks to the strengthening of the social networks, which means that the traditional vehicles are no longer efficient as centralized sites. New models are needed that will adapt to new users, the *You* demanding ones, and to their creative content, for they multiply the potential of the network

and have a different concept of communication that is bidirectional, participative, and selective. Therefore, advertisers must discover how to announce themselves without causing negative reactions.

In the advance of the segmentation of the Web, the local will become more social and the social will become more local. The advance of thematic niches in social networks, including elitist clubs like ASmallWorld, against the more democratic parameter of Web 2.0, has given rise to a collective base around likings and necessities. The confluence of a multiplatform that offers mobile phone technology to social networks provides companies suitable surroundings to develop new advertising formats.

Web 2.0 is the Web of the people that open a new field for Web marketing, which is to adapt better to the behaviors of new, active, and intelligent ciberusers, or digital natives, in contrast to the passive users of Web 1.0, or digital immigrants. Although these new users might be more demanding, they also cause a decrease in the investment of online publicity.

As a model of business and commercial strategy in the new fields that are arising in Web marketing, we emphasized the fortification of RSS (Really Simple Syndication) that is beginning to replace marketing by e-mail and has become a better-quality, direct communication channel with the consumers.

Within the social networks, we have emphasized Facebook and ASmallWorld as models of success that capitalize on the cohesion between network members and that make them an ideal site for publicity.

Among causes of a possible failure of the social network sites, we emphasized the problems of privacy, the absence of effective systems of motivation such that the people share their contacts, the strengthening of the relationships outside the network, the lack of integration with other applications such as interchange systems like Messenger, and the lack of interoperability with other networks.

The mainframe of digital marketing is the Web that uses specialized search engines. Search engines have evolved from suppliers of information and content to key pieces for advertising services and to electronic trade between companies and individuals. More than 4–6 million Spaniards already use the Internet to buy products and services. The year 2007 was the year of advertising consolidation on the Internet in Spain. It was also the year of the incorporation of many businesses and companies to the Network as a fundamental vehicle.

Spaniards trust Google because it has 90% of the quota of the search market in Spain. In fact, 70% of the searches in Google are local; thus, its Local Solution Business Search is the heart of the business of the company. Therefore, in Spain, this great search engine has reinforced its directive team with four new directions to launch itself to the market with two objectives: advertising markets (mainly video) and electronic commerce. The intention is to commercialize publicity in other supports and formats outside of the Web, but managed through the Web by the SME (Varela, 2006).

Hernández (2006), the director of marketing and products for Google, believes that this direction builds a bridge for Spanish SMEs over the challenges that they have (97.9% of the companies) in operating on the Internet.

The penetration of the Internet in Spain is approaching the European average: recently the INE has published data of the percentage of Spaniards connected to the network, 47.2%. Nevertheless, for the SMEs it still proved difficult to sell by Internet. Of the 21.2% that says to be online, less of 10% recognizes to make activities of e-commerce according to the AECE. That is a very small number, without a doubt. (p. 1)

This is the process: from the convergence to the segmentation, then, the customized search. The user demands more and more local and thematic searches. We are witnessing the increasing segmentation of the Web in thematic niches by countries, terms, collectives, and interests around a sport, cultural practice, and ages. The great search engines and the social networks wish to cover these specialized niches, which have become the center of attention of digital marketing. On the other hand, the lack of label definition, the rapidity of the constant appearance of new tools, the lack of trustworthiness, and the lack of up-to-date statistical data makes the analysis of the evolution of this sector difficult not only worldwide, but also nationally.

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CHINESE AND KOREAN ENTREPRENEURS GOING GREEN

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ABSTRACT

Developing countries in Asia, including China and Korea, have faced serious environmental challenges as their economies have grown. We review in this paper information on the unique, environmental problems and regulatory systems developed by both the Chinese and Korean governments. We envision entrepreneurs as ingenious storytellers of green narratives and actionable ideas that can attract and sustain public interest as well as governmental investment. Thus, by emphasizing the role of entrepreneurs as change agents transmitting green narratives that spark the process of imitation, we attempt to answer our initial research question: What would be the emerging roles of entrepreneurs in actualizing government-mandated environmental policies in Asia? We propose an emerging role of entrepreneurs as creative change agents who fill the gap between unfulfilled goals and policies initiated by governments and actual programs enacted by them. We close our paper by emphasizing a more interdisciplinary approach for educating future entrepreneurs.

INTRODUCTION

China is the fastest growing economy in the world and poised to be the next great superpower. The Chinese government is in the process of merging capitalist models with Communist ideology while fighting pollution and a widening income gap that has the potential to create schisms within Chinese society. For China, pollution is a current, not future, threat as increased manufacturing spews poison into air and water. Although Chinese leaders view the damage to the environment as merely a secondary problem to the threat that it poses to the continuation of the Chinese economic miracle, the people of China are demanding healthier air and water standards. Chinese entrepreneurs are heeding the challenge and world investors are backing their efforts.

For Korea, the idea of harmony between economic development and conservation of the natural environment was shared among a small circle of social philosophers and poets since 1970 (Park, 2000). Yet, it was during the early 1990s that sustainability or sustainable development slowly began to attract public as well as management scholars' attention. Since then, according to Park, various environmental schools of thought including land ethics, deep ecology, and eco-feminism

have been introduced in academia. For corporate leaders, however, the strategic importance of corporate sustainable management (CSM) has only recently gained attention. Efforts to design and implement ecologically clean technology and production processes are still reactive, mainly to abide by global standards. The current level of awareness and implementation of sustainable management practices among Korean small- and medium-sized enterprises (SMEs) and entrepreneurs is relatively low compared to Japanese and Chinese counterparts (Korean Enterprise Institute, 2005).

From above, we suspect that there exists a variation in terms of levels of governmental, corporate, and entrepreneurial initiatives to deal with environmental challenges among Asian countries. Apparently, Chinese and Japanese governments have taken measures that are more aggressive compared to their Korean counterpart. Thus, because of the national differences that have emerged from multiple factors, including their unique histories of socioeconomic development, their similar stages of economic development, and the clear differences in how they deal with environmental challenges, we have decided in this paper to concentrate on two countries: China and Korea.

In this paper, we have two goals. First, we seek to fill the gap between espoused governmental policies and goals, and actual programs that facilitate reaching those goals. Second, we envision a new role for entrepreneurs as storytellers of "green narratives" (Starkey & Crane, 2003) and innovative ideas.

ENTREPRENEURSHIP, INNOVATIVE STORYTELLING, AND GREEN NARRATIVES

It has become evident that, facing environmental challenges, Chinese and Korean governments, corporations, and entrepreneurs have set different strategic priorities and followed different paths to deal with the problems. Nevertheless, both the Chinese and Korean governments have apparently tried to imitate the old paradigm of economic development initiated by the West in reproducing predominantly technology-centered public and legal discourses on environmental issues.

In this paper, we propose a new role of entrepreneurs envisioning and articulating "green narrative" (Starkey & Crane, 2003). In a seminal paper on the "evolutionary epic" written from a Darwinian perspective, Starkey and Crane argued that current management thinking and practices have contributed significantly to various ecological problems. They further claimed that the situation would get worse as long as we (i.e., policy makers, corporate leaders, and management educators) stick to a techno-centric paradigm. The techno-centric paradigm is a specific way of looking at one's relationship with nature. Until recently, according to Starkey and Crane, the dominant assumption of the relationship between economic progress and nature has been the manipulation of the latter for the sake of the former.

To ameliorate the environmental problems, Starkey and Crane (2003) proposed an "evolutionary epic" that should challenge old mental models regarding the link between management and ecosystem. We fully endorse the arguments proposed by them. There should be more corporate as well as public awareness on the fundamental shift from the old paradigm of manipulating and

controlling nature to a new paradigm of coexistence of diverse species and ecoscience (Barlow, 1997; Wilson, 1992). We understand that sharing mere "green narratives" or "evolutionary epic" may sound too naïve or theoretical when we have to secure huge investment of financial and human capital to deal with environmental threats. Nevertheless, we believe in the adaptive and practical utility of storytelling as a means to improve our awareness of and shared vision for environmentally clean technology.

In the literature of diffusion of innovation and organizational storytelling, several scholars have argued for the adaptive functions of stories/narratives as a key medium for transmitting technological innovations or solutions to the various types of problems (e.g., Denning, 2001; Orr, 1996). Wilson (as cited in Barlow, 1997) also argued that humans cannot think without narratives because the human mind has a strong urge to organize experience in terms of narratives. From a cultural evolutionary perspective, a story is understood as a unit of information transmitted, replicated, or mutated (Dawkins, 1990). Essentially, humans are storytelling animals (Carroll, 2004; Sugiyama, 1996; Zunshine, 2006). Accordingly, we assert that stories filled with information about the process of developing new, clean technologies or new solutions to the specific, local problems will function as "green narratives"; thus, several Chinese entrepreneurial green narratives are included in this paper.

ENVIRONMENTAL CHALLENGES: THE CHINESE STORY

According to the Kuznets curve, pollution and other environmental problems worsen during the early stages of economic growth and begin to improve as a country reaches middle-income status. Industrialization often begins with relatively crude production techniques, which are both easy to master and dirty to use. This is the current state of Chinese industry. Only after the industrial base becomes broader in terms of technological capabilities and access to more efficient production techniques does the quality of the environment begin to take on more importance (Kuznets, 1955).

How serious China's environmental problems really are is difficult to discern. There are widespread complaints concerning dirty air and water that are likely to continue to intensify as production escalates (Keng, 2006). According to the Energy Information Association, China is the largest producer and consumer of coal in the world and many of China's large coal resources have yet to be developed. In addition, China has only a limited reserve of oil and natural gas available; therefore, production of coal will potentially increase in the future rather than decrease (U.S. Department of Energy, 2007). Currently, approximately 70% of China's energy needs are provided by coal with consumption rates rising in 2006 to 2.4 billion tons. Unfortunately, in addition to powering China's economic growth, coal is also choking the people of China (Economy, 2007).

However, since China is so heavily reliant on coal for cheap energy, projected rates of carbon related pollutants and greenhouse gases are expected to exponentially increase if China is to sustain current development goals (Smil, 2004).

In the area of sustainability of resource use, such as the ability of the natural system's capacity to replenish itself, China has much more serious problems. Water is one of the most critical resources because it is both highly polluted and currently being exploited in a way that is unsustainable, particularly in the relatively arid and highly industrialized northern provinces (Smil, 2004). According to a recent report from the World Bank, over half the water in the seven biggest river basins is unfit for consumption (A large black cloud, 2008).

> The source of the Yellow River, itself the water source for 140 million people in a country of about 1.3 billion, is in crisis as scientists warn that the glaciers and underground water system feeding the river are gravely threatened. For the rest of China…it is the latest burden for a river saturated with pollution and sucked dry by factories, growing cities and farming – with still more growth planned…. China's leaders, worried about the unbridled growth, are trying to emphasize 'sustainable development,' even as questions remain about whether the party's rank and file can carry out priorities like curbing pollution and conserving energy. (Yardley, 2006)

In fact, China is quickly becoming one of the leading polluters in the world. The World Bank estimates the cost for China's air and water pollution at $100 billion a year, or approximately 5.8% of GDP. The same report estimated deaths at 750,000 per year; however, after a complaint by the Chinese government, the estimate was removed (A large black cloud, 2008).

KYOTO ACCORDS AND CLEAN DEVELOPMENT MECHANISM

The Kyoto Accords represent the best international effort to date to contain the emission of greenhouse gases, which are directly linked to global warming and climate change. The Kyoto Protocol, adopted on 11 December 1997, is an agreement made under the United Nations Framework Convention on Climate Change (UNFCCC) that commits industrialized countries to stabilize greenhouse gas (GHG) emissions. The goal is to lower overall emissions of six greenhouse gases—carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydro fluorocarbons, and PFCs. The Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities" (Kyoto Protocol, 1997). Developing countries, including China and Korea, are exempt from the framework of the treaty.

China's classification has come under the magnifying glass as a developing country or a developed country. Western countries began to question to which category China belongs. In some instances, China purports that it is a developing country; in others, it purports that it is already developed. Although researchers believe that China has moved into the position of producing the largest amount of greenhouse emissions in the world, China perceives itself, under the Kyoto Protocol (1997), as a developing country and insists that the emissions level of any given country is a multiplication of its per capita emission in relation to the size of its population. China has a population control measure in place and claims low emissions per capita based on current population; thus, it considers itself exempt under the developing nation framework (Yihong, 2007).

The Clean Development Mechanism (CDM) was designed under the Kyoto Protocol (1997), Article 12, to encourage financial transfers from developed countries (with emission-reduction or

emission-limitation commitments) to developing economies to implement emission-reduction projects. According to the World Bank, CDM prompted investments of $59 billion in 2007, but is scheduled to halve and then shrink to almost zero by 2010. The depletion of the program stems from the impending expiration of the Kyoto protocol at the end of 2012. The treaty required developed nations to cut greenhouse gas emissions by 5% below the 1990 level (excluding the U.S., which never ratified it). At the same time, the treaty incorporated developing countries into the plan to reduce global warming by setting up the CDM.

The plan would allow wealthy governments or businesses to pay for projects that would cut emissions in poorer developing countries to earn certified emission reduction (CER) credits, each equivalent to one ton of CO_2, which could then be counted towards meeting the plan's domestic emission reduction targets at home. A CDM project might stimulate sustainable development and emission reductions, while allowing industrialized countries some flexibility to meet emission reduction and limitation targets.

There are currently more than 3,000 CDM projects in progress worldwide, 60% of which are in China (A moment of truth, 2008). Companies can propose anything that would reduce greenhouse emissions, but the system is difficult to navigate. There is only one official restriction, "additionality," which means that, to be eligible, a project must be viable because of the extra revenue that selling credits will produce. Project developers must hire an approved auditor to review their designs before they submit them to the overseeing board of CDM, and auditors must check on the implementation of the project before developers can apply to the board for credits or certified emissions reductions. Until April 2007, the executive board of CDM accepted 82% of proposals without question and approved over 96% of projects.

According to Michael Wara of Stanford University, in some cases the CDM gives emerging countries an excuse to avoid implementing climate-friendly regulations, including improvements they could easily afford (A moment of truth, 2008). Governments justify their decision to do nothing by asking, "If someone else is willing to pay to make the same improvements, why spend government money?" China accounted for the most CDMs, 524 projects in 2006, worth almost $5 billion (Green shoots, 2008). In 2007, China collected $5.4 billion or 73% of the total money allotted for CDMs (Melting Asia, 2008). Relatively few green technologies are competitive without subsidies or incentives of some sort. The Chinese government has quickly realized the benefit of CDMs.

FIFTEENTH FIVE-YEAR PLAN (2006 ñ 2010)

New green urban development projects have begun in Shanghai, Beijing, and Huangbaiyu. The Dongtan project on Chongming Island near Shanghai was clearly outlined in the government's Fifteenth Five-Year Plan, which included acceleration of infrastructure construction, improvement of the investment environment, and support for a trial development that will eventually be home to half a million people living in green buildings powered by renewable energy produced from wind, bio-fuel, and recycled city waste (Steffen, 2006). Hydrogen fuel cells will power public transportation and a network of cycling and footpaths will help the city to achieve its close to zero vehicle emissions goal. Farmland will use organic farming methods to grow food. Dongtan will eventually become a city of three villages with the first phase for as

many as 5,000 people to be completed in 2010. The project will be implemented in several phases and should accommodate 80,000 people by 2020 and half a million by 2050 (de Chàtel, 2007).

Dongtan will be the world's first eco-city. However, more importantly, governmental agencies will document the research on Dongtan's development strategy for future developments that will incorporate environmental and ecological protection first. All materials, technology, and management used in the Dongtan project must meet international environmental protection standards. The research on Dongtan's development strategy contains many important elements for the future of China and the world.

Architect Alejandro Gutierrez stated (O'Reilly, 2006),

> All over China…peasant farmers are becoming urban citizens, working in factories, doing urban service jobs and so on. So China has initiated this extraordinary process of urbanization. They're expecting to build about 400 cities…in the next 20 years. Urbanization is becoming the dominant factor in what is happening in China and how China, ultimately, will affect the rest of the world.

Chinese entrepreneurs have turned to world investors to finance their own innovative projects.

GREEN NARRATIVES OF SUCCESSFUL ENTREPRENEURIAL VENTURES IN CHINA: SOME EXEMPLARS

With a projected population of 1.4 billion by 2050, China is under increasing pressure to find sustainable solutions to waste management and resource use. For entrepreneurs like Wu Hao, founder of Landwasher Science & Technology Development Co., Ltd., this is a perfect opportunity to create a product that meets the special needs of China. Wu's company designs energy efficient, water conserving toilets. Since its inception in 2001, Landwasher has grown to become one of China's leading companies. The special purpose agent and sterilization process used in Landwasher' toilets requires no water and very little electricity to flush them. "Because the special-purpose agent is free of heavy metal and phosphorous, discharge composts quickly and poses no harm to the environment" (Last, 2007, p. 1).

Wu is but one example of a new generation of green business entrepreneurs that are sweeping through China. Landwasher was one of four big winners in the Fourth New Ventures China Investors Forum, which was held on 31 May 2007 in Beijing. According to the panel of judges (representatives from China Environment Fund; BoozAllen Hamilton; Citigroup; AsrIA; Shanghai Pudong Development Bank; and the International Finance Corporation), Landwasher's eco-friendly toilets are in heavy demand specifically in rural locations where the infrastructure is less than perfect. Landwasher has also been selected by the Olympic Organization Committee to manufacture and install mobile toilets for the Olympic Games in Beijing. Wu Hao states, "Assuming all of our country uses water-flushing toilets, not even the Yangtze River and the Yellow River will be enough" (Last, 2007, p. 1).

The other three "green companies" chosen at the Fourth Investor Forum were (a) Shenyang

SMEs Credit Guarantee Center that provides loans to small and medium sized enterprises; (b) Tianjin Lotus Biological Technology Co., Ltd. that develops and produces a radically new technology for environmentally friendly organic fertilizer that needs to be applied only once during the entire growing cycle and generates 15–60% increases in yield; and (c) Beijing Yusen Jaiyu Environment Protection Technology Co., Ltd., that develops and produces 100% biodegradable 'polymers' and granule material made from discarded straw, shrimp, and crab shells. The planting bags will help to reverse desertification in rural ecosystems (Newberry, 2007). "China's State Forestry Administration estimates that desertification has hurt some 400 million Chinese, turning tens of millions of them into environmental refugees, in search of new homes and jobs" (Economy, 2007, p. 41).

Solar-powered water heaters are another entrepreneurial venture that is improving life in China. Himin Solar Energy Group Co., Ltd. was founded in 1996 and is the main producer of solar-powered water heaters. The Chinese government is hopeful that expanding the use of solar powered hot water heaters to hospitals, schools, and restaurants will reduce China's addiction to the use of coal as the dominant energy source. Integration of solar hot water systems into building designs has become a recent trend in China with some large-scale projects also adopting the systems for use in high-rise buildings and new residential areas. Although only capturing 11% of the market share, $2.6 billion worth of solar-powered water heaters were sold in China in 2006/2007 (Li, 2007).

ENVIRONMENTAL CHALLENGES: THE KOREAN STORY

As noted earlier, the highest CO_2 emissions in Asia and the Pacific region in absolute terms come from China. Yet, in 2005, both CO_2 emissions per capita and the consumption of ozone-depleting substances per capita were higher in Korea than in China (Statistical Yearbook for Asia and the Pacific 2007, 2007). Considering the highest pollution intensity of small and medium sized enterprises (SMEs) and the gap between the governments' planning and rapid development of SMEs in developing countries, increasing levels of air and water pollution in Korea is a serious challenge for SMEs that often lack resources as well as awareness about the importance of environmental management. Furthermore, greenhouse gas emission has been one of the key environmental issues in Korea and, as of 2001, the air quality of Korea ranked 72nd out of 122 countries according to the Environmental Sustainability Index (Ahn, 2007).

ENVIRONMENTAL POLICY AND REGULATORY SYSTEMS IN KOREA

Since the early 1990s, Korean government, business circles, and academic associations have sustained efforts to promote an environmentally friendly industrial structure and clean technology. The key milestones of environmental management in Korea, according to Lee (2005), are described below:

- Environmental Manifesto of Korean Business Circle (May 1992)
- Participate in ISO/TC207 for ISO 14000 Series (1993)
- Introduce the Environmentally Friendly Company Certification Scheme: Ministry of Environment (MOE) (1995)
- Enact the Promotion Act for Conversion to Environmentally Friendly

Industrial Structure: Ministry of Commerce, Industry, and Energy (MOCIE) (1995)
- Principles and Guidelines on Environmental Management:
  Korea Chamber of Commerce and Industry (1997)
- Charter for Environmental Management towards Sustainable Development:
  Federation of Korean Industries with four other Industrial Associations (2000)
- Korea Business Council for Sustainable Development – KBCSD (2002)
- Korea Environmental Management Association – KEMA (2002)
- Business Institute for Sustainable Development – BISD (2005)

The popularity of green management, environmental management, or sustainable management reflected by some indicators (e.g., media coverage, publications, and academic conferences) is probably due to governmental and corporate leaders' awareness of increasing external pressure to comply to global standards to survive in global competition (e.g., ISO 14001 that provides the *requirements* for an environmental management system [EMS]). In fact, until now, Korean corporations have mainly focused on the compliance of global standards and external regulations (e.g., Registration, Evaluation, Authorization and Restriction of Chemical substances [REACH] and Restriction of Hazardous Substances [RoHS]) imposed by importing countries and regions (Jung, 2007).

In Korea, the Ministry of Environment (MOE) and the Ministry of Commerce, Industry, and Energy (MOCIE) are the two major governmental bodies that have developed various policies and measures related to sustainable management (Lee, 2005). The core mission of both MOE and MOCIE is to improve the quality of living for both present and future generations in Korea. Accordingly, the Presidential Commission on Sustainable Development has conceptualized sustainable development in terms of three pillars: economic prosperity, social unity, and environmental sustainability (Ahn, 2007).

As of 2005, MOE has developed Environmental Cost Accounting and Reporting Guidelines and Environmentally Friendly Company Certification Schemes for approximately 150 companies (Lee, 2005). According to Lee, the MOE has also initiated and issued Environmental Labeling (i.e., Type I and Type III), Green Purchasing Law & Network, and the Green Building Certification.

In addition, the MOCIE has supported and promoted cleaner technology development in Korea. By late 2004, approximately 2,600 companies had been awarded ISO 14001 certification by the Korean Accreditation Board (KAB) under the supervision of the MOCIE. There were also approximately 20 certification institutions and 250 auditors in Korea (Lee, 2005).
Regarding the active roles and status of MOCIE, Ahn (2007) wrote:

> Korea's industrial environmental policy was based on '*The Promotion Act for Conversion to Environmentally-Friendly Industrial Structures*,' enacted in December 1995 by MOCIE. Its purposes are not only to encourage environmental management in Korean business circles through environmental management systems like ISO 14001 and cleaner production, but to improve eco-efficiency continuously. The MOCIE has also established and implemented the '*Comprehensive Action Plan for Environmentally-Friendly Industrial Development*' from 1996, and based on it, MOCIE established the

Korean National Cleaner Production Center (KNCPC) in 1999....In connection with developing and diffusing cleaner production technology, the National Cleaner Production Center provided about USD 170 million dollars to more than 1,320 cleaner production technology development projects from 1995 to 2003. (pp. 58–59)

CURRENT STATES OF ENVIRONMENTAL MANAGEMENT IN KOREA

The sustainable development of a nation-state highlights the strategic importance of the simultaneous pursuit of economic growth, environmental protection, and social equity (Ahn, 2007). At the corporate level, Ahn (2007) circumscribed the conceptual boundary of corporate sustainability management (CSM) to eliminate conceptual confusion as follows:

> Sustainability development, environmental management, corporate social responsibility, stakeholder engagement, and corporate accountability may be the five pillars of corporate sustainability management (CSM). The CSM is an evolving concept that managers are adopting as an alternative to the traditional growth and profit-maximization model.... While corporate sustainability recognizes that corporate growth and profitability are important and basically the same point of view, it also requires the corporation to strive to have a relationship with a wide range of stakeholders in order to reach the societal goals, specifically those relating to sustainable development; environmental dimensions, social dimensions, and economic dimensions. (pp. 97–98)

Simply put, CSM is a new strategic paradigm in management and its conceptual basis is to maximize the Triple Bottom Lines (TBL). From the TBL perspective, the value of a company is expected to be assessed simultaneously according to three areas of corporate responsibilities: social, environmental, and economic (Ahn, 2007; Jang, 2004).

From the CSM perspective, historically Korean corporate circles have put greater emphasis on the financial performance of a corporation overlooking social and environmental responsibilities. Given that the prime mover of Korean government-planned economic development in the early 1960s was the national longing to be free from absolute poverty, it is not surprising to find that a majority of corporate stakeholders in Korea are still not well aware of the meaning and strategic importance of CSM. For instance, Jang (2004) found that approximately 70% of his participants ($N = 98$, 66 employees, 32 customers and investors) in 18 Korean companies in manufacturing, financial, telecommunication, and service industries had not heard about CSM at all. Quite intriguingly, participants in Jang's study were also more favorable to the companies that put greater value on financial and social responsibility than the companies that emphasized environmental responsibility. Thus, it becomes clear that the TBL perspective as a corporate strategy has not been well accepted by the public or even corporate leaders in Korea. In other words, financial performance of a corporation is still perceived as the primary indicator of its corporate success.

DISCUSSION AND CONCLUSION

Pollution caused by rapid growth is a serious environmental challenge in China and Korea. The government of each country has created policies for change, but there have been gaps between

the policy decisions and implementation of the policies themselves. In China, this gap has been filled by entrepreneurs who work with the government through acquisition of clean development mechanisms or governmental joint ventures (i.e., the Dongtan project), or through entrepreneurial endeavors in conjunction with world investors such as those outlined in the green narratives of successful entrepreneurial ventures.

To world investors, pollution represents an enormous opportunity for clean technology solutions. According to the Cleantech Group, an industry research body, venture capital investment in China's clean technology increased from $170m to $420m between 2005 and 2006. Entrepreneurs in China are well aware of the environmental problems that have been created by dirty air and water. They are taking a proactive stance, creating new environmentally friendly products to reverse the detrimental effects of rapid expansion, and drawing on the financial community of the world to underwrite their endeavors.

The future of China is filled with challenges and opportunities for entrepreneurs who want to improve the lives of Chinese people. The Kuznets curve might have reached its peak. People are demanding healthier air and cleaner water; entrepreneurs are grasping these new opportunities and moving forward with innovative ideas and creative new endeavors as China goes green. Green buildings, green cars, wind power, solar energy, and new models for measuring economic growth, that account for impact on the environment, are all on the horizon. A green China is the vision for the future, but in the view of Chinese leaders, damage to the environment is a secondary problem. The threat that pollution poses to the continuation of the Chinese economic miracle, public health, social stability, and international reputation is of greater concern (Economy, 2007). As Chinese leaders try to reverse the already-prevalent damage, Chinese entrepreneurs will play an important role.

For Korea, the initial momentum for proenvironmental change has been increasing competition and external pressures for compliance to global standards. However, public and corporate interests in corporate sustainability management have recently increased; for instance, large corporations, including Samsung (established the Samsung Global Environmental Research Center in 1993), Hyundai Motor, POSCO (formerly Pohang Iron and Steel Company), SunKyung (SK), Lucky Goldstar (LG), and Korea Telecom (KT) have initiated various eco-friendly management practices (Song, 2007). Yet, by 2005, only two Korean companies, Samsung SDI and POSCO, were included in the Dow Jones Sustainability Index (Ahn, 2007). According to Ahn, considering the current state of affairs, it seems that Korean companies have mainly been interested in obtaining the certificates of environmental management systems. Thus, overall, due to the lack of accumulated data and experiences in corporate sustainability management (CSM), Korean corporate circles (large companies and SMEs) are still in the early stage of implementation of CSM compared to other leading companies in CSM worldwide (Ahn, 2007; Jang, 2004).

For Korean corporate leaders, it is critical to realize that CSM requires a long-term perspective and support systems. The idea that environmental management is merely a cost factor is no longer tenable: the environmental viewpoint must be actively incorporated into the entire corporate vision with top executives' passion and commitment. Considering Korea's heavy dependence on foreign exports for economic growth, it is critical that the Korean government

should play a more active role in developing policies and programs to help entrepreneurs and SMEs develop clean technology and sustainable green management practices.

It is also worthwhile to note fewer green narratives are publically shared by Korean entrepreneurs compared to their Chinese counterparts. In fact, we have found very few published (i.e., publically shared) green narratives of Korean green entrepreneurs. In fact, compared to its Japanese and Chinese counterparts, it seems that a majority of Korean SMEs are financially challenged to initiate independent programs to develop environmentally sustainable product processes. For instance, according to a report by the Korean Enterprise Institute (2005), the current level of Supply Chain Environmental Management (i.e., a management practice emphasizing cooperation between manufacturers and suppliers in production design and in recycling the materials for reusing the products) of Korean companies (32.3%) is relatively low compared to those of Japanese (52.3%) and Chinese (68.9%) counterparts. It is obvious that government, large corporations, and SMEs in Korea should be more collaborative.

Nevertheless, there are also good indicators for changes being made in Korea. Since 2000, management educators have recognized and started several graduate-level programs specialized in environmental management. The Korea Environmental Management Association (KEMA) was established in 2002 and a few academic institutions have launched environmental management programs including Eco-MBA Program of Korea Advanced Institute of Science and Technology (KAIST), the Environmental Management Forum of Seoul National University, and the Environmental Management Academy of Hanyang University (Lee, 2005). The Environmental Management Forum of Seoul National University has specifically aimed for government, political, and corporate leaders.

Finally, given the deeply interdependent nature of environmental challenges faced by most industrial nation-states, we emphasize the critical role of systematic thinking, thus a more interdisciplinary approach for educating future entrepreneurs (e.g., Atwater, Kannan, & Stephens, 2008). Fruitful, cross-disciplinary cooperation among eco-biology, economics, engineering, and management emerged from a new paradigm of eco-science. Evolutionary epic might sound too idealistic at this point; yet it must be a major first step in the changes we all hope for.

IMPLICATIONS

Although China and Korea are both still highly polluted, some lessons should be learned by Western governments and entrepreneurs. The government of China has recognized that pollution must be abated if its people are to live healthy, productive lives. The Chinese government, in conjunction with business, has invested in projects such as Dongtan as a first step in the right direction.

If this project is successful, the strategy will be followed to complete many more Eco-Cities throughout China using renewable energy produced from wind, bio-fuel, and recycled waste products. Dongtan will also be experimenting in hydrogen fuel cells to power public transportation as well as creating cycling and footpaths to help the city achieve a goal of close to zero vehicle emissions. Food will be grown organically. Chinese governmental agencies will be

documenting the research on Dongtan's development strategy for future developments. In this case, Chinese governmental agencies are working closely with foreign business to create a total green environment. This is a great strength of the Chinese government—to bring in business people who have the technology and the knowledge to create beyond the capacity of its own citizens and then to learn from the experience and to reuse the knowledge to produce new Chinese business enterprises.

However, the knowledge gleaned from the Dongtan project will not be used merely in China. This project is being engineered and designed by Arup, a London based firm. If the project is successful, the knowledge will be used worldwide. In this sense, China is a test tube for future green development for the rest of the world. The result could be cleaner air and water for all the world's citizens.

Although it has air and water that is nearly as polluted as China's, Korea has not proceeded in the same direction. The lessons that can be learned from the Korean government must be directed toward the education of future generations. This also is an important lesson for Western governments and entrepreneurs. Korea is offering graduate-level programs that specialize in environmental management for business majors; environmental management is not a separate category, but one that must be integrated into the thinking of Korea's future business leaders, SMEs, and entrepreneurs. By placing the environment firmly within the thinking of future business leaders, the planted seed will grow and develop over time. When this new legion of business scholars enters the world of business, preservation of the environment will be already deeply embedded in their psyches.

Knowledge is not a one-way street—from developed to developing countries—but rather is a multilane thoroughfare, moving back and forth between countries and business people worldwide. Experiments being conducted in China will have global implications. We will learn from their experiments and they will learn from our knowledge. Thus, ultimately, if pollution can be abated in China through experimental green development and in Korea through educational endeavors, the western world will breathe better air, too, regardless of who takes the lead.

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