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## **From the editor**

### **Introduction**

It is with great pleasure that I welcome all of you to the second issue of *The International Journal of Management and Business* (IJMB). In this editorial I will: reflect on the first year of the IJMB journal, outline a request for proposal for special issues and their guest editors, present IAMB future conferences and introduce the first issue of our 2<sup>nd</sup> volume.

### **The first year of the IJMB.**

#### *Feedback on the 1<sup>st</sup> issue*

We were happily surprised by the very positive feedback reflecting on the high standards of the quality of the papers published in our 1<sup>st</sup> issue. The translation of the abstracts into languages other than English, as well as having the option of publishing the abstract in the mother tongue of the author's, was also very warmly received. We intend to continuously improve the journal; as such, ongoing feedback from readers is sincerely welcomed.

#### *Impact of awards given at IAMB conferences*

Starting at our fifth conference in New Orleans in January, 2009, we initiated the Best Student paper competition. The paper competition was expanded at our eighth conference in Madrid in June, 2010, to include a total of four categories of awards: the Best Student paper, the Best Young Scholar paper, the Best Applied paper and the Best Overall paper. The paper competition not only was received enthusiastically by the conference participants, but also increased the submission rate of papers to the conferences as well as resulted in improved quality of paper submission significantly.

The papers of the award recipients are accepted for publication, as being peer reviewed by the competition judges, feedback is provided to the paper's authors and further revisions are expected before the papers are published.

We are especially proud of our ability to support and provide an outlet to young scholars from developing countries at the early stages of their career.

Since November, 2010, the IAMB has convened two conferences, one in the US and one outside the US. The number of participants at the conferences has ranged from 50 to 170 and the number of papers presented ranged from 40 to 150. We have had delegates from 25 – 35 countries attending each conference.

We continue to pride ourselves on having a warm and friendly atmosphere that encourages dialogs and that provides rich and extensive feedback to every paper presented. Our aspiration is to maintain this tradition as we develop and mature.

### **The near future for the IJMB**

We are currently on a trajectory to publish annually two issues of the journal. At present, the subject matters covered by the journal are broadly defined as management and business issues that are of interest to an international academic and practitioner audience. The following subjects serve as broadly defined areas of interest:

- Organizational Studies
- International Business
- Strategic Management
- Marketing Management
- Technology & Innovation Management
- Human Resource Management
- Education & Training
- Management of Social Issues
- Management Studies

The only requirement regarding content is that articles must include implications for an international audience. For some subjects this will be a natural inclusion. For the others, the authors are expected to add and elaborate on such implications. In either case, the relevance and the importance of the conclusions and implications should be apparent to non-specialists. The first two published issues are a good illustration of the broad scope of the accepted papers by the editorial board, and proposals for additional subjects that could be considered for publication are encouraged.

The Journal continues to expect submissions for publications from the participants in IAMB conferences, as well as from other high quality scholars in the global academic and practitioners' communities. We encourage submission of traditional research (empirical and theoretical) papers as well as research notes and spotlight on practice papers.

To support that vision, we are including abstracts in multiple languages. This is also the place to thank wholeheartedly our translators for their excellent work, and to express interest in inclusion of additional languages that are presently missing from our journal. Specifically, we are looking for translators of abstracts to Chinese, Japanese and Korean. Serious consideration will be given to additional languages if proposed.

If additional information is needed, you are encouraged to contact the editor.

### **Call for special issues and guest editors**

International business research is interdisciplinary and cross-cultural in nature. To establish bridges between traditional subject matters, or to dwell deeper into unique subject matters with prominent current interest, falling within the scope of the journal, we plan to have special issues at least once every two years.

Our intention is that such published research will strengthen the in-depth knowledge exchange between disciplines and between academic communities by providing high-quality and novel contributions. While such research can be written with a certain audience in mind, the key concepts and language should be accessible to the broader international business academic and practitioner community.

The proposals should be organized by renowned experts in the area and have the potential to attract articles of the highest quality. Proposals should be submitted by the Guest Editorial Team (1 Lead Guest Editor and 2-3 Guest Editors), should be no longer than 3 pages and should include at least the following:

- Concise narrative of the concept for the special issue.
- Rationale; the timeliness, importance and international interest of the business subject addressed.

- Fit with the IJMB mission. See the Journal's statement in issue volume 1 on its website: [http://www.iamb.net/IJMB/journal/IJMB\\_Vol\\_1.pdf](http://www.iamb.net/IJMB/journal/IJMB_Vol_1.pdf) on page 7.
- The proposed title for the Special Issue (should not exceed 10 words).
- A list of the Guest Editorial Team including their names, emails, affiliations
- A draft call for papers, including a proposed timeline and schedule which consist of: Deadline for submission; First round of review; and, tentative publication date.
- It is assumed that guest editors are aware of the journal's review policy.

Responsibilities of the editors of the special issues of the Journal:

- facilitate the preparation of the issue.
- provide final quality control for the issue.
- forward the Special Issue to the Journal's production editor.

All proposals are subject to approval by the journal following a discussion of the proposed Special Issue among the journal's Editorial Board. If approved, a Call-for-Papers for the Special Issue will be issued and posted online.

Special Issue proposals are welcome and encouraged at any time during the year, and should be submitted to the editor.

### **Future conferences**

We currently have conferences scheduled for San Francisco, CA for 7-9 November, 2011; Warsaw, Poland - April 23-25, 2012; and Bali, Indonesia - September 3-5, 2012.

More updated information can be found on the IAMB main page website at [www.iamb.net](http://www.iamb.net).

### **This issue of IJMB**

It is a real pleasure for this editor to thank his team without whom this issue would not have the academic qualities and the broad scope of subjects covered. I want to thank my three Associate Editors: J. Michael Geringer, Maria Francisca Blasco Lopez and Shmuel Batzri; the three Assistant Editors: Anja Schulz, Jan Schaaper and Zu'bi Al-Zu'bi, and a large team of reviewers and the Editorial Board Members. We selected the six out of twenty seven papers submitted since May, 2010. Few of the papers went through four reviews over a two year period, while others went through eight reviews over twenty eight months. The acceptance rate as of today is 20.8%. All papers were peer reviewed.

I want to take this opportunity to thank Shmuel Batzri, Ph.D., the founder and the organizer of IAMB, for his continuous and unwavering support and Kelly Anklam for her continuing assistance in editing the papers. I also wish to thank the Frederick E. Baer Professorship in Business at UWGB for partial financial support.

We are extremely proud to include in the first issue of the second volume six outstanding papers written by highly esteemed colleagues, one of which won an award at the IAMB conference.

**The first paper** written by **Hilla Peretz and Yitzhak Fried**, entitled "*Information Technology Systems in the Human Resource Area: A Cross Culture Approach*" [from Israel and USA]; winner of the Young Scholar Manuscript Award, discusses the impact of national culture on the adoption and use of human resource information systems (HRIS). The study is using a large sample (5991) of organizations in 21 countries providing for wide-ranging validity of their findings. Specifically, the authors study two aspects of such relationships. First, they study the affect of national culture

(values) on human resource (HR) information system (IS) practices; particularly on the type of HR information system and information system communication design adopted by organizations. Next, they consider the role of the level of fit between national values and these HR information system practices to two major organizational HR performance indicators: absenteeism and turnover. The study findings support interesting interactive effects of particular national cultural values, for example, future orientation, or collectivism and the intensity of the interaction designed and expected by the HRIS on employee absenteeism. This study includes import guidelines for both IS as well as HR executives in multinational companies when considering implementing a new HRIS or redesigning HR performance evaluation. The study is also a major contribution to the cross-culture studies of IS suggesting that national culture must be considered above and beyond the other organizational and industry factors.

**The second paper** written by **Bahaudin G. Mujtaba, Frank J. Cavico and Donovan A. McFarlane**, entitled “*International Age Discrimination: Management Challenges and Opportunities*” [from USA] discusses the issue of age discrimination in employment in a variety of global contexts – legal, cultural, ethical, and practical managerial surroundings. The authors study age discrimination in the global vocational environment and suggest its venomous detriments. In addition, suggestions for cultural sensitivity and discrimination awareness and training are provided. Two juxtaposing cultural attitudes towards aging are discussed. The author’s intent is to help employers avoid age discrimination lawsuits as well as to provide scrupulous recommendations to employers to proactively navigate the tribulations of attracting, hiring, retaining, and developing older workers in the workforce in a value-maximizing manner for all the organization’s stakeholders. In this context, a comprehensive framework for developing organizational legal and ethical practices in the global economy is detailed. This paper should provide the international business practitioner and scholar communities with an important and detailed guidelines dealing with one important aspect of talent retention and recruitment regarding a challenging aging work force.

**The third paper** written by **Linda M. Herkenhoff and Jo Ann Heydenfeldt**, entitled “*A Correlational Study of Professional Culture and Intraorganizational Conflict*” [from USA] discusses the role of professional culture in managing conflict in the workplace. The authors study two functions, sales and accounting, in three different American organizations, concentrating on the influence of professional culture in conflict interactions. The findings of this study insinuate that both accounting and sales functions in organizations have robust and distinct professional cultures. The study findings also suggest that cultural dimensions with incongruent values between the two professions are positively correlated with interdepartmental conflict. Specifically, the furthestmost cultural value differences occur with the aspects of individualism and uncertainty avoidance. Also, the results of this study imply that there is a significant positive correlation between dimensional variance and conflict frequency. Finally, the authors recommend that through better understanding of the importance of professional culture we may be more effective at managing conflict in the workplace. This paper is a major contribution in a small, but growing academic body of literature discussing the importance of professional culture and the effect that culture has in effectively managing a demanding workplace.

**The fourth paper** written by **Kalotina Chalkiti, Aggie Wegner, and Teresa Cunningham**, entitled “*Social Capital Creation in Shorter Timeframes and its Role in Knowledge Sharing*” [from

Australia] discusses the successful creation of social capital and trust, required for knowledge sharing in an environment that current academic literature would consider as not conducive or counterproductive, specifically, in a fast changing and chaotic social context, within a very short time frame. The dynamic labor environments in this study were hospitality businesses in the Northern Territory of Australia, encountering frequent changes in the composition of teams of employees. Such context challenges the assumptions of the widely accepted social network literature that is insinuating the need for labor stability as a prerequisite for the emergence of social network properties such as social capital. The authors are challenging the assumption within the knowledge sharing literature that labor stability is essential to create and nurture the knowledge sharing factors, while accepting the need for the creation of social capital and trust as a prerequisite by proposing an alternative mechanism conducive to their context. Specifically, the authors are trying to understand how properties emerging from social networks, referred to as people knowledge, can function as a form of social capital that is developed in shorter timeframes and supports intra-organizational knowledge sharing. Qualitative data was collected from seventy-six front-office employees in three hotels in Darwin, Australia. This paper is suggesting an important alternative mechanism for the creation of social capital in a challenging context, while supporting collaboration and knowledge sharing. Such mechanism has critical implications far and beyond the specific context of this study. One example that comes to mind is the case of large scale emergency or disaster management where teams must be able to cooperate without having the luxury of establishing earlier the trust needed for such collaboration.

**The fifth paper** written by **Daniela P. Blettner**, entitled “*Evolution of Shared Cognitive Structures in Entrepreneurial Teams and Their Impact on Opportunity Identification and Exploitation*” [from USA] discusses the significance of team shared mental models to entrepreneurial opportunity identification. This paper discusses the differences in team members' cognitive structures and their contributions to the creation and development of a shared cognition of the entrepreneurial team, while pursuing business opportunity identification and exploitation. Specifically, this study examines the development of shared cognitive structures of entrepreneurial individuals and teams over time, in the German-speaking area, and the relationship such development of cognitive structures have to effective opportunity identification and exploitation. The study findings imply that teams that share complex cognitive maps of their milieu are associated with greater opportunity identification. Also, the findings suggest that teams that share high number of concepts while sharing a low number of causal links are associated with effective identification and the exploitation of more business opportunities. Finally, the study suggests that the discontinuity over time of concepts in shared cognitive maps (concepts and causalities) is associated with more effective opportunity identification and exploitation processes. This study is contributing to a growing body of academic literature that is studying entrepreneurship as a team (versus individual) phenomenon from the cognitive process perspective, while suggesting that specific and complex ambidextrous cognitive processes at the team level are required for successful opportunity identification and exploitation.

**The last and six paper** written by **Vichita Vathanophas, Kingkarn Suensilpong and Tullawat Pacharapha**, entitled “*Task-related Information Sharing in Group Decision Support Systems (GDSS): The Importance of Knowing Who Knows What*” [from Thailand] discusses the role of data availability and information distribution among team members and the expertise role-assignment on information sharing in groups using GDSS. GDSS are among the most widespread software systems

premeditated to augment group communication for collective decision-making. Members of a work group exchange three types of information in order to make decisions: common (or shared) information known by all members of a work group; unique (or unshared) information known by only one group member; and partially shared information known by more than one, but not all members. This study examines the specific effect of the proportion of common, unique, and partially shared information available in GDSS groups and that of expertise role-assignment on information sharing. The results indicate that increasing the proportion of unique information distribution enhances the pooling of unique information in expertise role-assigned groups. Also, the findings suggest that expertise role-assignment increases the amount of partially shared information during group discussions and increasing the proportion of unique information results in an increase in the retaining of partially shared information but decreases the retaining of unique information following group discussions. This study validates the importance of using support systems for group decision making, while suggesting that there is a need for more sophistication in group composition and the need for realizing of the importance of absorptive capacity of knowledge at the group and individual levels for effective information sharing and decision making.

### **Last word**

Finally, I hope you will concur that our journal is a worthy academic resource, and you will contemplate submitting a paper to the journal, reference suitable papers in your own work, as well as endorse it among your colleagues and your students. I'm looking forward to an exciting future and I hope to hear from you if you have reflections, comments or questions.

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# Information Technology Systems in the Human Resource Area

A Cross Culture Approach

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## Abstract

Using two independent large databases of 5,991 organizations in 21 countries, this study explored (a) the influence of national values on human resource (HR) information system practices (type of HR information system and information system communication design) adopted by organizations; and (b) the contribution of the level of fit between national values and these HR information system practices to two key organizational performance indicators: absenteeism and turnover. Results showed that national values explained HR information system practices and supported the hypothesized interactive effects of national values and HR information system practices on absenteeism and turnover. The results have strong implications for organizations concerned with how to maximize the fit between particular cultures and HR information system practices as a basis to enhance organizational performance indicators.

**Keywords:** Human resource management, cross culture, information system

## Introduction

In an era striving for excellence, human resource management (HRM) has become a crucial source of competitiveness. An important development in improving the effectiveness of HR in organizations is the incorporation of information technology systems for the purposes of collecting, organizing, and disseminating HR-related information to users and decision makers (Lin, 1998). However, at this point, the factors that contribute to the successful implementation and use of information technology systems in the human resource area remain to be identified and examined (cf. Leidner & Kayworth, 2005; Kossesk, Young, Gash, & Nichol, 1994).

In today's increasingly global economy, one important factor that may affect the implementation of information technology in HRM is national culture (Leidner & Kayworth, 2006). There is a clear need for more research on the effect of national (societal) values on HR-related information technology systems and on individual reactions to such systems in different cultures.

To address this need, we conducted a comprehensive study across 21 nations and 5991 organizations that focused on two complementary questions. First, we investigated how societal values affected two characteristics of HR-related information systems: (a) whether the HR information system was independent of HR versus integrated with a wider management system (e.g., ERP approach); and (b) whether communication regarding the HR information system was

used in a one-way direction from the organization to the employee(s), versus in an interactive way that enabled users to make personal selections (e.g., in benefits) in a computerized system.

Second, we examined how the level of fit between societal values and these two characteristics of the HRIS contributed to the two organizational outcomes of absenteeism and turnover. Absenteeism and turnover are key organizational performance indicators, as they are very costly behavior (e.g. Griffeth, Hom, & Gaertner, 2000; Johns, 2001; 2006). For example, it is estimated that annual dollar costs in the U.S. and Canada are 46 billion and 10 billion respectively (Lu, 1999). In view of the costs of absenteeism and turnover and the lack of research in understanding cross-cultural aspects, it is imperative that the paucity of cross-cultural research in absenteeism and turnover is addressed. As such, this paper attempts to fill the "gaping cross-cultural hole".

In the following chapters we will briefly discuss the role of information technology in HR systems, the nature of societal culture, and the rationale for our hypotheses relating societal culture and HRIS.

### **Human Resource Information System (HRIS)**

The Human Resource Information System (HRIS), also called HR Technology or HR modules, refers to the systems and processes at the intersection between human resource management (HRM) and information technology. The HRIS is a software or online solution for data entry, data tracking, and data information needs of Human Resources, payroll, management, and accounting functions within a business. An effective HRIS provides information on nearly everything the company needs to track and analyze about employees, former employees, and applicants (Kossek et al, 1994).

Decisions by an organizations concerning whether and how to implement a successful HRIS is naturally contingent on organizational support factors (Lin, 1998). These factors include top management support (Wong et al, 1994), support of information system staff (Kinnei and Arthurs, 1993), involvement and support of human resource staff (Pitman, 1994), computer knowledge on the part of human resource staff, and HRIS training (Kossek et al, 1994). However, equally important for decisions associated with the successful implementation of HRIS are environmental factors, among which societal culture may play a major role (Leidner & Kayworth, 2006). As we discuss below, societal culture can determine the type of HRIS an organization chooses to implement, the involvement level of the users with the system, and the effect of fit/misfit between the societal culture and the characteristics of the HRIS on performance-related reactions such as absenteeism and turnover.

### **National Values and HRIS**

Numerous studies have established the impact of cultural values on managerial behavior and actions. Within the theoretical framework offered by Hofstede (1991) and Project GLOBE (House, Javidan, Hanges, & Dorfman, 2002), societal values, often described as national values, have a strong impact on organizations that can override other organizational (e.g., size, sector) and environmental (e.g., market) influences. A particular organization is nested in a particular national culture and is inevitably influenced by it. Studies provide some support for this influence (e.g. Lee & Barnett, 1997). In their thorough review of information systems, Leidner and Kayworth (2006) argued that variation across cultural values may lead to different approaches to the development of information systems. Drawing on this evidence, we expect that societal values influence the

likelihood that organizations will adopt advanced HRIS, and the characteristics of these systems, if they do adopt them.

In this study, we rely on four widely-studied cultural values at the national level: power distance, future orientation, individualism/collectivism, and uncertainty avoidance (Hofstede, 1991; House et al., 1999, 2002, 2004). Empirical studies have shown that these national values predict organizational processes and managerial practices (Communal & Senior, 1999; Hofstede & Peterson, 2000). We will first discuss how societal values are expected to affect the type of HRIS and HRIS Communications Design organizations implement in nations differing on such values. We will then discuss how the level of fit between societal values and these HRIS practices contribute to the performance-related outcomes of absenteeism and turnover.

**Power distance** is the degree to which members of a collective expect power to be distributed equally (House et al., 2002; 2004). In high power distance societies, hierarchy is rigidly adhered to and privileges are distributed unequally. In such societies, higher-level members are expected to preserve their relative advantage in status and power. Thus, with respect to such societies, it is reasonable to expect that organizations will typically design HRIS in which employees have little access to information and in which the communication provided to the employees by the organization is non-interactive in nature. In contrast, in societies low in power distance, one can expect that organizations will be more inclined to establish advanced HRIS characterized by integration of the HRIS into a wider management information system (e.g., ERP), in which a large number of employees have access to the information. Moreover, these organizations are also more likely to design the HRIS as an interactive system, which allows the user employees to perform complex activities directly on the computer, such as selecting particular fringe benefits, and being approved/disapproved by the computer program (cf. Aycan, 2005). This suggests that:

*H1: Organizations are more likely to design an advanced HRIS (in which the system is integrated into a wider management information system and is interactive in nature) in low power distance societies than in high power distance societies.*

**Future orientation** is the degree to which individuals engage in future-oriented behaviors such as planning, investing in the future, and delaying gratification (House et al., 2002). Future orientation in HRM means investment and development to prepare the workforce to meet future organizational needs. This suggests that organizations embedded in future-oriented societies are more likely, relative to organizations embedded in present- or less future-oriented societies, to adopt advanced HRIS.

*H2: Organizations are more likely to adopt an advanced HRIS (in which the system is integrated into a wider management information system and is interactive in nature) if they are embedded in future-oriented societies rather than in present- or less future-oriented societies.*

**Individualism/collectivism** refers to the degree to which societies value individual rights and opportunities versus group success and individual loyalty to the group. In collectivistic societies individuals are expected to subordinate themselves to the group's goals and success. Therefore, organizations in collectivist societies are likely to avoid individual-based systems because of their potentially adverse effect on group, unit, or organizational solidarity and morale (e.g., Kovach, 1995; Vallance, 1999). However, organizations embedded in collectivistic societies

are likely to design and implement HRIS for purposes that would generally benefit all employees, such as human resource planning or identification of needs for training and development. Chow, Deng and Ho (2000), in a study comparing American and Chinese managers, found that Chinese respondents were more likely to share knowledge, since this was consistent with their collectivistic value system.

*H3: Organizations in collectivistic societies are more likely to establish an advanced HRIS (in which the system is integrated into a wider management information system and is interactive in nature), than are organizations in individualistic societies.*

**Uncertainty avoidance** is defined as the extent to which a society, organization, or group relies on social norms, rules, and procedures to alleviate the unpredictability of future events (House et al., 2002; 2004). Organizations embedded in societies characterized by high uncertainty avoidance are more likely, relative to organizations embedded in societies low in uncertainty avoidance, to reduce the use of HRIS, because of a loss of control. Png, Tan and Wee (2001), in a multinational survey of 153 businesses, found that uncertainty avoidance affected information systems adoption. Businesses in high uncertainty avoidance countries were less likely to adopt information technology infrastructure.

*H4: Organizations in low uncertainty avoidance societies are more likely to establish an advanced HRIS (in which the system is integrated into a wider management information system and is interactive in nature) than will organizations in high uncertainty avoidance societies.*

### **National Values, HRIS, and Organizational Outcomes**

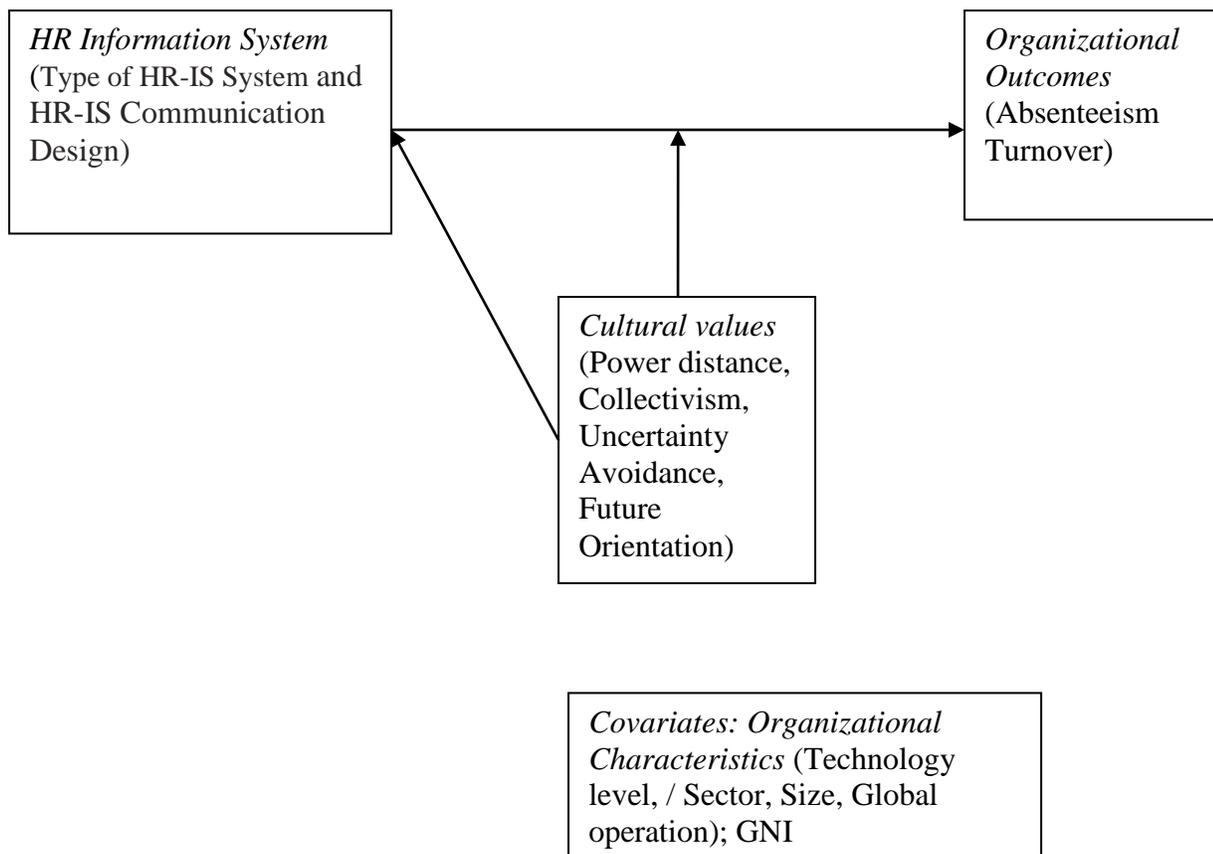
Understanding the expected level of fit (consistency) between societal values and the HRIS in organizations is important as a basis for understanding the effects of such systems on organizational performance (cf. Leidner & Kayworth, 2006). Overall, we expect that if organizations adopt HRIS according to the culture they are embedded in, the results will be higher performance indicators, such as less turnover and absenteeism. Conversely, if organizations adopt HRIS that deviate from the dominant societal culture, the results will be decreases in these performance indicators.

To support our arguments, we borrowed from the literature on fit that emphasizes the important effect of compatibility between national (societal) culture and organizational human resource practices on organizational performance (see, e.g., Aycan, 2005; Kanungo & Jaeger, 1990; Mendonca and Kanungo, 1994). However, while empirical studies have shown that national values predict organizational processes and managerial practices (e.g., Communal & Senior 1999; Hofstede & Peterson, 2000), there is also evidence to suggest that managerial decisions and operations, including HR practices, may reflect strategic goals and interests, that deviate at times from the norms established by the national culture (e.g., House et al, 2004). Drawing from the literature on fit, it follows that when employees are exposed to HR activities that do not fit the national culture, they will tend to respond negatively (Aycan, 2005; Aycan et al., 2000). When the negative reactions are combined across all employees, they are expected to contribute to negative aggregate outcomes for the organization, such as high levels of absenteeism and turnover. On the other hand, when employees are exposed to HR activities that fit the national culture, they will respond positively, which will lead to positive aggregate organizational outcomes (Aycan, 2005).

Drawing on these assumptions, we propose that consistency versus inconsistency between the national values and the HRIS the organization adopts will contribute to the organizational outcomes of absenteeism and turnover. Our hypotheses, which follow, are based on the earlier discussion on the expected consistency between national culture and organizational HRIS. More specifically, our earlier reasoning concerning the fit between societies low in power distance and HR information systems, leads us to the following hypothesis:

*H5: In a. low power distance societies ;b. future-oriented societies; c. collectivistic societies; and d. low uncertainty avoidance societies, organizations are likely to have lower rates of turnover and absenteeism if they adopt an advanced HRIS (in which the system is integrated into a wider management information system and is interactive in nature) than if they do not.*

Figure 1: Description of the study



## **Method**

### **Sample**

The sample consisted of 5,991 organizations from 21 countries: Australia, Austria, Canada, Denmark, Germany, Greece, Hungary, Ireland, Israel, Italy, Finland, The Netherlands, New Zealand, Philippines, Portugal, Slovenia, Sweden, Switzerland, Turkey, USA, UK.

### **Data Sources**

Data for the study were obtained from two independent sources:

1. The CRANET (Cranfield Network on Comparative Human Resource Management) 2004 database of international HRM. Data for the project are collected annually at organizations with 200 employees or more worldwide. The data collection tool is a standardized postal questionnaire, addressed to the most senior HR/personnel specialist in each organization. Questions seek factual answers (numbers or percentages) or a yes/no response to factual questions (e.g., Do you use...?). The criteria for selecting organizations for the present study were: (1) full and clean data on training; and (2) participation of the respective country in the GLOBE project (see below).
2. The GLOBE (Global Leadership and Organizational Behavior Effectiveness) 2004 database. GLOBE is a multi-phase multi-method project, in which investigators spanning the world examine inter-relationships between societal culture, organizational culture, and organizational leadership. The GLOBE Project was founded in 1993. Today, scholars from 61 countries, representing all major regions of the world, are engaged in this long-term programmatic series of cross-cultural leadership studies.

### **Variables and Measurement**

#### Indices of HRIS

The following measures were obtained from the 2004 CRANET database:

1. *Type of HRIS*: This measure describes the type of computerized HR system in the organization on a 1 to 3 scale, with 1 = do not have computerized HR; 2 = independent; and 3 = integrated with wider management system
2. *IS Communication Design of HR Information System*. This measure describes the degree to which the computerized HR system is designed to disseminate information interactively. The measurement uses a 1 to 5 scale, with 1 = one-way communication to the entire group of employees (for example, publishing information for the use of all the employees); 2 = one-way communication to a specific individual (for example benefits and schedule); 3 = two-way communication with simple update by the employee on his/her records (for example bank record); 4 = two-way communication with complex transaction in which the employee is able to select items such as preferred benefits which can be approved/disapprove by the computerized system; and 5 = more complex two-way communication system

#### Cultural Practical Values

The following measures were obtained from the GLOBE database (House et al., 2004):

1. Power distance; 2. Future orientation; 3. Uncertainty avoidance; 4. Individualism.

These data reflected the national values of the participating countries. The values used in the present study reflected reported practices (“as is”) and they tell us about the current perceptions of each culture (as opposed to feelings about cultural aspirations). Aspiration values refer to the society's ideal values, while practical values measure the society's actual engagement in a particular value. In the professional literature, while measuring the effects of societal culture, it is common to

use practical values and not aspiration values (for example, Brodbeck, Hanges, Dickson, Gupta and Dorfman, 2004).

Scores for the four cultural values ranged between 1 (lowest) and 7 (highest).

#### Organizational background

Data on four organizational background variables were taken from the CRANET database.

1. *Technology level*. This measure provides categorical information on whether the organization is high tech (the categories are 1 = low, 2 = middle, and 3 = high tech).

2. *Organizational Size*. This variable indicated the total number of employees in a given organization. Because of the non-normal distribution of this variable, we divided the distribution into three categories based on percentage: small (scored 1, 33.4%), medium (scored 2, 33.2%), and large (scored 3, 33.4%).

3. *Organization Age*: This item indicated the establish year of the organization.

4. *Sector*. This item indicated whether the organization belongs to the private (1) or the public (2) sector.

5. *Level of globalization*. This item indicated whether the organization operates locally (1) or in the global arena (2).

#### Economic strength

*Gross National Index (GNI)* was used as a control variable. GNI comprises the total value of goods and services produced in a country, together with its income received from other countries minus payments made to other countries.

### **Analytic Strategy**

Analysis was performed in two phases. In *phase one*, we examined the effects of national values on HR information systems, above and beyond the organization background variables and the economic indicator of GNI. To accomplish this, we used multilevel analysis (hierarchical linear modeling, HLM) to model the structure of the data (Bryk & Raudenbush, 1992). Because of the range differences of the variables, we converted the scores using standard Z scores.

In *phase two*, we explored the interactive effects of societal cultures and HR information strategies on organizational performance outcomes. Again, we used multilevel analysis in which organizational characteristics and GNI are the covariates, HR information systems are level-one predictors and cultural values are level-two predictors

### **Results**

Means, standard deviations, ranges, and correlations for the study's level-1 dependent variables (organizational level) and level-2- independent variables (national level) are presented in Tables 1, 2 and 3, respectively.

Results at the organizational level showed that the two HRIS measures had low inter-correlations (.07\*\*). At the national level all four possible inter-correlations (N=21) had medium to high inter-correlations.

Table 1: Means, Standard Deviations, Ranges, and Correlations among HR information system measures: Organizational Level (Level 1)

	Type of HR Information System	HR-IS communication design
Type	-	.07**
<b>Mean (SD)</b>	2.06 (.69)	1.96 (1.35)
<b>Range</b>	1-3	1-5

N= 5,991 \*\*p<.01

Table 2: Means, Standard Deviations, Ranges, and Correlations among Organizational Performance measures: Organizational Level (Level 1)

	Absenteeism	Turnover
Absenteeism	-	.02
<b>Mean (SD)</b>	8.52 (6.61)	11.26 (18.18)
<b>Range</b>	0-45	0-766

N= 5,991 \*p<.05 \*\*p<.01

Table 3: Means, Standard Deviations, Ranges, and Correlations among national values (Level 2)

	Power distance	Uncertainty avoidance	Future orientation	Collectivism
Power distance	-	-.36*	-.54**	-.10**
Uncertainty avoidance	-	-	.74**	-.41**
Future orientation	-	-	-	-.29**
<b>Mean (SD)</b>	5.01 (.40)	4.70 (.56)	4.21 (.41)	4.46 (.71)
<b>Range</b>	4.14-5.68	3.26-5.42	3.31-4.80	3.46-6.14

N= 21 \*p<.05 \*\*p<.01

## Hypothesis Testing

### Phase one

Before investigating the relationship of all four national values on HRIS, we tested for possible multicollinearity. This test seemed necessary, given the relatively high correlations among the independent variables (the highest being  $r=.74$ ,  $p<.01$  between uncertainty avoidance and future orientation: see Table 3). We used the Variance Inflation Factor (VIF) index, with stepwise regression, to examine possible multicollinearity.  $VIF=5.3$  was used as the cutoff point for multicollinearity (Hair, Anderson, Tatham, & Black, 1998). This procedure revealed a VIF of 1.33, suggesting no multicollinearity in our equation. Thus, all four country-level variables could be used in the same HLM equation.

To test the unique relationship between the four country (societal) values and HRIS measures, we conducted a set of regression analyses. Specifically, we first examined the

relationship of the organizational-level variables and GNI with the PA measures, followed by the relationship of the country values with these HRIS measures, after controlling for the organizational-level variables and GNI. The results of the first phase of the analysis (Table 4, step 1) indicated that among the organization-level variables, size, sector and level of globalization were positively related to the type of HRIS. Size and technology level were positively related to stage of E-HRM development.

Second, we examined the effect of GNI on HRIS outcomes, using the maximum likelihood method of HLM analysis. The HRIS outcomes were at level-1 (organizational-level) and GNI was at level-2 (national-level). The results (Table 4, step 2) indicated that GNI was related only to the type of HRIS (the higher the GNI, the higher the use of HRIS that was integrated with a wider management system)

Table 4: Summary of the Regression Analysis for HR Information system (HR-IS) outcomes

Step	Level of analysis	Type of HR System	<sup>2</sup> HR-IS communication design	
		$\beta$	$\beta$	
1	Organizational level	Size	<b>.05*</b>	<b>.08**</b>
		Tech. level	.02	<b>.08**</b>
		Age	<b>.06*</b>	<b>.05*</b>
		Sector	<b>.08**</b>	.02
		Globalization	<b>.05*</b>	.01
2	National level (HLM)	GNI	<b>.06*</b>	.03
3	National level (HLM) (while Organizational variables and GNI are controls)	Power distance (PD)	.04	<b>-.10**</b>
		Future orientation (FO)	<b>.06*</b>	<b>.15**</b>
		Uncertainty avoidance (UA)	<b>-.07*</b>	.03
		Collectivism (Coll)	<b>.15**</b>	.04

\*P<.05 \*\*P<.01

Type of HR System: 1=do not have computerized HR / 2=independent / 3=integrated with wider management system

<sup>2</sup> HR-IS communication design: 1=one way / 2=one way but with some access / 3=two way with simple update / 4=two way but complex transaction / 5=more complex

Finally, we examine the relationship between national values (country-level variables) and HRIS measures, controlling for the organizational-level variables. These associations were also analyzed by the maximum likelihood method of HLM, to estimate the values of the regression coefficients, and the intercept and slope variance<sup>1</sup> (Table 4, step 3). In this analysis all independent

<sup>1</sup> This general estimation procedure produces estimates for the population parameters that maximize the probability of observing the data that are actually observed, given the model (Hox, 2002).

variables (organizational background characteristics, GNI and national values) were entered into the same equation, with background variables and GNI were entered first into the equation as controls. The purpose was to detect the unique effect of national values, above and beyond the effects of organizational characteristics and economic strength.

The results indicate that our hypotheses pertaining to societal values and HRIS (H1 through H4) were generally supported: power distance was negatively related to IS communication design ( $\beta = -.10^{**}$ ); future orientation was positively related to the type of HRIS ( $\beta = .06^*$ ) and to IS communication design ( $\beta = .15^{**}$ ), collectivism was positively related to the type of HRIS ( $\beta = .15^{**}$ ); and uncertainty avoidance was negatively related to the type of HRIS ( $\beta = -.07^*$ ). However, uncertainty avoidance and collectivism were not found to be significantly related to IS communication design, and power distance was not found to be significantly related to the type of HRIS.

**Phase two**

In the second phase of the analysis, organizational performance variables were included. The purpose was to investigate the combined (joint) effect of national values and HRIS variables on organizational performance.

Table 5: Summary of the Interactions between HR Information system (HR-IS) outcomes and National values on Organizational Outcomes (controlling for GNI and the organizational background variables)

	Absenteeism	Turnover
	$\beta$	$\beta$
Type	<b>-.05*</b>	-.02
Stage	-.02	-.02
PD	-.01	.00
PD X Type	-.03	.00
PD X Stage	-.02	.02
Type	<b>-.05*</b>	-.02
Stage	-.02	-.01
FO	<b>-.06**</b>	<b>-.06**</b>
FO X Type	-.04	-.03
FO X Stage	<b>-.05*</b>	-.03
Type	<b>-.05*</b>	-.02
Stage	-.02	-.01
UA	.02	<b>-.08**</b>
UA X Type	<b>-.06*</b>	.00
UA X Stage	<b>-.05*</b>	<b>-.04*</b>
Type	<b>-.05*</b>	-.02
Stage	-.02	-.01
COLL	<b>-.04*</b>	<b>-.08**</b>
COLL X Type	<b>-.07**</b>	-.01
COLL X Stage	-.02	-.01

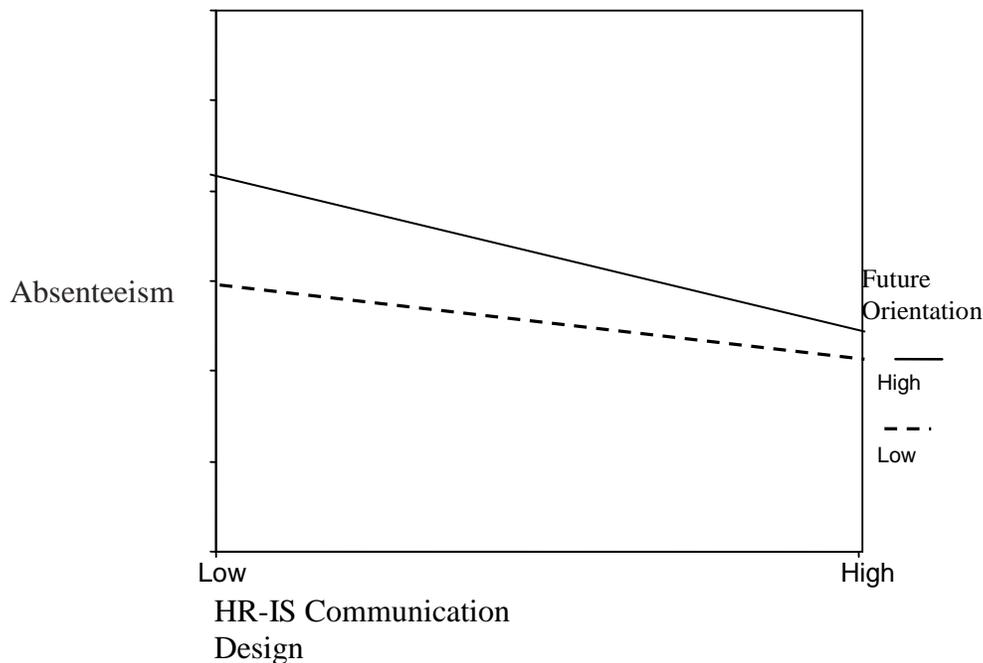
To test hypotheses 5a-5d, we conducted a series of multi-level regression analyses using HLM. The HRIS variables and organizational performance outcomes were measured at level 1 (organizational level), and culture values was measured at level 2 (national level). A summary of the results is presented in Table 5.

The results provided general support to our hypotheses pertaining to the interactions between the national values and the HRIS indicators, such that the interactions were significant with regard to turnover and/or absenteeism in 3 of the 4 interactions. To more systematically examine the direction of the interactions, we graphed the results (these Figures are presented at the end of the paper). The specific patterns of the interactions supported the direction of our hypotheses.

The results failed to support Hypothesis 5a, but provided partial confirmation of Hypothesis 5b by supporting the interactive effect of future-orientation and HRIS communication design on absenteeism ( $\beta = -.05^*$ ). The figure depicting this interaction (see Figures 2) supports the notion that in societies characterized by high future-orientation, organizations tend to have lower absenteeism rates if they adopt advanced complex HRIS.

Further, the results pertaining to Hypothesis 5c provided partial support for the hypothesized interactions between collectivism and the type of HRIS. More specifically, we found an interaction between collectivism and type of HRIS on absenteeism ( $\beta = -.07^{**}$ ). The pattern shown in Figure 3 supported the directions hypothesized by Hypothesis 8, in that it indicates that in collectivistic societies, organizations that adopted a more advanced type of HRIS reported lower level of absenteeism.

**Figure 2:** Interactive effect of Stage of HR-IS and Future Orientation on absenteeism



The results pertaining to Hypothesis 5d supported the hypothesized interactive effect of uncertainty avoidance and HRIS communication design on absenteeism and turnover ( $\beta = -.05^*$  and  $-.04^*$  respectively), and of uncertainty avoidance and type of HRIs on absenteeism ( $\beta = -.06^*$ ).

As hypothesized, the results indicated that in societies characterized by low uncertainty avoidance, organizations that implement advanced HRIS tended to show lower absenteeism and turnover than did organizations that did not implement such systems (see Figures 5-6).

Figure 3: Interactive effect of Type of HR-IS and Collectivism on Absenteeism

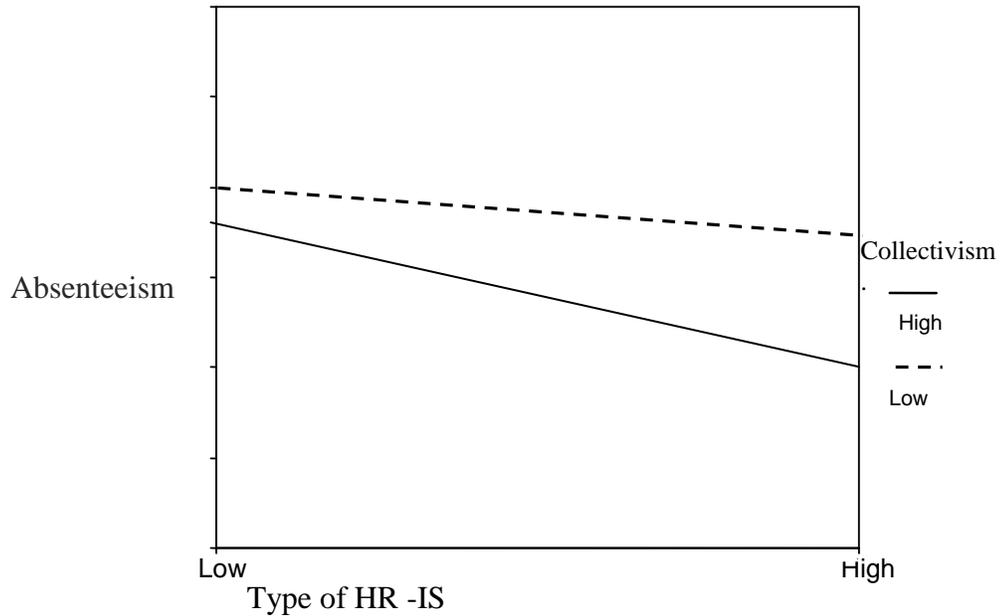


Figure 4: Interactive effect of Type of HR-IS and Uncertainty Avoidance on Absenteeism

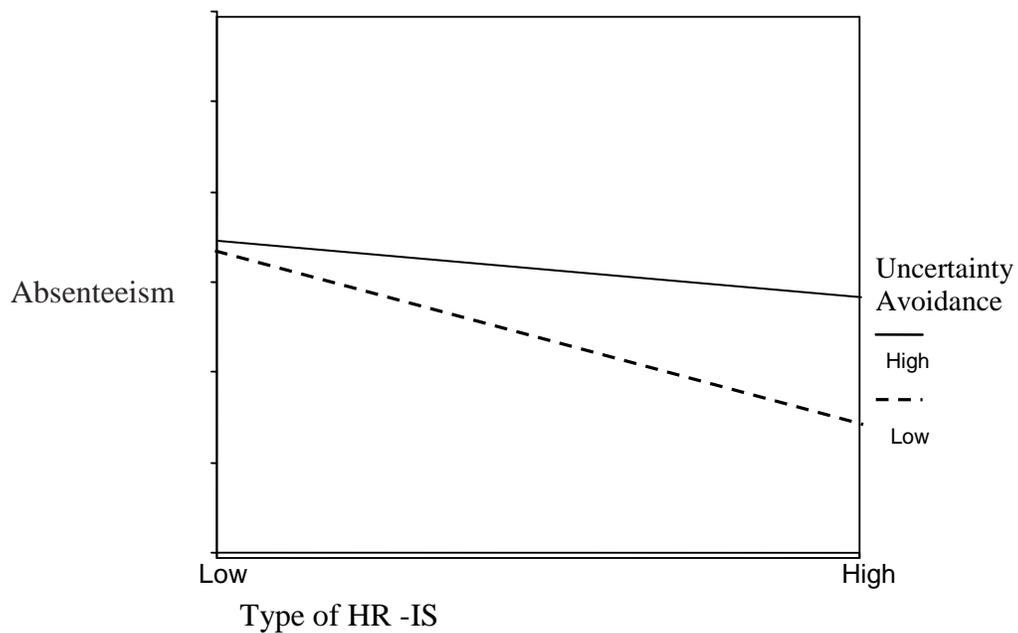


Figure 5: Interactive effect of Stage of HR-IS and Uncertainty Avoidance on Absenteeism

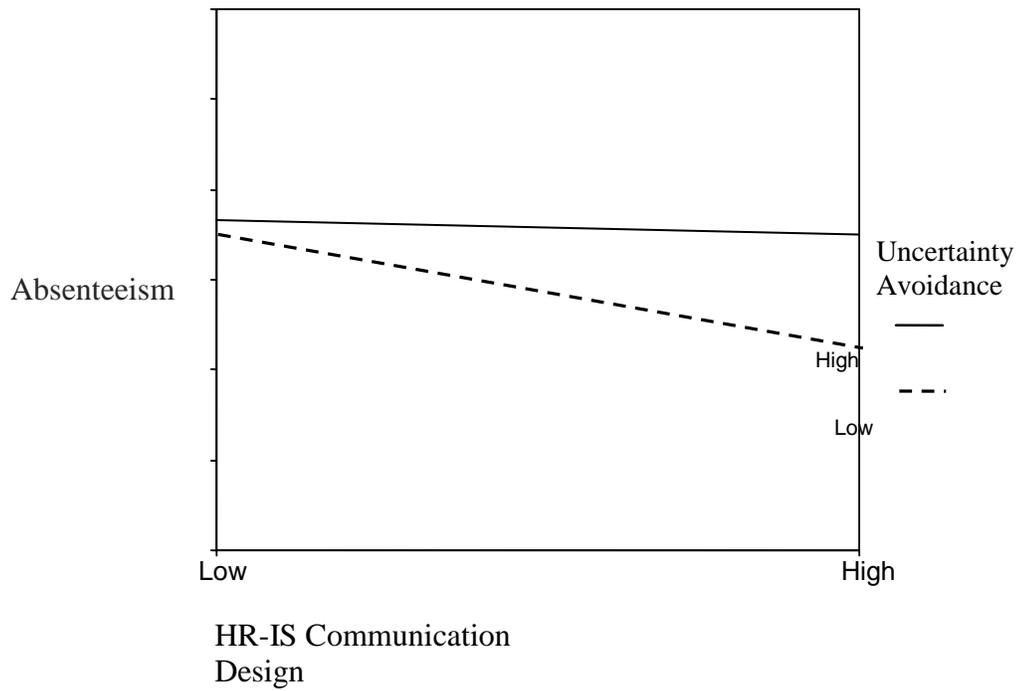
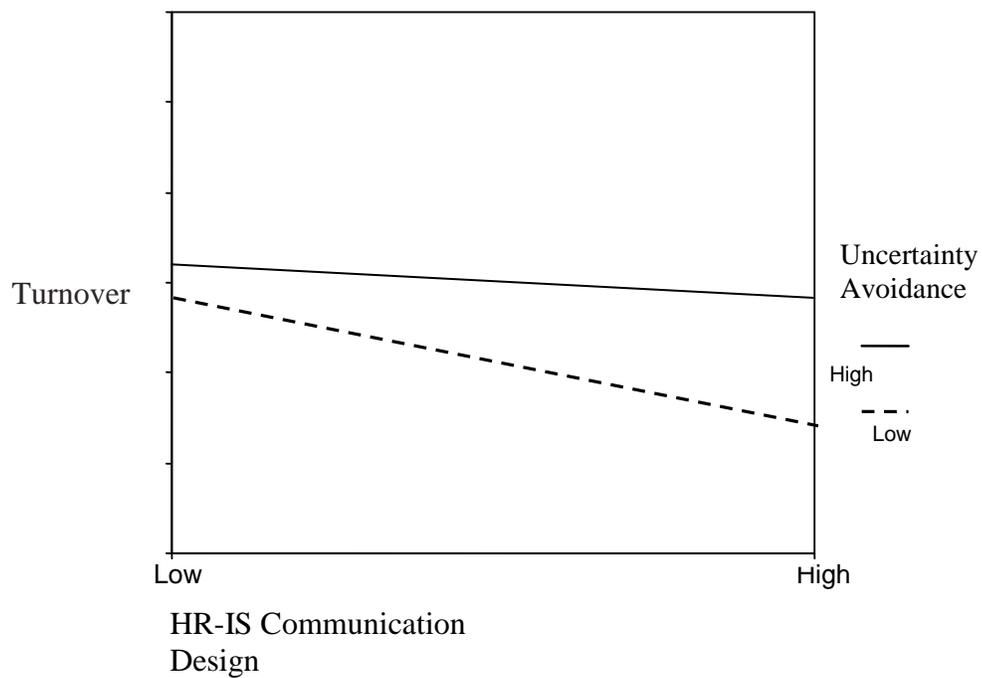


Figure 6: Interactive effect of Stage of HR-IS and Uncertainty Avoidance on Turnover



In addition, we found several main effects for both national variables and HRIS variables on organizational performance variables (see Table 5). Uncertainty avoidance was negatively related to turnover ( $\beta = -.08^{**}$ ); collectivism was negatively related to absenteeism ( $\beta = -.04^*$ ) and turnover ( $\beta = -.08^*$ ); and future orientation was negatively related to absenteeism and turnover ( $\beta = -.06^{**}$  to both). With regard to HRIS variables, type of HRIS was negatively related to absenteeism ( $\beta = -.05^*$ ).

## **Conclusions**

The present study has focused on the important issue of the relationship between societal culture and the use of information technology in the HR area. We focused on two complementary issues: (a) the influence of national values on the implementation practices of information technology in the HR area (i.e., degree of integration of HRIS into a wider management information system and the degree to which the HRIS was interactive in nature); and (b) the contribution of the level of fit between national values and these HR information technology practices on two key organizational outcomes: absenteeism and turnover. The results generally supported our hypotheses by indicating that national cultures affect the information technology practices in the HR area and that absenteeism and turnover tend to be affected by the level of fit between the societal culture and the HR-related information technology practices. The higher the fit, the lower the absenteeism and turnover.

A methodological strength of the present study is the independence of its data sources. While the organizational-level data on information technology practices has been obtained from the CRANET study, the country-level data on cultural values have been obtained from the GLOBE study. The consistent theory-based relationships found in the study, occurring in datasets from different sources, clearly strengthen the conclusions that can be drawn. Another strength of the study is the multi-level analysis that was conducted. Relatively few studies have examined the interaction between variables at the organizational level and national level, taking into account the nested structure of the data (in the current study, organizations within countries; e.g., Brown, 2005).

The results pertaining to cultural values support culture-based theories such as those originally advanced by Hofstede (1991) and later developed by the GLOBE study (House et al., 2002), namely that management is influenced not only by organizational culture, but also by the culture of the larger society surrounding the organization (Schein, 2000). In a later publication, Hofstede (2000) discussed the complex relationships between national and organizational culture. He raised the question of whether management can establish a strong organizational culture that reflects values different from those of the larger national culture and that compete with societal socialization practices. He further argued that even strong organizational cultures of multi-national organizations will be subject to local reinterpretations of their “standard” values when their practices are transferred abroad. Thus, even seemingly identical practices in multi-national organizations can produce different nuances in different countries. Understanding the influence of national cultures is therefore of great importance for understanding organizational cultures.

## **International and managerial implication**

The study results provide important theoretical and practical implications. Theoretically, the results enhance our understanding of the effect of national values on information technology practices in HR, and on organizational outcomes. Practically, because of increases in globalization and in the pervasiveness of international business operations, corporations are likely to benefit from

research findings on the adaptation of information technology practices under different environmental conditions, and their effects on performance-related outcomes. Thus, the results of this study can enable managers who are responsible for global operations or who are in organizations competing in the global market, to decide more effectively which information technologies practices to implement in different societal cultures. The study clearly indicates that understanding the fit between HR-related information technology practices and societal values is an important basis in implementing effective information technology practices (cf. Leidner & Kayworth, 2006).

The knowledge derived from the present study about cultural effects is applicable to studies concerning cross-cultural organizational processes, such as globalization, outsourcing, and expatriate behavior. Studies of information technology practices across societal cultures (e.g., Snape, Thompson, Yam & Redman, 1998) need to consider the separate and the interactive contributions of organizational and national factors. Kim (1999) stated that globalization implies accepting that cultural diversity in management composition and style contributes to the competitive advantage of the firm. The results of the present study suggest that globalization also implies acceptance of both national and organizational diversity. Ultimately, recognition and acceptance of such values should contribute to the successful operation of multi-national firms.

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English Abstract

# Information Technology Systems in the Human Resource Area: A Cross Culture Approach

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## Abstract

Using two independent large databases of 5,991 organizations in 21 countries, this study explored (a) the influence of national values on human resource (HR) information system practices (type of HR information system and information system communication design) adopted by organizations; and (b) the contribution of the level of fit between national values and these HR information system practices to two key organizational performance indicators: absenteeism and turnover. Results showed that national values explained HR information system practices and supported the hypothesized interactive effects of national values and HR information system practices on absenteeism and turnover. The results have strong implications for organizations concerned with how to maximize the fit between particular cultures and HR information system practices as a basis to enhance organizational performance indicators.

**Keywords:** Human resource management, cross culture, information system

French Abstract\*

Information Technology Systems in the Human Resource Area: A Cross Culture Approach

**Systemes technologiques d'information GRH**  
Une approche interculturelle

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**Résumé**

A partir de deux bases de données indépendantes, comprenant 5991 organisations dans 21 pays, cette étude explore : (a) comment des valeurs nationales influent sur les pratiques en matière de systèmes d'information GRH adoptés par des organisations, et (b) le niveau de concordance entre les valeurs nationales et la pratique de ces systèmes d'information GRH par rapport à deux indicateurs-clés de performance que sont l'absentéisme et le chiffre d'affaires. Les résultats montrent que les valeurs nationales expliquent des pratiques en matière de systèmes d'information GRH. Les résultats soutiennent l'hypothèse des effets interactifs des pratiques en matière de systèmes d'information GRH sur l'absentéisme et le chiffre d'affaires. Les résultats ont des implications fortes pour les organisations qui se demandent comment elles peuvent optimiser l'ajustement entre cultures particulières et les pratiques en matière de système d'information GRH, de manière à favoriser la performance organisationnelle.

**Mots clés :** Gestion des ressources humaines, l'interculturel, système d'information

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Spanish Abstract\*

Information Technology Systems in the Human Resource Area: A Cross Culture Approach

# Sistemas de Tecnología de la Información en los Recursos Humanos

## Un enfoque Trans-Cultural

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### Resumen

Utilizando dos grandes bases de datos independientes de 5.991 organizaciones en 21 países, este estudio explora: (a) la influencia de los valores nacionales en la aplicación de los sistemas de información a los Recursos Humanos (HR) adoptado por las organizaciones (un tipo de diseño de sistema de información de recursos humanos y de sistema de información de la comunicación) y (b) la contribución del nivel de ajuste entre los valores nacionales y las prácticas de estos sistemas de información a dos indicadores clave del rendimiento organizacional: el absentismo y la facturación. Los resultados mostraron que los valores nacionales explican las prácticas de los sistemas de información de los Recursos Humanos y confirmaron la hipótesis de la relación existente entre los valores nacionales y las prácticas de los sistemas de información de Recursos Humanos en el absentismo y la facturación. Los resultados tienen una fuerte implicación para las organizaciones preocupadas con la forma de maximizar el ajuste entre las culturas particulares y las prácticas de los sistemas de información de Recursos Humanos como base para mejorar los indicadores de rendimiento de la organización.

**Palabras clave:** Gestión de recursos humanos, trans-cultural, sistemas de información.

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German Abstract\*

Information Technology Systems in the Human Resource Area: A Cross Culture Approach

# Einsatz von IT Systemen im Personalbereich

## Ein Cross-Culture Ansatz

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### **Zusammenfassung**

Auf Basis einer großen Datenbank mit Informationen aus über 5,991 Organisationen aus 21 Ländern untersucht die vorliegende Studie (a) den Einfluss von nationalen Werten auf Human Resource (HR) Informationssysteme sowie deren Anwendung in Form von unterschiedlichen Typen von HR Informationssystemen und das Informationssystem-Kommunikation Design und (b) deren Beitrag bezogen auf zwei Schlüssel-Performance Indikatoren „Absentismus“ und „Umsatz“. Die Ergebnisse zeigen, dass das nationale Wertesystem den Einsatz und die Nutzung von HR Informationssystemen und bestätigt die zugrundeliegenden Hypothesen. Die Resultate der Studie geben eine gute Implikationsgrundlage für Organisationen, wie diese den Fit zwischen ihrer speziellen Kultur und den verwendeten HR Informationssystemen maximieren können, um so ihre Performance Indikatoren steigern zu können.

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Italian Abstract\*

Information Technology Systems in the Human Resource Area: A Cross Culture Approach

# I sistemi informativi nell'ambito della gestione risorse umane

Un approccio relativo a varie culture

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## Abstract

Utilizzando due consistenti e indipendenti database di 5.991 aziende e 21 nazioni, questo studio ha esplorato : a) l'influenza dei valori nazionali su sistemi informativi di gestione delle risorse umane ( tipologia di sistemi informativi e design del sistema di comunicazione degli stessi ); e b) la relazione del livello di compatibilità fra valori nazionali e pratiche riguardanti questi specifici sistemi informativi per due indicatori di prestazione chiave: assenteismo e turnover . I risultati hanno evidenziato che i valori nazionali spiegano il perché di particolari utilizzi di sistemi informativi in questione e hanno supportato l'ipotesi di una interazione fra valori nazionali e utilizzo di sistemi informativi per la gestione delle risorse umane riguardo ad assenteismo e turnover. I risultati hanno delle forti implicazioni per aziende che intendono massimizzare l'integrazione fra le caratteristiche di particolari culture e sistemi informativi relativi alla gestione risorse umane allo scopo di migliorare indicatori di prestazione

**Parole chiave:** Gestione delle risorse umane, varie culture, sistemi informativi

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Arabic Abstract\*

Information Technology Systems in the Human Resource Area: A Cross Culture Approach

نظم تكنولوجيا المعلومات في مجال الموارد البشرية  
نهج ثقافي مشترك

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خلاصة

قامت هذه الدراسة باستخدام قاعدتنا بيانات مترابطين من 5991 منظمة في 21 بلد بإستطلاع أ) تأثير القيم الوطنية على ممارسات نظام معلومات الموارد البشرية (نوع من نظام معلومات الموارد البشرية وتصميم نظام المعلومات والاتصالات) المعتمدة من قبل المنظمة، وب) مساهمة درجة التناسب بين القيم الوطنية وممارسات نظام معلومات الموارد البشرية إلى مؤشرات الأداء الرئيسية في المنظمة: التغيب والعائد. بينت النتائج أن القيم الوطنية فسرت ممارسات نظام معلومات الموارد البشرية كما أيدت إفتراض الآثار التفاعلية من القيم الوطنية وممارسات نظام معلومات الموارد البشرية المتعلقة بالغياب والعائد. تترتب على النتائج آثار قوية للمنظمات المعنية بكيفية تعظيم التناسب بين ثقافات معينة وممارسات نظام معلومات الموارد البشرية كأساس لزيادة مؤشرات أداء المنظمة.  
إدارة الموارد البشرية؛ الثقافة الشاملة؛ نظام معلومات. : الكلمات الرئيسية

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Hebrew Abstract

Information Technology Systems in the Human Resource Area  
A Cross Culture Approach

**מערכות מידע ממוחשבות בתחום משאבי אנוש:  
גישה בין תרבותית**

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**תקציר**

באמצעות שני בסיסי נתונים בלתי תלויים הכוללים 5,991 ארגונים מ 21 מדינות, מחקר זה בדק: א. את ההשפעה של ערכים תרבותיים על השימוש במערכות מידע ממוחשבות בתחום משאבי אנוש (סוג המערכת ועיצוב התקשורת במערכת), ב. ההשפעה שלי מידת ההלימה בין ערכים תרבותיים ובין מערכות מידע ממוחשבות בתחום משאבי אנוש על שני משתני מפתח בביצועים ארגוניים – היעדרויות ותחלופת עובדים. תוצאות המחקר מעידות כי ערכים תרבותיים מסבירים את דרך השימוש במערכות מידע ממוחשבות בתחום משאבי אנוש, ותומכות בהשערת האינטראקציה שבין ערכים תרבותיים ובין מערכות מידע ממוחשבות בתחום משאבי אנוש על היעדרויות ותחלופה. לתוצאות השלכות יישומיות רבות אשר עוזרות לארגונים למקסם את ההתאמה שבין התרבות בה הם פועלים ודרך השימוש במערכות מידע ממוחשבות בתחום משאבי אנוש וזאת לשם הפחתת היעדרויות ותחלופת העובדים.

# International Age Discrimination

## Management Challenges and Opportunities

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### Abstract

Many challenges confront older workers who remain employed or who seek to reenter the job market. One challenge is age discrimination in employment. The purpose of this practical article, therefore, is to examine the important and challenging topic of the aging workforce and particularly age discrimination in employment in a variety of global contexts – legal, cultural, ethical, managerial, and practical. Important goals of the authors are to help employers avoid age discrimination lawsuits as well as to provide appropriate recommendations to employers to help them deal with the challenges of attracting, hiring, retaining, and developing older workers in the workforce in a value-maximizing manner for all the organization’s stakeholders. The authors examine age discrimination in the global work environment and convey its deleterious consequences and international and managerial implications. Furthermore, suggestions for discrimination awareness and cultural sensitivity training are provided.

**Keywords:** Age discrimination, global work environment, cultural sensitivity, global workforce, generational differences, ADEA, anti-discrimination law.

### Introduction

Age discrimination based on stereotypes of older workers is a problem in the workplace. In an Ohio State University Study of more than 12,000 cases on age discrimination in employment filed with the Ohio Civil Rights Commission from 1988 to 2003, Santora and Seaton (2008) report that, “...in the cases examined workers around the age of 50 – people who ordinarily have many productive years left to contribute to the workplace – experienced considerable age discrimination” (p. 104). In a society where labels such as middle-aged, old, and older are used to describe existing groups of working professionals and job seekers, studies indicate that age discrimination is a prominent problem and a concern for both leaders and managers. Grossman (2008: p. 39) notes that there are different conceptions of old and older, and to illustrate the diversity of viewpoints, Grossman (2008) relates that “Professional football players grow “old” in their 30s; air traffic controllers face mandatory retirement at 56, pilots at 65, and federal law enforcement officers at 57...The Age Discrimination in Employment Act (ADEA) protects workers at age 40.” The American Association of Retired Persons (AARP) also commences its examination of age discrimination in its 2008 report, *Reassessing the Age Discrimination in Employment Act*, by first defining the key term, discrimination: Economic theory, beginning with Becker (1957), holds that a group suffers from discrimination if employers, other workers, or consumers have distaste for contact with the group, which ends up being reflected in market transactions. Thus, for example, if

consumers value interactions with young workers more than with older workers, older workers will be hired at lower wages or will less likely be hired. Discriminatory tastes like these are interpreted as animus toward a group. An alternative definition that may have similar observable consequences, but that might be more relevant to the case of older workers, is that employers hold incorrect negative stereotypes about the ability of older individuals to perform on the job (Neumark, 2008, p. 11). Finally, according to Santora and Seaton, “age stereotypes are often connected to work competencies - in short, older workers may be perceived as less able to ‘do the job’” (2008, p. 103). This clearly is the case regarding age discrimination, which negatively impacts many older workers in the twenty-first century work environment (Neumark, 2008).

There are many discrimination cases currently keeping lawyers, law firms, judges, and the court system very busy as they attempt to bring about fair employment practices. Posthuma and Campion (2009) note that “at the time when older workers are most needed, there is growing evidence of discrimination against older workers in terms of higher verdicts against employers” (Posthuma and Campion, 2009, p. 159). Gregory (2001) mentions how discrimination against older workers has long been a common practice in some American firms. Nearly all middle-aged and older workers tend to suffer the consequences of an age-biased action. Gregory (2001) argues that while U.S. law prohibits age discrimination in the U.S. workplace, workers over the age of 40 are nevertheless subjected to adverse employment decisions that are often motivated by stereotypical notions regarding their abilities. As such, older workers in the American workplace are at times encouraged into premature retirements, denied developmental opportunities that can lead to promotions, denied deserved transfers or job promotions, terminated for causes that have little or nothing to do with their performance, and are excluded from long-term decision-making due to biases and assumptions. Gregory (2001) argues that there is no doubt that age discrimination continues to be a common practice in American business firms. Santora and Seaton (2008) concur and assert that “age discrimination is unfortunately alive and well in the workplace” in the United States (p. 104). Posthuma and Campion (2009) concur on age discrimination being an area in need of attention: “Despite the importance of the topic, there has been less focus on preventing discrimination from age stereotypes than on discrimination from race and gender stereotypes. This is ironic because stereotypes about older workers have the potential to affect everyone as we get older, not just the members of one race or sex group” (Posthuma and Campion, 2009, p. 159). The aging global workforce presents many challenges and opportunities, particularly legal and practical ones, for societies, governments, and employers; therefore, this topic is a multi-faceted subject matter that emerges as a most important challenge to the modern-day, global executive, manager, entrepreneur, and government leader.

### **Aging, Culture, and Discrimination**

Managing older workers is not just a national challenge for Americans, but it is also relevant for international managers. Hodgetts and Luthans (2003) see international management as “the process of applying management concepts and techniques in a multinational environment” (p. 5). They also contend that “culture is acquired knowledge that people use to interpret experience and generate social behavior” (p. 5). As such, this acquired knowledge forms people’s values, creates their attitudes, and influences their behavior in a predictable pattern (Hodgetts & Luthans, 2003, p. 108). Hofstede (1980) defines culture as the collective programming of the mind through locally held value systems, which distinguishes one group of people from another. Today’s managers engaged in international business should possess diverse value systems in order to truly be effective

global managers; and they also primarily manage people of diverse beliefs in an international environment. As such, understanding culture plays a critical role in international management. For an organization to operate in several countries with different cultures, it is important for the management team to understand the culture of each of these countries in order to efficiently and effectively operate interdependently among them. The norms and practices of one culture, including moral beliefs and precepts, may not be the norms and practices of another.

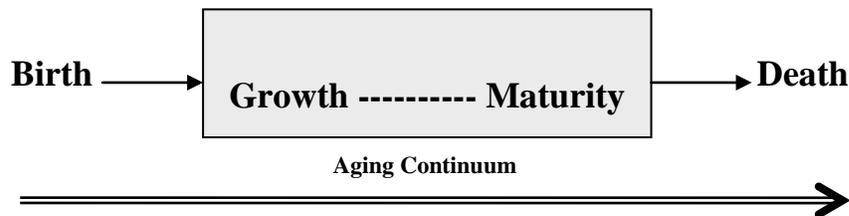
### ***Generational and cultural differences***

Generational differences and discrimination naturally affect the employment setting, but cultural differences are also an important reality of today's workforce (Mujtaba and Cavico, 2006). Cultural differences, such as languages spoken, clothing designs, and music played, are often apparent among people living in different cities, countries, or continents (Mujtaba, 2010). Yet, certain cultural differences, such as beliefs and values, are not always apparent at the surface level, but are practiced among different groups. People's views regarding aging and older workers emerge as one prime example of such cultural differences that lie beneath the surface, but which are experienced in day-to-day activities. Employers in the United States as well as globally are dealing with such views regarding age; and thus are confronting the challenges and opportunities that come with an aging workforce. As a matter of fact, the average age of the U.S. workforce is higher than previous years as since 1996 there has been a dramatic increase in labor force participation among individuals aged 55 years and older (Mossisa & Hipple, 2006); and the workers now are much more diverse. Due to generational differences, some occupations and industries in the United States are likely to see fewer numbers of experienced and skilled individuals in the labor pool. Due to globalization and limited resources, some organizations have fewer numbers of managers and hierarchal levels in their organizational charts. So, there are many changes that employers have to tackle in the coming decades as they now must be prepared to deal with a much more diverse workforce. Some of the differences in the workforce stem from cultural backgrounds, while others come from generational upbringing. Furthermore, organizations are dealing with a smaller experienced labor pool. The second decade of this new century and millennium, despite the current recession, is going to see more U.S. workers retire as they reach the traditional retirement age of 65 years. Consequently, employers will have fewer choices of candidates seeking jobs when employers seek to recruit, attract, and hire qualified individuals for positions. Thus, employers will have to find various means of competing to acquire a larger percentage of this limited –supply of skilled workers; and many of these valuable, experienced workers fall into the category of older workers. Accordingly, the attraction, recruitment, retention, and development of older workers have become critical to competing successfully in the “new economy” which promises fast and rapid changes. Employee retention programs for experienced workers will not only work for gaining and keeping older workers, but will also increase the likelihood of getting more applicants from all generations of the available labor pool. However, in an effort to attract, hire, and retain older workers, many organizations in the United States as well as globally face the challenges of cultural or generational biases and stereotypes that negatively impact even experienced workers. Therefore, it is important to understand culture and cultural views related to age, stereotypes, biases, and particularly the impact of culture on people's behavior in the workplace.

### ***Functions of culture***

One function of culture is to regularize behavior within a society (Mujtaba, 2010). As such, by understanding the culture, one can predict the individual's behavior within that culture toward dilemmas, employment practices, and day-to-day activities. Every individual comes from a society that conditions the person to respond to challenges based on the specific values and morals of his or her upbringing. In some cultures people value experience and age, while in others people are conditioned by stereotypes and myths regarding age (Mujtaba, Oskal, Edwards, and Cavico, 2006). Such stereotypes and conditioning, unfortunately, accompany individuals in the workplace, thus leading to prejudice and discrimination of various forms, including discrimination based on age. It should be noted, however, that while years of conditioning can have a very strong influence on a person's behavior, each person can think for him- or herself, and thus make decisions according to the situational factors surrounding a dilemma. This result is especially true in the workplace, as managers and professionals are expected to treat each other with respect and dignity, as well as according to legal, "industry," and organizational standards and practices. Therefore, it is extremely important for professionals, managers, and leaders to have a clear understanding of culture, especially discrimination, stereotypes, laws, and industry practices, in order to make legal, ethical, moral, and efficacious decisions (Mujtaba and Rhodes, 2006). In particular, possessing a strong moral foundation will enable some workers and managers to become transformational leaders as they learn to think critically and help others to reflect upon the facts before making important decisions that impact their future, their organization's future, and the future of current and prospective employees (Cavico and Mujtaba, 2009). The objective, therefore, is not only to review the past, but also to understand the current policies and circumstances, and, most importantly, to move forward by planning for the future, minimizing or eliminating age-related biases in the workplace.

*Figure 1: The Aging Process*



Source: Mujtaba and Cavico (2010); *The Aging Workforce*, p. 168

Regardless of cultural differences, as presented in Figure 1, one commonality among everyone is that the aging process begins at birth and inevitably ends in death (Mujtaba and Cavico, 2006, p. 228). Therefore, aging is a part of the growth and maturation process of all creatures. As one grows and matures, old age will naturally set in, and eventually death arrests the process of growth and maturation (Nagel, 2002). The concept of old age and aging spells the mortality of man, and this sets man racing against time to accomplish his/her goals and dreams. Old age and death have become synonymous in languages and cultures, and man understands that aging, and old age in particular, increases the probability of dying. Aging is a natural gravitation towards death, and thus slowing the process of aging should have the same result on death, slowing one's inevitable demise.

### **Cultural Attitudes toward Age and Aging**

The American culture seems to be obsessed with youth (Kelly, 2003), as can be seen from the increasing number of cosmetic surgeries and by the fact that members of the media are fully capitalizing on such youth obsessions in their ads and marketing, advertising, and selling efforts. Such youth-mindedness is also accompanied by a concomitant negative perception of aging in the society, which includes the workplace. While many Asian cultures value and respect older individuals (both in their personal and professional lives), Americans view aging from a negative perspective. These negative perceptions tend to convey the message that older workers are not able to keep up with new technology or new ways of doing things because they are not open-minded. Besides the perception of not being open-minded, older workers in American society are seen as deadwood, incompetent, closed-minded, un-trainable, and less productive (Kelly, 2003). Of course, these are stereotypes and myths that are not factual; and individuals disproving these myths are obvious and ubiquitous in today's workplace. Nonetheless, such views tend to put older individuals at a huge disadvantage as they attempt to compete in the job market with their younger counterparts. Moreover, young Americans tend to have an unearned privilege or unearned advantage of being young that comes to them naturally but at a severe cost to older workers. This focus on youth, according to Santora and Seaton (2008), is woefully short-sighted "in the face of overwhelming evidence that older people (over the age of 60) are more active and more fit than ever before, and are living longer as a result of better health care. So why should older people, a talented and experienced segment of the population, be eliminated from the workplace when there is a tremendous need for highly qualified, committed, and motivated employees?" (Santora and Seaton, 2008; 103).

Eastern cultures have rigid lines between the young and old. However, the old are seen in a noble light and regarded with great reverence and respect. For example, in Chinese and Japanese, as well as Indian, cultures, the old person or an elderly one is the sage who is well-enlightened and knows the seasons, the past, present, and future (Mujtaba and Cavico, 2006). The old person or elderly one is treated as the head of the family; that is, treated as a grand matriarch or grand patriarch who never loses that post regardless of functional capacity or physical debilitation. This fact may stem from the phenomenon known as "ancestral homage or worship" that prevails in some Eastern cultures. Regardless, the differences in attitudes towards age, aging, and the old are markedly different. Not all Western cultures treat age, aging, and the elderly with negative regards (Mujtaba and Cavico, 2010). The attitude towards age and aging will depend on a combination of factors, mainly on the particular culture and social make-up of that society, though it can be predicted that the more collectivist nations or cultures would have greater reverence and more positive views concerning age and aging.

Religion and religious beliefs and practices also have impacted the attitudes towards age and aging. A religion that holds old age in high esteem will influence a society to be more mindful of the elderly and less concerned with age as a distinctive factor separating people. Throughout the Bible and Quran, for example, many of the leaders or patriarchs were aged people; and this fact seems to have influenced a tradition of the elderly or the old being distinctly privileged in positions of religious leadership or authority on matters concerning life. For example, the Roman Catholic Papacy has been a great reflection of this, as well as the hierarchy of spiritual leadership. Age is seen from a religious point of view as part of God's plan for man in his/her current life; people grow old and die, but with the possibility of being reborn into a new light and life.

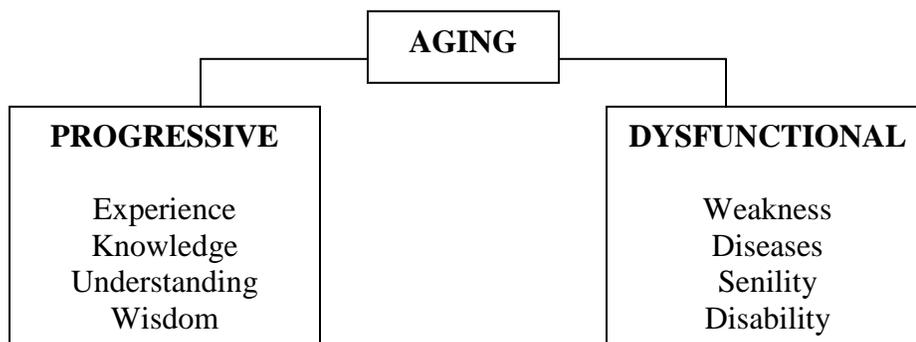
The distinction between young and old is highly emphasized in certain societies and cultures through social expressions, values, and social practices and lifestyles. This distinction has resulted in what can uniquely be called age discrimination or an “age divide,” which seems more pronounced in American society than any other. One area in which the age divide becomes very evident is the job market; and this situation usually reflects itself in the disparity of experiences between young and old when it comes to job requirements and pay. Decisively, age acts as a discriminating factor in the job market, as indicated by the authors’ research results, as well as in various institutional settings and social environments. For example, there are positions and ranks in various institutions and society, which through expectations, customs, or law, possess age barrier requirements. Some unique examples are often seen in corporate American companies in where leaders in the upper echelon of companies such the CEOs or Board of Directors seem to be from only within a specific age group. Age divide becomes an issue only when it deprives individuals of positive growth opportunities and advantages that would be open to them otherwise.

It is revealing to compare the United States to the world’s other great powers concerning the aging of the population. The U.S. Census Bureau estimated in 2000 that 40 million U.S. citizens were 65 or older, representing 12% of the total population. Moreover, the Census Bureau predicts that by the year 2030, the number will grow to 71.4 million, approximately one in five Americans (Palmquist, 2008). Due to steep declines in birthrates as well as significant increases in life expectancies, many other nations have also experienced a substantial aging of the population. Examples of such nations include Great Britain, France, Germany, China, Japan, and Russia. In the case of Russia, the country’s population is not only aging but also shrinking, approximately to the extent of 700,000 a year (Haas, 2008). By 2050, at least 20% of the people in these countries, including the United States, will be over the age of 65, according to United Nations projections. Actually, the U.S. is growing older at a lesser rate than all the aforementioned countries (Haas, 2008). In Japan, more than one in three people will be 65 or older by 2050; China will have more than 329 million people over the age of 65 (Haas, 2008). Such an increase in older workers results in more people retiring and thus fewer people in the workplace. For example, the population work segment comprising individuals from ages 15 to 35 in Japan and Russia is expected to shrink by 34% by 2050; and the decrease for Germany is expected to be 20%, France is 6%, and China is 3% (Haas, 2008). Fewer workers mean less work, and thus less economic activity. Unless there are commensurate gains in the productivity of the remaining workers, a nation’s economic health will decline. For example, it is predicted that in China, the shrinkage in the working age population will result in an overall loss of 1% of Gross Domestic Product growth per year by 2020 (Haas, 2008). Labor shortages consequently will threaten economic growth, and not only in China. Therefore, as a matter of sound public policy, it is incumbent on nations to adopt policies and to promulgate laws that encourage older workers to continue working and to protect them from age bias in employment.

The global workforce evidently is becoming older. In the United States, for example, in 2007, the Bureau of Labor Statistics reported that there were 76.9 million people in the workforce who were age 40 or older (Grossman, 2008). More people are living longer, and working longer – by either choice or, particularly in today’s uncertain economic times, necessity. The increasing age of the workforce, the presence of age bias in society generally, together with the fact that the consequences of unemployment fall more harshly on older people; make the topic of age discrimination in employment a very significant one- legally, ethically, and practically. Moreover, as older employees get even older, their pension and health care costs concomitantly increase for their employers, thereby making older employees attractive targets for workforce downsizing. Furthermore, not only are older employees disadvantaged in their efforts to retain employment, but

also to regain employment when they are discharged from their jobs. Weak economies today also adversely affect older workers more harshly, particularly since, when business is not good, employers may feel compelled to reduce the number of their most expensive employees, who are typically their oldest workers. Moreover, in a tight economy, older workers are the ones most likely to have a more difficult time to secure a job, let alone a comparable job, after they have been downsized. Today, therefore, many older workers are remaining in the workforce; and the projections are that the percentage of older workers in the workforce will expand. In the United States, the *Miami Herald* (Sherman, 2008) reported on a study by the American Association of Retired Persons that the percentage of people 65 and older who continue to work has grown from 10.8% in 1985 to 16% in 2007. Moreover, for people aged 55 to 64, the numbers have increased from 54.2% in 1985 to 63.8% in 2007. The topic of dealing with older workers in the workforce, particularly as the workforce ages, therefore, emerges as a very important legal subject matter indeed.

Figure 2 – Progressive and Dysfunctional Perspectives of Aging



Source: Mujtaba and Cavico (2010); *The Aging Workforce*, p. 172

As presented in Figure 2, there seems to be two extremes when it comes to society's perspectives on age and aging; aging as progressive and aging as dysfunctional (Mujtaba and Cavico, 2006, p. 232). The progressive view of aging can mostly be ascribed to Eastern cultures and societies that are typically collectivist and highly traditional, while the dysfunctional view of aging is very reflective of Western societies where youthfulness and non-conformist ideologies are more rampant. The dysfunctional view of aging views aging with a stigma of negativity; and thus age and aging, particularly old age, are equated with developmental and progressive weaknesses, decrease in mental and physical capacities, illnesses, diseases, lack of mobility, and all the down-sides of degeneration that occur naturally in the aging process. These defects of aging and the aged are too well-emphasized in American society, where youthfulness is equivalent to fortune and beauty, especially where the entertainment industry weighs in heavily on the American mind (Mujtaba, Oskal, Edwards, and Cavico, 2006; Mujtaba and Cavico, 2006).

Mujtaba and Cavico (2006) emphasize that the progressive view of aging is highly entrenched in traditional practices, thoughts, legends, cultures, and ideals. The old are seen as the creators and possessors of wisdom, wide and far-reaching knowledge, superior understanding,

indispensable experiences, virtues, and compassion; and in fact to grow old is a blessing since one could naturally die young. Many Eastern and Caribbean cultures have this progressive view of aging, and this belief explains the differences in treatment of old age and the elderly when it comes to the respect from the younger generations within society. In Japan and China, for example, the elderly or “old folks” are treated with utter reverence and their opinions and experiences, knowledge and wisdom are highly prized; and they are looked upon for guidance throughout all areas of life (Cavico and Mujtaba, 2006, p. 233).

### **Stereotypes and Age Discrimination**

The word “stereotype” comes from two Greek words: *stereo* meaning “solid,” and *typos* meaning “a model.” When applied to people, the term symbolizes rigid, repetitive, and formalized behavior (Posthuma and Campion, 2009). Schneider (2004) relates that stereotypes have been accused of being wrong due to the fact that they may be created or at least supported by cultures that are in fact prejudicial and discriminatory. When using stereotypes, people allow their cultures to do their thinking for them instead of using factual information to be their guide. Schneider (2004) asks the question of whether stereotypes regarding age and other such characteristics are cultural products. His answer is yes. Schneider (2004) indicates that cultures provide many accurate generalizations, but some really faulty ones too. One point is clear – right or wrong - about the American culture, as succinctly and plainly stated by *Newsweek* magazine in 2008: “Our culture relentlessly celebrates youth” (Gross, 2008, p. 18.). Youth is fine; however, stereotypes about age can become bad, ugly, and ineffective when people use them to discriminate against a person or groups of individuals without considering the current facts or evidence. The word “discrimination” takes its root from the Latin word *discrimino*, which means “to divide or separate” into a division or category. While discrimination has its positive meanings, in most cases it is used to refer to making judgment about an individual’s or people’s behaviors based, not on their unique characteristics, but based on stereotypes or generalizations. Posthuma and Campion (2009) explain further that “...managers can hold negative stereotypes about older workers that are subtle or unconscious, yet they may affect how they think about their workers. The result can be discrimination against older workers when they are not hired, are not selected for training, or are targeted for lay-offs. Thus, although the influence may be subtle, the cause may be age stereotypes and the effect, discrimination” (Posthuma and Campion, 2009, p. 160).

Such is the case with age discrimination, which negatively impacts many, older workers, in today’s work environment. To illustrate, Floyd (2008) indicates that the downturn in the economy and lack of jobs have caused an increase in age discrimination law suits in the United States. In 2008, a news anchor for BBC, age 57 years, filed a lawsuit because she was overlooked to replace another anchor going on maternity leave with younger anchors ages 32 and 28. Another case was filed against The South Charleston Police Department for not allowing a 37 year applicant to take the physical ability test. Upon reviewing the case, the rules set forth by the department were deemed unconstitutional and violated the young woman’s civil rights (Floyd, 2008). To further illustrate, according to a recent American Association of Retired Persons (AARP) study, called “Staying Ahead of the Curve: The AARP Work and Career Study,” many older workers in the U.S. perceive age discrimination in employment to be a serious problem. The study indicated that two-thirds of workers aged 45-74 replied affirmatively to the question: “Based on what you have seen or experienced, do you think workers face age discrimination in the workplace today?” (Neumark, 2008, p. iii). Even more dramatically, Grossman (2008) declared that “the scourge of age

discrimination continues to be endemic” (p. 64.). *HR Magazine* provided two examples. The first was a survey of 5000 workers age 50 and over conducted for Retirement.Jobs.com in Waltham, Massachusetts, in which 77% of the respondents have either experienced or observed age discrimination and bias in the workplace. In a companion survey of 165 employees, 78% indicated that discrimination based on age was “a fact of life” in the workplace (Grossman, 2008). Secondly, all these findings paralleled a survey conducted by the Roper polling organization for the American Association of Retired Persons where two-thirds of the workers aged 45 to 74 indicated that they had experienced or observed age discrimination in the workplace, and, even more disturbingly, 80% of job seekers stated that they were facing age discrimination (Grossman, 2008). Similarly, Gross (2008) reported that “there is still enormous resistance and unwillingness to consider older workers for job hires” (Gross, 2008, p. 18). Gross quoted a corporate executive recruiter who stated that corporate boards look doubtfully at older candidates because “somebody in their mid-60s isn’t going to take an 18 hour-a-day job” (Gross, 2008, p. 18). What makes age discrimination an even greater problem than prejudice based on race and gender is the presence of “...unsubstantiated claims that old age reduces performance. In addition, age discrimination is inextricable from the economic argument because older employees through years of service and experience demand higher wages than newer employees. Accordingly, employers in order to reduce the payroll expense may replace older employees with younger employees” (Khan, 2009, p. 193; Newman, 2010). Yet, perhaps in the future, such discrimination, prejudices, and stereotypes may become less prevalent due to demographic trends, specifically due to the fact that as the baby-boomers get older, and carry their social attitudes with them, the acceptance of older workers in the workforce may grow.

### **Culture and Discrimination**

While culture can condition individuals both positively and negatively, at times the conditioning can be stereotypical and consequently lead to illegal and unethical discrimination. However, not all forms of discrimination are illegal or unethical. In society, a man may choose to discriminate against women who do not have a high school education when he decides to marry a woman; thus he may marry someone who has a college degree, while not even considering those who have not acquired this status. Similarly, a female might choose to marry a male who earns a comfortable salary and one who owns a house; as such, she may not even consider those who are unemployed, employed in low paying jobs, or those who have chosen to spend their money in other means versus owning a house. These forms of discrimination are based on personal values and preferences. However, it is important to note that such personal values and preferences do not always apply in the workplace, particularly when one is deciding whom to hire, since hiring practices are based on one’s ability to perform the job (Cavico and Mujtaba, 2009).

Professionally, managers and leaders may discriminate based on organizational values, educational qualifications related to the job, the level of experience, as well as many other factors, when looking for potential candidates in the workplace. However, these decisions do not always negatively impact others based on their age, gender, or race when properly practiced as intended by the organizational values and job qualifications. Yet, societal stereotypes and myths do lead some individuals to discriminate against others based on their gender, race, age, or other such non-job related variables that are not necessarily indicative of a potential candidate’s level of performance. These forms of discrimination are illegal in the United States as well as many nations and, certainly, highly unethical too. Another important point is to understand that cultures do not discriminate, but people do in terms of their thoughts, words, actions, and behaviors. While cultures cannot be

changed easily, people's thoughts, words, actions, and behaviors can be changed; and this change takes place best when it is intrinsically initiated through knowledge, education, awareness, critical thinking, and self-reflection (Mujtaba, 2010). Overall, each person is likely to experience fairness in the hiring, development, and promotion of individuals according to his or her own efforts, education, self-reflections, behaviors, and ability to effectively work with others.

With the current global economic conditions, international firms are looking to fill positions, especially leadership ones, with people that have global experience and cultural sensitivity with regard to gender, age, local norms, and other issues related to hiring practices. They are looking for the candidate that has the edge, that is, the ability to understand and manage the business in a fair, practical, and efficacious manner in a variety of cultural contexts. These cultural competency points were underscored by Carlos Ghosn, the very successful, simultaneous CEO of Nissan and Renault. In an interview with *Newsweek* magazine in 2008 (Smith, 2008), Ghosn, whom *Newsweek* called "an extreme example of a global executive," stated, "More and more, in any company, managers are dealing with different cultures. Companies are going global, but the teams are being divided and scattered all over the planet. If you're head of engineering, you have to deal with divisions in Vietnam and China, and you have to work across cultures. You have to know how to motivate people who think very differently than you, who have different kinds of sensitivities, so I think the most important message is to get prepared to deal with teams who are multicultural, who do not think the same way" (Smith, 2008, p. E10).

### **Cultural Challenges Associated with Aging**

Cultural and generational differences convey themselves in various forms. For example, in the Afghan culture people respect and cherish age and older individuals (Mujtaba, Oskal, Edwards, and Cavico, 2006). Accordingly, older workers and older members of the community often serve as coaches, mentors, and advisors in settling disputes and guiding major decisions. As a result, many Afghans tend to view the progression of life as a continuum of beginning, growth, and ending with the latter part being the most valuable due to the impact of accumulated experience. Perhaps, this mentality comes from the spiritual lessons of continuous development each day, as many Afghans believe that "if today one is not better than yesterday then a whole day has been wasted." The accumulated lessons of many days and years cannot be gained through quick or unrealistic expectations. Accordingly, age has its value; and there is no effective substitute for life's learning experiences. However, despite the fact that aging is inevitable, old age is not necessarily something that many American people look forward to as they grow up. Whatever the case or differences with regard to the old age, education and training are not always good substitutes for years of personal experience and intrinsic reflections.

It is evident that the pace of change in today's post-industrial organizational environment is increasing. These changes are dynamic and evolutionary, yet not always predictable. Such evolutionary and dynamic changes can include or be caused by the increase in mergers, downsizing, flattening of organizational structures, increased globalization of businesses, increased complexities dealing with cultural and gender differences, increased aging or longevity of the population, and an increase in the number of employees working past the retirement age. These changes have created added responsibilities for managers who now have a significantly more diverse generation of employees with varied cultural backgrounds. While managers attempt to juggle an overwhelming number of changes, priorities, and demands on their time, developmental activities for the aging workforce often have fallen to the bottom of the priority list, even though developing these

experienced employees has been found to be a key factor in maintaining an organization's strategic advantage, and thus such efforts are critical to developing a learning, and earning, organization (Mujtaba, 2010).

### **Diversity and Discrimination**

Diversity in the workplace is becoming more and more common in today's society as most firms are becoming a melting pot of different cultures and ethnic backgrounds (Mujtaba, 2010). This global diversity is forcing companies to create a diverse workplace, and accordingly to have diversity training to promote a wide range of different cultures, yet without the participants being afraid of expressing their views or risk losing business unnecessarily (Cavico and Mujtaba, 2008). Therefore, companies will continue to conduct cultural awareness training that will create knowledge of the different cultures and the diverse generations of workers, and how the appreciation of these differences are an asset to the overall success of the company in the long-term. Greater awareness of diversity and cultural differences should provide time for personal reflection on how age is an important dimension of today's diverse workforce, as well as how aging is a normal part of human growth and development. Age should not be a predictor of each unique individual's level of knowledge, maturity, or capacity to perform at certain standards. Therefore, philosophically, age should not be a factor in employment practices. However, realistically and practically, age has become a major aspect of employment decisions in many modernized and developed countries.

Age discrimination and bias in the U.S. workplace and globally impact people of all races, colors, religions, and ethnicities. Such forms of discrimination, which can be highly unethical, are causing many managers a great deal of anxiety, and are also forcing many of them into court. One of the greatest fears of company officials and individual managers is the likelihood of either being sued for something they have done intentionally or unintentionally, or for something they should have considered doing but did not. It is no secret that age-related lawsuits are proliferating; and more recently age related claims have been on the rise due to layoffs, which, even though they may not target older workers, nonetheless may have an impermissible disparate impact on them. Juries, perhaps due to sympathy, often side with aggrieved employees, even if the evidence is flimsy. Because of these trends, companies and their managers are realizing the need to protect themselves by periodically reviewing workforce diversity and examining the workplace for latent signs of discrimination (Administration on Aging, 2001). One element of such discussions of discrimination based on age is to create awareness of this practice and to reduce the negative impact of stereotypes regarding older workers.

Being an effective manager and educator in a diverse environment requires expecting the same standards from all employees regardless of their race, gender, age, language, and general background. Managers should not evaluate workers differently because of their age, gender, nationality, or language, since such differences have a negative consequence as a result of the self-fulfilling prophecy. One of the needed skills for all managers is to acknowledge differences, and then actively incorporate each worker's experiences into the work environment and decision-making process. Recognizing and understanding these differences require managers who are aware of cultural and generational diversity issues. In order for managers and workers to be successful, they thus need to become culturally competent. According to Mujtaba (2010), *cultural competency* refers to the continuous learning process that enables one to function effectively in the context of cultural differences in the workforce. Today, there is a very diverse workforce population in terms of the employees' backgrounds, abilities, ages, languages, body sizes, geographic locations, cultures,

learning styles, cultural conditioning, etc. Diversity describes the many unique characteristics and qualities that make a person, employee, or student similar to or different from others (Mujtaba, 2010). Some of these characteristics might be apparent, such as skin color, hair color, body size, and general appearance. Yet other characteristics, such as age, ethnicity, disability, religion, financial status, values, cultural background, and many others may not be apparent based on first impressions. It is imperative, therefore, that one does not judge workers based on assumptions; and accordingly one must treat everyone fairly and equitably.

### ***United States Anti-Discrimination Law***

The Civil Rights Act of 1964 is the most important civil rights law in the United States. This statute prohibits discrimination by employers, labor organizations, and employment agencies on the basis of race, color, sex, religion, and national origin. Regarding employment, the scope of the statute is very broad, encompassing hiring, apprenticeships, promotion, training, transfer, compensation, and discharge, as well as any other terms or conditions and privileges of employment. The Act applies to both the private and public sectors, including state and local governments and their subdivisions, agencies, and departments. An employer subject to this Act is one who had 15 or more employees for each working day in each of 20 or more calendar weeks in the current or preceding calendar year. One of the principal purposes of the Act is to eliminate job discrimination in employment (Cavico and Mujtaba, 2008).

Discrimination, in employment or otherwise, can be direct and overt or indirect and inferential. Typically, there are two types or categories of employment discrimination claims against employers involving the hiring or promotion of employees. The first theory of recovery is called “disparate treatment” which involves an employer who intentionally treats applicants or employees less favorably than others based on one of the protected classes of color, race, sex, religion, or national origin. The discrimination against the employee is intentional and purposeful, and thus the employee needs to show evidence of the employer’s specific intent to discriminate. However, intent to discriminate can be inferred. So, for example, when the employee is a member of a protected class, such as a racial minority, and is qualified for a position or promotion, and is rejected by the employer while the position remains open, and the employer continues to seek applicants, then an initial or *prima facie* case of discrimination can be sustained (Cavico and Mujtaba, 2008).

The other legal avenue claimants may travel to prove their employment discrimination claims is called “disparate impact,” or at times “adverse impact.” This legal doctrine does not require proof of an employer’s intent to discriminate. Rather, “a superficially neutral employment policy, practice or standard may violate the (Civil Rights Act) if it has a disproportionate discriminatory impact on a protected class of employees. Such practice will be deemed illegal if it has a disproportionate discriminatory impact on a protected class and the employer cannot justify the practice out of business necessity” (Cavico and Mujtaba, 2008, p. 501). Age discrimination lawsuits can be based on either the disparate treatment or disparate impact theories.

### **The U.S. Age Discrimination in Employment Act of 1967**

All managers working in the United States or for American companies must be aware of the Age Discrimination in Employment Act (ADEA). The purposes of ADEA is to promote employment of older persons based on their ability and not their age, to prohibit arbitrary age discrimination in employment, and to assist employers and employees to find methods to meet the

problems arising from the impact of age on employment. The law recognizes the grave problems resulting from age discrimination against older workers, particularly long-term unemployment, as well as the burden that age discrimination places on commerce and the free flow of goods and services. One important objective for the promulgation of the ADEA was the elimination of age discrimination against older job applicants. It was believed that the elimination of age discrimination in employment would reduce long-term unemployment of older workers, thereby diminishing poverty among the elderly.

The ADEA is a federal law which prohibits an employer from failing or refusing to hire a protected individual, or discharging an employee within the protected age category, or otherwise discriminating against such individuals, because of their age, in regard to compensation and the other terms and conditions of employment. The ADEA specifically makes it an illegal employment practice for an employer to refuse or fail to hire a person, or to discharge an employee, or to otherwise discriminate against any person with respect to compensation, terms, conditions, or privileges of employment, including hiring, firing, promotion, layoff, compensation, benefits, job assignments, and training, due to this person's age. Moreover, it is illegal for an employer to limit, segregate, or classify its employees in any way which would deprive a person of employment opportunities or otherwise adversely affect a person's status as an employee because of such person's age. The ADEA applies to employers that have twenty or more employees, including state and local governments and the federal government. The statute also applies to employment agencies and labor organizations. Job applicants are also protected by the statute. The ADEA covers hiring, termination, compensation, as well as other terms and conditions of employment. The statute extends protection to public as well as private sector employees; however, the employees or persons in order to be protected must be at least 40 years of age. There is no upper level age limit to the statute's coverage. In 1986, the U.S. Congress removed the upper age limit in the statute, which had been 70, almost entirely. Although the ADEA offers protection only to workers 40 years or older, it must be noted that a number of states in the United States, including Florida, Maine, Alaska, Maryland, and Mississippi, have their own employment discrimination laws that do not specify any age limit. The ADEA defines "employer" as a person involved in an industry affecting commerce with twenty or more employees for each working day in each of twenty or more calendar weeks in the current or a preceding calendar year. A "person" is defined as one or more individuals, a partnership, an association, a corporation, or a labor organization, among other entities and relationships. Pursuant to the ADEA, when discrimination is found and there is evidence that the employer has acted in a willful and intentional manner, the aggrieved employee may be awarded liquidated damages of double the salary he or she was deprived of due to the discrimination. Moreover, in some states, such as California and Ohio, plaintiff employees who prevail may potentially be awarded much more lucrative punitive damages if the employer acted in bad faith or in a malicious manner. The ADEA also applies to employment agencies and labor organizations. Note, however, that in 1996, the U.S. Congress amended the ADEA to permit public employers to discriminate on the basis of age in the hiring and mandatory retirement of law enforcement officers and firefighters.

In contrast to intentional age discrimination, covert discrimination exists against older employees, which seems to be subtler in nature, and human resource managers should be aware of such subtle forms of discrimination. Further research has revealed that unintentional code words often are used during the interview process, such as "we're looking for go-getters" and people who are "with-it" to describe desirable employees. Generally, buzzwords seem not to apply to people who are seasoned and experienced, just old. One noticeable buzzword that may be a pretextual code

word indicating age discrimination intent is “over-qualified”. According to a *U.S. News and World Report* article (Clark, 2003) titled “Judgment Day,” about two thirds of all U.S. companies use performance as at least one factor when deciding whom to lay-off during tough economic times. Many firms use the forced ranking system since executives like this process because it seems to be the fairest and easiest way to downsize. Unfortunately, older workers seem to get the worst of it as larger portions of them lose their jobs possibly due to biases and because they earn more income and earn more benefits compared to their younger counterparts. Segrave (2001) noted that consistently across the time period, and from country to country, age discrimination in employment clearly creates more difficulties, and begins earlier, for women than for men. Thus, companies and their managers are recognizing the need to periodically review workforce diversity and analyze the workplace for latent signs of discrimination and take corrective actions as necessary (Administration on Aging, 2001; Harvey and Allard, 2002).

### **Global Legal and Ethical Perspectives**

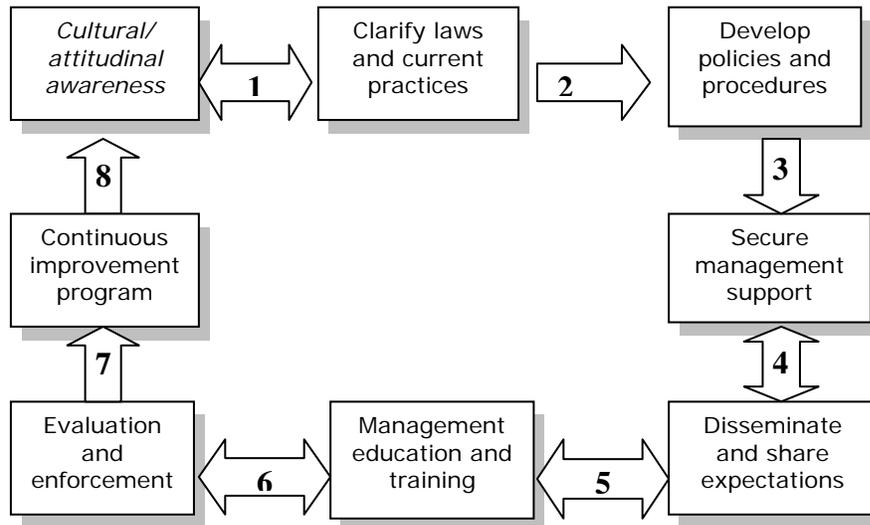
The globalization of the world’s economy has resulted in employers assigning increasingly larger numbers of employees to international assignments. One initial issue that results from such globalization is the responsibility of multinational companies that operate in the United States. The general rule of law in such a case is that U.S. civil rights laws apply to multinationals operating in the U.S. or its territories to the same extent as U.S. employers. Employees are covered regardless of their citizenship or work authorization. Employees who work in the U.S. are protected by U.S. law whether they work for a U.S or foreign employer. The exception arises when the foreign employer is covered by an international treaty, convention, or other agreement that limits the full applicability of U.S. anti-discrimination employment law, for example, by allowing the foreign company to prefer its nationals over others for certain positions. Another important, and more problematical, employment discrimination issue concerns the rights of workers who are employed by a U.S. employer or by a foreign employer in a workplace in a foreign country. The difficult issue is whether the extensive U.S. legal protections afforded to employees in the U.S. carry overseas. This legal question typically is regarded as an issue of the extra-territoriality of U.S. law. A U.S. company that is going global thus must be prepared to face the legal as well as practical implications of establishing operations overseas, in particular the challenging situation when a company finds itself torn between obeying U.S. law and complying with the law of the host country. An employer in the United States whether a domestic or an international one must be aware of U.S. anti-discrimination employment law, such the ADEA, as well as the extra-territorial application of U.S. civil rights laws. The class of protected people pursuant to U.S. law is very broad (Sherman, 2008), yet the global business person must also be concerned with other legal jurisdictions’ anti-discrimination law.

### **Guidelines for Legal and Ethical Practices in the Global Economy**

Compared to people working within a country or culture, those who work on international levels have to deal with greater levels of change regarding employment practices because of legal, cultural, social, economical, and environmental differences that exist within and among people of various countries (Cavico and Mujtaba, 2008). These international business and non-business people must become aware of subtle differences and nuances in other people’s conversations, body gestures, sensitivities, table manners, business dealings, general contracts and agreements, gender

differences and perceptions, time management styles, attitudes, values, religious beliefs, and many others that might be more prominent in some cultures than others.

*Figure 3 – Cultural Diversity Management Steps*



Source: Mujtaba and Cavico (2010); *The Aging Workforce*, p. 187 (Modified)

In order to create awareness and a culture of fair employment practices, global leaders and managers should institute relevant policies and procedures to bring about appropriate cultural changes in the organization (Mujtaba and Cavico, 2006, p. 100). As presented in Figure 3, modern managers can apply the following steps to better manage various organizational-relevant cultural diversity dimensions and, therefore, to avoid, eliminate, and end age discrimination (Mujtaba and Cavico, 2006, p. 101).

1. Understand the culture and cultural attitudes towards age discrimination.
2. Clarify cultural, national, and international laws applicable to employment practices in the organization. Measure current organizational practices against such norms.
3. Develop policies and implement procedures appropriate to the organizational values in order to comply with cultural and legal norms.
4. Elicit support from senior management.
5. Disseminate organizational policies and communicate expectations to all managers and employers.
6. Educate and train all managers in fair hiring, developing, promoting, disciplining, and retaining of experienced employees.
7. Consistently monitor the program and enforce policies.
8. Improve the program, policies, and procedures with regard fair employment practices.

Global leadership plays a significant role in international business. It is important to have highly skilled leaders in an organization to direct, encourage, and train employees. Since global leaders work with people throughout the world, they need to be aware of the cultural differences and aging attitudes. Using the same business style as the parent company in another nation might not be a successful method to conduct business. Global leaders must ensure that the global organization is operating smoothly and all the subsidiaries are being treated equally. To develop more global leaders, current leaders need to provide adequate training for the new leaders. The best methodology in developing global leaders is providing more exposure to the international arena of the organization, and offering training from other experienced global leaders in the company (Mujtaba, 2010; Mujtaba and Cavico, 2006).

### **Implications**

Global managers need to concern themselves with the people side of the business since culture is a dominant factor in successfully dealing with people across organizational terrains. They need to be cognizant of prevailing cultural differences to avoid or effectively deal with culture shock upon arrival and departure. Some examples of issues to be considered when relocating to another country include family issues, health care issues, education of children and family members, taxes, living quarters, salary, cost of living equity, transportation, local laws, etc. Besides culture, a country's political and economical consideration further complicates the equation for international human resources managers. Cross-cultural training is a mandatory activity for all employees involved in international business (Mujtaba, 2010). For expatriates, it is also critical to train the immediate family members and relatives. Otherwise, failure could come not only from the economic activities, but also from political, marketing, interpersonal, and cultural differences. With the convergence of a global workplace, there is a need to ensure that people are not discriminated against nationally as well as internationally based on age or other factors. So, to ensure continuity throughout the company, Mujtaba (2010) recommends that everyone should be required to attend legal, cultural, diversity competency, and sensitivity training. These types of training involve understanding different laws and cultures and how people of different countries act in various situations, including interacting with other people. Age discrimination can be a serious problem for both organizations and individuals, but with legal and cultural awareness and training, age and other harmful forms of discrimination will be reduced and eventually eliminated, and all people will be treated as worthwhile individuals with dignity and respect.

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English Abstract

# **International Age Discrimination**

## **Management Challenges and Opportunities**

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### **Abstract**

Many challenges confront older workers who remain employed or who seek to reenter the job market. One challenge is age discrimination in employment. The purpose of this practical article, therefore, is to examine the important and challenging topic of the aging workforce and particularly age discrimination in employment in a variety of global contexts – legal, cultural, ethical, managerial, and practical. Important goals of the authors are to help employers avoid age discrimination lawsuits as well as to provide appropriate recommendations to employers to help them deal with the challenges of attracting, hiring, retaining, and developing older workers in the workforce in a value-maximizing manner for all the organization's stakeholders. The authors examine age discrimination in the global work environment and convey its deleterious consequences and international and managerial implications. Furthermore, suggestions for discrimination awareness and cultural sensitivity training are provided.

**Keywords:** Age discrimination, global work environment, cultural sensitivity, global workforce, generational differences, ADEA, anti-discrimination law.

French Abstract\*

International Age Discrimination: Management Challenges and Opportunities

## **Discrimination selon l'âge:** Défis et opportunités pour le management

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### **Résumé**

Les salariés âgés, employés ou qui cherchent à rentrer sur le marché du travail, sont confrontés à de nombreux défis, dont la discrimination en raison de leur âge lors de l'embauche. Le but de cet article, à orientation professionnelle, est d'examiner le sujet de la main d'œuvre vieillissante, dont en particulier la question de la discrimination d'âge lors l'embauche dans des contextes légaux, culturels, moraux, managériaux et professionnels variés. Les auteurs poursuivent l'objectif de fournir des conseils aux employeurs pour qu'ils évitent des procès de discrimination. Les auteurs donnent des conseils aux employeurs pour faire face aux défis d'attirer, d'embaucher, de retenir et de développer les compétences des salariés âgés de manière à optimiser la valeur pour l'ensemble des parties prenantes de l'organisation. Les auteurs examinent la discrimination d'âge dans l'environnement global de l'entreprise et avertissent pour ses conséquences délétères et les implications managériales. En outre, des suggestions pour une prise de conscience de l'existence de cette discrimination et pour le développement des formations de sensibilisation culturelle sont fournies.

Mots-clés : discrimination d'âge, emploi, optimisation de valeur, environnement global professionnel, sensibilité culturelle, parties prenantes de l'organisation, main d'œuvre globale, différences générationnelles, loi d'anti-discrimination.

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Spanish Abstract\*

International Age Discrimination: Management Challenges and Opportunities

# Discriminación Internacional por Razón de Edad: Retos y Oportunidades para la Gestión

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## Resumen

Los trabajadores mayores se enfrentan a muchos retos, tanto para continuar empleados, como para volver a incorporarse al mercado laboral. Uno de estos retos es la discriminación por edad. El propósito de este artículo de carácter práctico es examinar el relevante y desafiante tema del envejecimiento de la mano de obra y, en particular de la discriminación por edad en el empleo en una variedad de contextos globales - legales, culturales, éticos, directivos y prácticos. Los objetivos principales de los autores son ayudar a los empleadores a evitar las demandas de discriminación por edad, así como proporcionarles recomendaciones pertinentes para afrontar los retos de atraer, contratar, retener y desarrollar profesionalmente a los trabajadores de más edad de manera que se maximice su valor para todas las partes implicadas en organización. Los autores examinan la discriminación por edad en el entorno de trabajo global y transmiten sus consecuencias perjudiciales, así como las implicaciones de gestión internacionales. Adicionalmente, se sugieren soluciones para la concienciación de la discriminación por edad y para la formación en materia de sensibilidad cultural.

**Palabras clave:** edad, discriminación, empleo, maximizar valor, entorno de trabajo globalizado, sensibilidad cultural, mano de obra global, diferencias generacionales, discriminación por edad, ley anti discriminación.

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German Abstract\*

International Age Discrimination: Management Challenges and Opportunities

## **Internationale Altersdiskriminierung: Herausforderungen und Chancen für das Management**

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### **Zusammenfassung**

Ältere Mitarbeiter und Mitarbeiterinnen werden vor viele Herausforderungen gestellt, wenn sie ihre Arbeit behalten wollen oder als älterer Mensch wieder ins Berufsleben einsteigen wollen. Als eine dieser Herausforderungen gilt die Altersdiskriminierung. Ziel dieses Beitrags ist daher zu untersuchen, mit welchen Formen und Arten der Altersdiskriminierung ältere Menschen heute im Berufsleben konfrontiert werden. Dies geschieht vor einem globalen Kontext wie der Untersuchung von Rechtssystemen, der Kultur, Ethik, Managementsystemen etc. Eine Fragestellung der Autoren lautet, wie ältere Arbeitnehmer Altersdiskriminierung identifizieren und erfolgreich umgehen können. Eine andere Frage lautet, wie Arbeitgeber auf Altersdiskriminierung reagieren können. Hierauf aufbauend formulieren sie Handlungsanweisungen, die eine Steigerung der Wahrnehmung für Altersdiskriminierung auf der einen Seite und Möglichkeiten für ein Sensibilitätstraining auf der anderen Seite aufzeigen.

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Italian Abstract\*

International Age Discrimination: Management Challenges and Opportunities

# Discriminazione di età a livello internazionale:

Sfide e opportunità di gestione

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## Abstract

I lavoratori con considerevole esperienza si confrontano con molte sfide nel cercare di mantenere il loro impiego o di entrare di nuovo nel mercato del lavoro. Una di queste sfide riguarda la discriminazione relativa all'età. Lo scopo di questo studio pratico, quindi, è quello di esaminare l'importante e complesso tema di una forza lavoro che invecchia e in particolare la discriminazione di età in ambiti lavorativi su vari aspetti globali - legali, culturali, etici, gestionali e pratici. Gli autori si pongono l'obiettivo di aiutare i datori di lavoro ad evitare cause per discriminazioni di età e al tempo stesso fornire le appropriate raccomandazioni per gestire al meglio le sfide di attirare, assumere, tenere sul posto di lavoro e sviluppare il potenziale di lavoratori esperti in modo da apportare valore a tutti gli stakeholders. Gli autori esaminano la discriminazione di età in un ambito lavorativo globale e sottolineano le sue conseguenze negative unite alle relative implicazioni internazionali e manageriali. In aggiunta a questo, gli autori forniscono consigli in merito a temi di consapevolezza sulla discriminazione e spunti formativi alla sensibilità culturale.

**Parole chiave:** discriminazione di età, impiego, massimizzazione del valore creato, ambienti di lavoro globali, sensibilità culturale, stakeholder aziendali, forza lavoro globale, differenze generazionali, Legge sulla discriminazione d'età (ADEA), leggi di anti discriminazione.

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Arabic Abstract\*

International Age Discrimination: Management Challenges and Opportunities

## التمييز العمري عالميا:

فرص وتحديات ادارية

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### خلاصة

هناك عدة تحديات تواجه كبار السن من العاملين الذين يواصلون اداء اعمالهم ووظائفهم او الذين يبحثون عن فرص عمل جديدة لدخول سوق العمل مرة اخرى . إن اهم هذه التحديات هو التمييز على أساس العمر في التوظيف. الغرض الرئيسي من هذه المقالة العملية هو اختيار اهم المواضيع وأكثرها تحديا بالنسبة للقوى العاملة المتقدمة بالسن وخاصة التمييز العمري في التوظيف وذلك في العديد من المجالات العالمية، القانونية منها والثقافية والاخلاقية والادارية والعملية. إن من اهم الغايات التي يطمح لها الكاتب هو مساعدة أصحاب العمل والمشغلين في تفادي الدعاوى القضائية المتعلقة بالتمييز العمري إضافة إلى تقديم توصية مناسبة لهم لمساعدتهم في كيفية التعامل مع التحديات التي ستواجههم في جذب, توظيف, استبقاء, وتطوير العاملين من كبار السن وذلك عن طريق تعظيم القيمة لجميع اصحاب المصلحة في المنظمة. كما يقوم الكاتب باختبار التمييز العمري في بيئة العمل عالميا ونقل عواقبها المؤذية وأثارها الإدارية العالمية. كما تم طرح إقتراحات للتوعية من التمييز وتقديم تدريب عن عدم الاستقرار الثقافي.

التمييز العمري؛ العمالة(التوظيف)؛ تعظيم القيمة؛ بيئة العمل العالمية؛ عدم الإستقرار الثقافي؛ اصحاب : الكلمات الرئيسية  
المصلحة في المنظمة؛ القوى العاملة عالميا؛ الاختلافات بين الاجيال؛ التمييز العمري في قانون العمل؛ قانون مكافحة التمييز.

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# A Correlational Study of Professional Culture and Intraorganizational Conflict

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## Abstract

This study is based on data from Sales and Accounting functions in three different organizations. We know that the contextual inputs to behavior in sales and accounting include professional, organizational and national culture. By holding national culture and organizational culture constant, this paper focuses on the influence of professional culture in conflict interactions. The data from this study suggest that both accounting and sales have strong and distinct professional cultures. The greatest cultural value differences occur with the dimensions of individualism and uncertainty avoidance. There is a significant positive correlation between dimensional variance and conflict frequency. The findings suggest that cultural dimensions with incongruent values between the two professions are positively correlated with interdepartmental conflict. Through better understanding of professional culture we may be more effective at managing conflict in the workplace.

**Keywords:** Professional culture, conflict, individualism

## Introduction

This study compares differences in professional culture values for sales and accounting with frequency of conflict between these two groups.

Conflict is operationalized using specific defensive tactics that are categorized within each of five professional cultural constructs. Defensive communication tactics are defined as interactions that can be aggressive, attacking and angry, or passive and withdrawing (Nelson & Quick, 2006; Thomas, 1976). Eight of the major conflict tactics include: power play, put-down, labeling, raising doubts, misleading information, scapegoating, hostile jokes, and deception (Nelson & Quick, 2006; Robbins, 2003).

Professional<sup>2</sup> culture is described by Hochschild (2003, p. xii) as existing in a “shroud of salient ambiguity”. Pierre Bourdieu points out that people are not born into professions but acquire the “socially learned predispositions” of their professions (2004). Boyatzis tries to better define professional culture by suggesting that it is simply the behaviors that are appropriate and acceptable by each profession (1982, p. 20). Professional culture often appears under the heading of a “subculture”, not being acknowledged as important as national and organizational cultures (Scott et al, 2003; Hofstede, 1980; Degeling et al, 1998). The concept of managing the tribe as presented by Logan, King, and Fischer (2008) may be linked conceptually to what we mean by a professional culture. They suggest that the tribe’s guidance system for performance is programmed with a set of cultural standards: “Tribal Leaders focus their energy on building the tribe or, more precisely, upgrading the tribal culture”.

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<sup>2</sup> Profession is synonymous with occupation in the context of this paper.

Professional cultural patterns that develop in organizations as a result of different functional specialties are constituted of taken for granted, seldom articulated patterns of every day action and belief. To parties in organizational conflict their own cultural patterns constitute the “natural” way to do things and serve as a common sense backdrop to every day life. Each culture is enacted mostly in commonplace, everyday unanalyzed actions that weave together a coherent life of career. In many organizations, this silo mentality results in highly competitive groups engaging in repetitive conflict and working against each other (Dubinskas,1992).

There is a paucity of research that defines professional culture and analyzes its role. Much of the limited research in this area has been done by firms that have little incentive to publish their work. Consulting firms often conduct professional culture studies for corporate clients who want to use the research for their own internal purposes (Watson Wyatt, personal communication, 2007). Some professional groups, such as engineers (CCPPSE, 2007) and the US Navy (Krauss, 1996), attempt to verbalize their cultural values. There are few if any robust measurement scales for professional culture. Ned Hermann’s brain dominance instrument uses four dimensions to differentiate professional cultures using the construct of thinking style (Hermen, 1996). Ned Hermann and Ann Hermann-Nehdi used thinking styles as a differentiator between engineers and earth scientists in a study they completed with Shell Oil Company (1996).

But professional culture is really not a new construct. Even 30 years ago, Robert Edgerton (1971) studied the differences between pastoralists and farmers in four different African tribes. He noted these two groups differed prominently in their expressed attitudes toward authority. In all four tribes, the pastoralists expressed respect for authority more often than the farmers. This paper will define professional culture based on Hofstede’s (1984) definition of culture as “the collective programming of the mind”. The specific professional culture dimensions in this study were derived by Herkenhoff (2008) from the cultural research of Hofstede (1980) and Bond (1988) (Appendix 1).

Hofstede (1980) and others (Deal & Kennedy, 1982; Laurent, 1986; Bond, 1988; Trompenaars, 1994; Newman & Nollen, 1996; Phatak, Bhagat, and Kashlak, R, 2005) have primarily focused on national and organizational cultures. Just as Hofstede notes that national culture is not genetically shared but is passed down between groups, the same holds true for professional culture. Consider the professor’s relationship with a graduate student or a judge with a law clerk. In these examples the senior participant shares the “rules of the road” in professional behavioral and protocols with the less experienced colleague.

Specifically this study will test the following hypothesis:

*H<sub>1</sub>: The frequency of conflict between professional cultures increases as the differences in their professional cultural values increases.*

This study makes a unique theoretical contribution to the literature by linking the areas of professional culture and conflict. Specifically it provides a quantitative tool to explore the relationship between intraorganizational conflict and professional culture.

## **Method**

To test the hypothesis cultural values and conflict data were collected within the accounting and sales functions from three organizations, resulting in an aggregated response rate of 67%. These organizations were chosen based on shared values, access and availability. In order to hold national culture constant these organizations are all headquartered in the United States. To minimize the

effect of differences in organizational values, the organizations had similar industry/demographic profiles and espoused values. These are summarized in Appendix 2. The entire populations of accountants and sales employees within the headquarters of each organization were surveyed. The respondent sizes and response rates are included in Table 1.

Table 1. Respondent data

Organization	Number of Respondents		Response Rate
	Accounting	Sales	
1	30	28	70%
2	80	92	74%
3	73	86	59%
<b>Sub Total</b>	183	206	
<b>Overall</b>	<b>N= 389; Response rate = 67%</b>		

Professional cultural values were collected using the PC08 survey tool (Herkenhoff, 2008). The survey questions are provided in Appendix 3. The PC08 questionnaire was developed based on a dimensional approach in which dimensions capture trends as a meaningful representation of the statistical data. The survey consists of 3 questions for each of the 5 professional culture dimensions. A 5-point Likert scale was used to collect quantitative results for each question. The three scores within each cultural dimension were summed. These cultural aggregate scores were calculated for each cultural dimension for the sales data and for the accounting data resulting in a group score for the accounting job family in each of the 5 dimensions and likewise a group score for the sales job family in each of the five dimensions. Absolute score differences (deltas) were calculated for each dimension by subtracting the sales value from the accounting value.

Participants understood that the PC08 results would remain anonymous. It should be noted that the professional dimensions in PC08 are defined in a global manner and as such are meant to apply within any national culture and any organization. There are no organizational or national culture biases in the questions. The strength of this instrument is that it is closely based on the Hofstede/Bond model. The survey is quick and easy to complete, which allows for higher response rates. The instrument is theoretically based and is not under copyright. PC08 is a reliable and valid survey instrument to measure professional culture.

Conflict data was collected by having participants report the percent frequency occurrence of conflict tactics within given contexts over the past 6 months during interactions between members of sales and accounting. The interactions could be experienced (experiential data) by the respondent or directly observed (observational data) by the respondent. Three contexts were provided within each of the five cultural constructs. The conflict scores were not separated by job family as the source of the reporting was not a variable in this model, just the actual conflict score independent of whether the respondent was in one job family or the other. This data was sorted by cultural dimensions and overall conflict-culture scores were calculated for each of the 5 dimensions. The conflict-culture constructs are defined in Appendix 4. The mapping of the PC08 constructs with the conflict constructs and the cultural differences (deltas) is provided in Appendix 5.

The variables were analyzed using a Pearson correlation matrix in SPSS 17.0. Spearman's Rank Order Correlation (SPRC) statistic was then applied to the paired data to determine whether

the associations between rankings on the two variables of interest, professional culture differences (Dx) and conflict (Cx), was statistically significant (Coakes & Steed, 1997; Cramer, 1998). The SPRC is essentially a Pearson’s correlation on data that has been ranked. In this analysis it should be noted that the data consist of a random sample of n pairs of numeric observations at the group level.

### Results

The age data ranged from 26 to 51 years old with an average age of 37.8 years old and a standard deviation of 4.6 years. The aggregated gender differentiation was 63% male. All PC08 subscales except Gender achieved an acceptable level of reliability as summarized in Table 2. Therefore Gender will not be included in this correlational study of sales and accounting data.

Table 2. PC08 Scale Reliability

Professional Culture Subscale	Cronbach Alpha
Power (P)	.70
Time (T)	.69
Risk (R)	.56
Service (S)	.66
Gender (G)	.15
Individualism (I)	.81

To test for non-overlapping content between the PC08 dimensions, a regression analysis was completed for each dimension, while entering the remaining four dimensions as the predictor variables. The resulting adjusted R sq value represents the systematic variance in each factor

Table 3. Independent Systematic Variance of Dimensions

Professional Culture Dimension	Systematic Variance
Power (P)	.53
Time (T)	.62
Risk (R)	.59
Service (S)	.51
Individualism(I)	.69

accounted for by its relationship to the other four factors. Subtracting each factor’s R sq value from its alpha value yields the systematic variance of the factor that is independent of its relationship with the other four dimensions. These results indicate that most of the variance in each dimension is distinct from the other four (Table 3).

The resulting Pearson bivariate correlation coefficients for all relationships and the associated descriptive statistics are presented in Table 4. None of the within group results in the correlation matrix exceed 0.8, hence there was no indication of the existence of multicollinearity in the model (Bryman & Cramer, 1994). However two significant positive relationships are indicated

between Power (P) and Conflict- Power (CP), and between Risk (R) and Conflict- Risk (CR). Although this study explores the correlational relationship between conflict and *differences* (deltas) in culture, perhaps an additional requirement is that the culture value as a stand alone variable also holds a relationship with conflict. This analysis is beyond the scope of this paper but is worth noting for future research.

Table 4 Pearson Bivariate Analysis and Descriptive Statistics

Variables	Mean	s.d	Professional culture					Conflict (%) within each cultural dimension					
			P	T	R	S	I	CP	CT	CR	CS	CI	
Power (P)	7.90	1.43	1										
Time(T)	12.21	1.72	0.349**	1									
Risk (R)	6.51	1.84	-0.481	-0.101**	1								
Service(S)	11.6	2.35	0.481**	-0.217**	0.029*	1							
Individualism (I)	6.35	1.01	-0.315**	-0.188**	0.033	0.432**	1						
Power Conflict (CP)	4.18	1.25	.521**	0.207**	-0.304**	-0.136*	-0.103	1					
Time Conflict (CT)	3.90	1.57	0.209**	0.067**	-0.201**	-0.153*	-0.175**	0.222**	1				
Risk Conflict (CR)	4.55	1.15	-0.258**	-0.068**	0.447**	-0.143*	-0.191**	0.253***	-0.081	1			
Service Conflict (CS)	3.97	1.73	-0.084**	-0.011	-0.183*	0.01**	0.318**	-0.097	0.011*	-0.239**	1		
Individualism Conflict (CI)	4.98	.899	-0.15*	.166*	.201*	.332**	0.50**	.097	.129*	-.120***	.01	1	

N= 389 \* p< .05, \*\*p< .01, \*\*\* p< .001

### Professional Culture

The relative rankings of the two cultures across all five dimensions are provided in Table 5. Each respondent completed the PC08 survey. These results were aggregated for each of the 5 cultural dimensions for accounting and for sales. The maximum score for each dimension is fifteen (3 questions on a 5 point Likert scale). The higher the power index the greater the role of hierarchies in the culture. The higher the time index the greater the long term focus in the culture. The higher the risk index, the more accepting the culture is in taking risks. The higher the service

index the greater the focus on the role of service in the culture. The higher the individualism index the higher the level of individualism in the culture.

The absolute value differences between sales and accounting scores were translated into percentage deltas for more effective understanding of the correlational results with the conflict data.

Table 5. PC08 Professional Culture Rankings

	Power	Time	Risk	Service	Individualism
<b>Sales</b>	11	10	12	13	2
<b>Accounting</b>	9	7	2	12	8
<b>Sales – Accting</b> <b>(Dx %) =</b> <b>(Δ/15)*100</b>	13 % (DP)	20% (DT)	66% (DR)	7% (DS)	80% (DI)

Table 6. Reported Conflict Occurrence within each Cultural Dimension

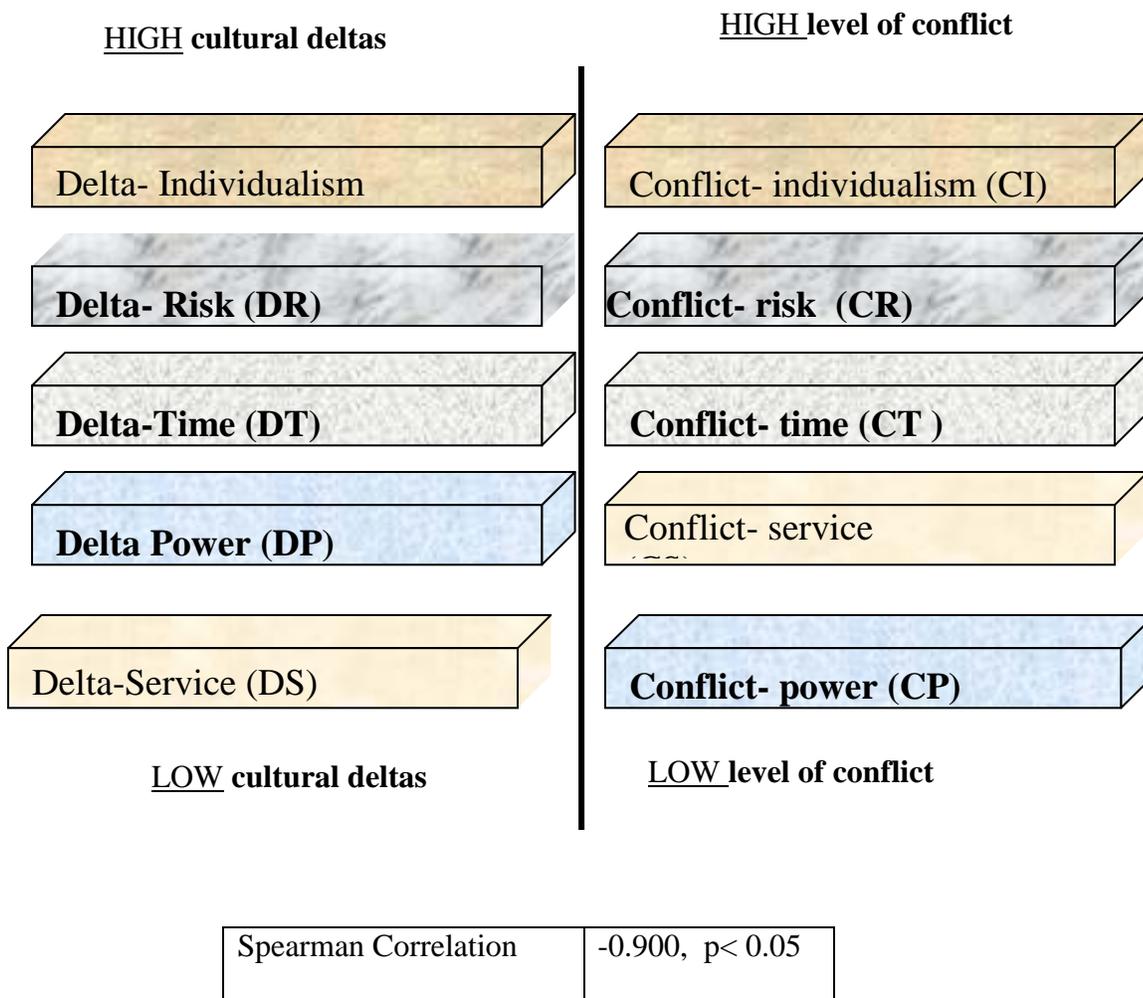
	Conflict sourced from Power (CP)	Conflict sourced from Time (CT)	Conflict sourced from Risk (CR)	Conflict sourced from Service (CS)	Conflict sourced from Individualism (CI)
<b>Sales</b>	7%	15%	60%	10%	80%
<b>Accting</b>	5%	15%	75%	5%	78%
<b>Weighted Mean</b>	6%	15%	67%	7.6%	79%
<b>n<sub>A</sub> = 206</b>					
<b>n<sub>S</sub> = 183</b>					

The reported frequency of conflicts by category is summarized in Table 6. The conflict constructs are not mutually exclusive and the aggregated nature of the weighted mean data allows for the summated value across all variables to exceed 100%.

The Pearson correlation coefficient could not be used with the averaged data due to the issue of ecological inflation of the coefficient. Instead the Spearman Rank Order Correlation (SPRC) statistic was used to measure the association between the cultural deltas (Table 5) and the weighted

mean % frequency conflict data (Table 6). These results are shown schematically in Figure 1.

Figure 1. Rank Order of Differences in Professional Culture Dimensions with Conflict Occurrence



All relationships matched except for conflict-service (CS) which was ranked one step higher than its counterpart delta-service (DS). The resulting non-parametric correlation achieved significance ( $\rho = -0.900, p < .05$ ).

### Discussion

The first professional culture dimension is referred to by Spencer (1993) during his discussion of an individual's ability to understand and use power relationships. Jobs that are part of a structure usually have less autonomy and are part of a hierarchy. This dimension maps directly from Hofstede's VSM (Value Survey Module) instrument that measures the degree of acceptance a culture has for hierarchies (Hofstede, 1993). A high value on the Power dimension indicates a culture that readily accepts power differentials. This is often demonstrated via hierarchical structures

and processes, such as what we see in both the sales and accounting departments of organizations. In this dimension both sales and accounting share a similar set of values. Both of these groups have visible power differentials built into their cultures such as hierarchical job titles and reporting relationships. The two job families differ by only 13% in this cultural dimension. Likewise a minimal amount of conflict associated with the power construct is reported at only 6%.

Long-term orientation professions do not typically focus on immediate results and payoffs. Bond's (1988) long-term orientation dimension describes a culture whose values are primarily focused on the past and future. Short-term orientation cultures focus on the here and now. Bond's work was based on national culture data but the PC08 instrument has incorporated this construct in the Time dimension for measuring professional culture. A higher value on this dimension equates with a higher degree of long-term orientation. Both sales and accounting professions have a balanced position in this dimension. Both groups face daily problems that have to be fixed immediately as well as problems that may be longer term. Julia Chang (2003) suggests that managers of sales people often want them to think about longer-term goals, not one off deals. Accountants show a concern for timely responses with a fear of procrastination. They are comfortable with well-defined processes and regulations. Sales and accounting do not indicate any major differences in this cultural dimension (20%) and do not report any significant levels of conflict (15%).

Hofstede captures this construct within his uncertainty avoidance index (UAI). His UAI measures the degree to which a culture accepts uncertainty. A high score on the PC08 Risk dimension suggests a culture that values and expects its members to take risks. Spencer (1993) refers to "concern for order" which reflects the underlying drive to reduce uncertainty; this may be demonstrated in PC08 with a lower risk dimension. Based on his work a professional culture might reduce uncertainty by having clear roles, functions, processes and rules. Jobs with higher day-to-day predictability such as accounting minimize uncertainty. Other professional cultures such as sales reward taking chances. Occupations in which creative thinking or "out of the box" ideas are desired, usually support risk taking. In this study the sales employees indicate a higher level of risk taking than their accounting counterparts. Accountants are expected to dutifully follow all rules and avoid risk. Sales personnel are often rewarded for taking risks and "thinking out of the box". This cultural dimension achieves a significant difference (66%) and has the high reported incidence of conflict at 67%.

Hofstede's Masculinity dimension has two subscales in the in the PC08 and refers to the amount of service and the degree of machismo associated with the profession. Service tends to be associated with more matriarchal culture. However a low gender differentiated, or gender-neutral professional culture, can still be highly service based. Service refers to the degree of customer service associated with the profession. There also appears to be an association between male dominated professions and machismo. For example jet fighter pilots are typically male dominated and demonstrate a high degree of machismo, whereas the gender-neutral teaching profession does not. The machismo subscale failed to achieve an acceptable level of reliability therefore for purposes of this study only the service construct will be quantified. The two job families did not display any significant differences in this cultural dimension at 7%; both groups strive to provide high quality service to their customers. The conflict associated with service is only 7.6%.

Individualism measures the degree to which the individual needs and desires are primary to those of the collective (Hofstede, 1980). Accountants are considered as individual contributors whereas sales professionals often value the needs of the collective ahead of their own personal needs. The individualism dimension suggests that the sales group is a more collectivist culture while

accountants are more individualistic. The sales have a lower degree of individualism than accountants. Sales people often have team-based bonuses but accountants are often evaluated solely on individual performance. Accountants may work in teams but typically think of their individual needs ahead of the collective. Most occupational cultures have both individualistic and collectivist values but one set of these values is usually more dominant than the other. A professional culture that scores high on this dimension is more individualistic in nature. The differences between the 2 professional groups in this cultural dimension are the greatest at 80%. The associated conflict is also the highest score at 79.1%.

The Spearman Rank Order analysis achieved significance with only service mismatching by one rank order. This may be due to the fact that sales is more externally focused on service while accounting is more internally focused. The general concept of service is shared but the operational definition maybe different in both groups. The overall rank order association supports the hypothesis.

### **Conclusions**

The results from this study inform the theoretical and practical understanding of the ecological level relationship between professional culture and conflict in the workplace for sales professionals and accountant. The results indicate that as the differences in professional cultural values increase, the frequency of conflict sourced from those cultural dimensions increases. In general, the greater the level of incongruity between cultural values the greater the level of conflict.

If employees understand how culture shapes their subconscious thinking about right or wrong, they are then better equipped to more consciously analyze and remedy situations where conflicts develop. Professionals in different functions (finance, sales, marketing, operations, accounting) literally think with different neural connections (Rock & Swartz, 2006 p. 8). Studies reveal that repeated, purposeful and focused attention to what is considered important creates specific perceptions, expectations and a strong personal evolution. People become accountants by paying attention to exact differences in numerical data and balance sheets and as a consequence will develop perceptions about what will bring a good result. They will in fact feel physiological discomfort when things quite literally “don’t add up” . A salesperson focuses on numbers as well but in a different way. He will create success by focusing attention on influential, persuasive relationship management and will achieve results with less precise measures than will the accountant. This difference in focus and attention may explain why accountants are significantly less comfortable with risk taking behavior than are sales people and why sometimes while interacting both groups will feel that something is not right with the other.

For example when the sales representatives deal with the credit department they can perceive all kinds of reasons why clients need more credit or more time to meet their obligations including earthquakes, typhoons and floods. Their attention is not as clearly on credit but on the close. Accountants must pay attention to the odds of actually collecting payment and may not want to depend on good intentions. Their stringent rules can feel oppressive to a sales manager and lead to conflict.

From a statistical standpoint, the association between frequency of conflict and differences in cultural values achieved significance, thereby supporting the hypothesis.

### **Limitations and Future Research**

There is a need to better understand the unspoken assumptions that guide attitudes and behaviors and form the stable substrata of professional culture. There needs to be more research in this area to engage conversation between methods and findings of qualitative and quantitative approaches. In several countries, the term “professional culture”, refers to tradesmen and laborers. In future research outside of the United States this term will be replaced with “occupational culture” to avoid further confusion about excluding any occupational group.

The organizational culture could be measured using a survey tool that measures the enacted values not just the espoused values.

The Hofstede MAS dimension needs to be better translated in the PC08 Gender dimension to improve reliability of this construct. This dimension needs to quantitatively measure the degree of machismo in a professional culture, in addition to collecting it through observational gender role differentiation data. Modifying MAS to include a measurement of the relationship with the workplace environment may also be worthwhile. This modified dimension will require statistical validation before being accepted as part of the PC08 survey instrument.

The sample can be improved by collecting data outside of the United States and by including a larger range of professional cultures. Group level statistical analysis such as the one in this study is data intensive and requires additional professional group level data to improve the robustness of the model. The influence of professional culture on various workplace behaviors beyond conflict should be explored to better define the complete influence of professional culture in the workplace.

Conflict data could be more accurately reported by requesting participants to keep a daily log of conflict rather than depending on historical self report data. However to motivate employees to do this would require managerial support from within the organization. A more thorough analysis of the variance in conflict may be obtained by building a structural equation model in LISREL at the individual level that includes several other factors such as age, gender, number of years experience, highest level degree, etc. Additionally analyzing all three levels of culture with conflict in an HLM (hierarchical linear model) would greatly expand our knowledge of conflict in the workplace.

### **Managerial Implications**

*“The more employees are aware of differences in each other’s professional culture, its communication style, customs, values and traditions, the more they can build a productive partnership, teach and learn from one another and develop new knowledge and skills.”* (Tanner et al, 2003).

One potential implication for managers is to consider professional culture as an important component of organizational success. Professional culture is important and may help organizations achieve goals by forming cohesive groups of employees that help to advance both their interests and those of the company if managed properly. It is important to be aware of how your actions as a leader, though acceptable in one professional culture, may be ineffective when dealing with another.

Tanner et al (2003) suggests that when conflicting cultures work together stress levels increase due to differences in communications and expectations. Perhaps through the analyses outlined in this paper stress can be better managed leading to a healthier workplace.

Better understanding differences in professional cultures may help managers predict areas where cross-cultural coaching and training can improve communications and processes between

professions. It is not sufficient to simply believe that common organizational culture values will provide an adequate foundation for effective inter-departmental work relationships.

Reynolds and Kalish (2002), organizational consultants in conflict resolution, note that managers spend at least 25 percent of their time resolving workplace conflicts. This affects the productivity of both managers and associates employees and can have a far-reaching impact on organizational performance. Understanding where professional cultures may not share similar values and beliefs may assist managers in indentifying potential sources of conflict. Educating employees about differing value systems may help them work more effectively with one another.

If managers recognized the power of professional culture to influence perceptions that create conflict, they might structure interactive events or experiences that would provoke thought. They might cultivate moments of insight that would allow them to expand attitudes and expectations and discuss how to make things better.

Management practices that reinforce professional culture are more likely to yield predictable employee behavior and high performance (Helmreich & Merritt, 1998).

National culture values are frequently acknowledged within organizations by way of diversity programs and various national culture employee clubs. Many resources are dedicated to the development and communication of organizational values. But even within strong organizational cultures, professional culture may still be a significant influence. This study suggests that managers need to make themselves aware of the various professional cultures they manage and interact with, both inside and outside of their organizations. By understanding where the cultures may have incongruent cultural values may provide opportunities to develop more effective relationships.

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## Appendix 1

### Professional Culture Dimensions

Hofstede/Bond	Professional culture dimensions	Professional culture definition with examples
Power distance	Power (CP)	<p>The degree to which power differences are accepted within the profession.</p> <p>Example: Monks accept the hierarchy of the catholic church whereas professors do not prefer working in organizations that are inherently hierarchical.</p>
Long term orientation	Time (CT)	<p>The degree to which the occupational group is long term focused. This may include reward systems and personal relationships. Example: A minister may be more long term focused in his relationships with people than a shoe salesman. Rewards for the day trader are more immediate versus a longer term pay off for the researcher.</p>
Uncertainty avoidance	Risk (CR)	<p>The degree of risk taking associated with the profession. Example: Deep-sea divers are highly risk averse. They work hard to avoid risk. Whereas professional gamblers accept a higher degree of risk in their transactions.</p>
Masculinity	Gender (CG)	<p>The degree of gender based role differentiation in the profession. We know highly male dominated professions often show higher levels of machismo. Example: Jet fighters are predominantly male while professional orchestra musicians have negligible to no role differentiation.</p>
	Service (CS)	<p>The degree to which helping others is part of the job. Service focus tends to be associated with cultures that are not male dominated (Low MAS) Example: Nurses have a high level of service but data entry workers do not.</p>
Individualism	Team (CT)	<p>The degree to which personal needs and desires are primary to those of the collective. Example: Professors have a high level of individualism while firefighters are more collective in nature.</p>

## Appendix 2

### Organizational Profile

	Organization 1	Organization 2	Organization 3
<b>Headquarters</b>	USA	USA	USA
<b>Global Operations</b>	Yes	Yes	Yes
<b>Industry</b>	Energy	Energy	Energy
<b>Sales and Accounting Populations in headquarters</b>	Started with 201 but final count 83 ( workforce reduction affected these groups before this study was completed)	232	269
<b>% Males in Accting and Sales</b>	62	72	69
<b>Mean age in Accting and Sales</b>	35	39	38
<b>Top three espoused organizational values</b>	People are our most important asset. We value diversity. We value the environment and support green efforts.		

## Appendix 3

### Professional Culture Survey (PC08)

Cultural Index	Scoring	Question Number	Related Survey Question
<b>1. Power</b>	reverse	1	My job is part of a hierarchy (chain of command)
		2	My job is very autonomous
		3	Titles are important in my profession
<b>2. Time</b>	reverse	4	My job requires long term professional relationships
		5	My job requires immediate results.
		6	Results in my job have a longer time investment
<b>3. Risk</b>	reverse	7	In my job I get rewarded for taking risks
		8	My job has a high degree of predictability
		9	I have a high degree of personal risk associated with my job
<b>4. Service</b>		10	My job has a strong service focus
		11	I need to adapt to the needs of others in my job on a regular basis
		12	My job requires significant amount of cooperation with others
<b>5. Individualism</b>	reverse	13	My job is more about individual contributions than team contributions
		14	My job has a strong team focus
		15	I often need to inhibit my personal needs in place of team needs

## Appendix 4

### Conflict-Culture Constructs

**Defensive Communication Tactics:** power play, put-down, labeling, raising doubts, misleading information, scapegoating, hostile jokes, and deception

**Question:** During the past 6 months how often did you **observe** or **experience** any of the above tactics in the following contexts during interactions between members of sales and marketing. When you consider all of the conflict related situations in the work place what percentage occurred in each of the 5 cultural dimensions listed below?

**Cultural Dimensions:**

- 1: Power: Reporting relationships, Upward communications, Power plays \_\_\_\_\_%
- 2. Time: Long term focus issues, Time taken to make decisions, Time deadlines\_\_\_\_\_%
- 3: Risk: Taking risks, Managing risk, Value/risk tradeoffs \_\_\_\_\_%
- 4: Service: Service delivery, Internal vs. External customers, Managing customer expectations \_%
- 5: Individualism: Shared resources, Personal accountability, Teamwork\_\_\_\_\_%

## Appendix 5

### Construct Mapping

Mapping of the conflict dimensions (C) with the cultural dimension differences (D); *not provided to the respondent, only for analysis purposes.*

Professional culture dimension	Conflict context	Cultural dimension delta
<b>Power (P)</b>	CP	DP
<b>Time (T)</b>	CT	DT
<b>Risk (R)</b>	CR	DR
<b>Service (S)</b>	CS	DS
<b>Collectivism (C)</b>	CC	DC

English Abstract

# **A Correlational Study of Professional Culture and Intraorganizational Conflict**

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## **Abstract**

This study is based on data from Sales and Accounting functions in three different organizations. We know that the contextual inputs to behavior in sales and accounting include professional, organizational and national culture. By holding national culture and organizational culture constant, this paper focuses on the influence of professional culture in conflict interactions. The data from this study suggest that both accounting and sales have strong and distinct professional cultures. The greatest cultural value differences occur with the dimensions of individualism and uncertainty avoidance. There is a significant positive correlation between dimensional variance and conflict frequency. The findings suggest that cultural dimensions with incongruent values between the two professions are positively correlated with interdepartmental conflict. Through better understanding of professional culture we may be more effective at managing conflict in the workplace.

**Keywords:** Professional culture, conflict, individualism

French Abstract\*

A Correlational Study of Professional Culture and Intraorganizational Conflict

# **Une étude de corrélation entre cultures professionnelles et conflits intra-organisationnels**

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## **Résumé**

Cette étude est basée sur des données concernant les fonctions "ventes" et "comptabilité" dans trois organisations. On sait que les cultures professionnelles, organisationnelles et nationales sont des variables contextuelles qui influent le comportement dans ces fonctions. En prenant constant les cultures nationales et organisationnelles, cet article se concentre sur l'influence de la culture professionnelle sur les interactions lors d'un conflit au travail. Les données de cette étude suggèrent que les fonctions "comptabilité" et "ventes" ont chacune des cultures professionnelles fortes et distinctes. Les différences les plus importantes se produisent au niveau des dimensions culturelles "individualisme" et "réduction de l'incertitude". Il y a une corrélation positive entre la variance dimensionnelle et la fréquence des conflits. Les résultats suggèrent que les dimensions culturelles avec des valeurs incongrues entre les deux professions sont corrélées avec les conflits interdépartementaux. Par une meilleure compréhension des cultures professionnelles, on peut avec plus d'efficacité gérer des conflits sur le lieu de travail.

**Mots-clés** : culture professionnelle, conflit, individualisme

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Spanish Abstract\*

A Correlational Study of Professional Culture and Intraorganizational Conflict

# **Un Estudio de la Correlación entre la Cultura Profesional y el Conflicto Intraorganizacional**

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## **Resumen**

Este estudio está basado en los datos de ventas y contabilidad de tres organizaciones. Sabemos que los inputs del contexto en el comportamiento de las ventas y la contabilidad incluyen los aspectos de la cultura profesional, organizacional y nacional. Manteniendo las dimensiones de cultura nacional y cultura organizacional constantes, este trabajo se centra en la influencia que la cultura profesional ejerce en las interacciones de los conflictos. Los datos de este estudio sugieren que tanto la contabilidad como las ventas tienen una fuerte y clara evidencia de la cultura profesional. Las mayores diferencias en valores culturales ocurren con las dimensiones de individualismo y el control de la incertidumbre. Existe una correlación positiva y significativa entre la varianza dimensional y la frecuencia de los conflictos. Los resultados sugieren que las dimensiones culturales con valores incongruentes entre dos profesiones están positivamente correlacionadas con los conflictos entre departamentos. A través de una mejor comprensión de la cultura profesional podremos ser más efectivos en el manejo de los conflictos en el lugar de trabajo.

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German Abstract\*

## **A Correlational Study of Professional Culture and Intraorganizational Conflict**

# **Eine Korrelationsstudie zu “Professional Culture” und „Intraorganizational Conflict”**

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### **Zusammenfassung**

Diese Studie basiert auf Daten zu “Sales and Accounting functions” in drei verschiedenen Organisationen. Die Autoren unterstellen, dass der kontextabhängige Input von Vertrieb und Bilanzierung professioneller, organisationaler und nationaler Kultur unterliegt. Dadurch, dass nationale und organisationale Kultur konstant gehalten wird, fokussiert dieser Beitrag auf den Einfluss der professionellen Kultur in Konfliktsituationen. Die Daten dieser Studie lassen vermuten, dass beides Vertrieb wie Bilanzierung stark und spezifisch professionellen Kulturen unterliegen. Die größte Kultur und Werte-Differenzen sind im Bereich Individualismus and Risikovermeidung zu finden. Die Studie weist eine signifikante positive Korrelation zwischen „dimensional variance and conflict frequency“ auf. Die Ergebnisse weisen darauf hin, dass ein besseres Verständnis der professionellen Kultur beim Verständnis und u.U. der Vermeidung von Konflikten am Arbeitsplatz helfen kann.

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Italian Abstract\*

A Correlational Study of Professional Culture and Intraorganizational Conflict

# Uno studio sulla correlazione fra cultura professionale e cultura intra-aziendale

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## Abstract

Questo studio si basa su dati raccolti relativi alle funzioni Vendite e Contabilità di tre aziende diverse. Sappiamo che gli input contestuali che influenzano i comportamenti nelle vendite o in contabilità includono la cultura professionale, aziendale e nazionale. Mantenendo costanti le variabili di cultura nazionale e organizzativa, questa ricerca si concentra sull'impatto della cultura professionale nelle dinamiche di conflitto in azienda. I dati raccolti nel corso di questa ricerca evidenziano che sia le vendite che la contabilità hanno culture professionali forti e marcate. In particolare le differenze di cultura professionale fra i due gruppi riguardano due variabili: individualismo e volontà di evitare l'incertezza. E' presente una marcata correlazione positiva fra il grado di differenza un merito a queste variabili e la frequenza di conflitti. La ricerca di mostra che l'incongruenza fra variabili culturali delle due professioni e' positivamente correlata al conflitto fra le due funzioni aziendali. Attraverso una migliore comprensione della cultura professionale possiamo essere più efficaci nel gestire conflitti all'interno dell'azienda.

**Parole chiave:** cultura professionale, conflitto , individualismo

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Arabic Abstract\*

A Correlational Study of Professional Culture and Intraorganizational Conflict

## دراسة الترابط بين الثقافة المهنية والصراع داخل المنظمات

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### خلاصة

تستند هذه الدراسة إلى بيانات من وظائف المبيعات والمحاسبة في ثلاث منظمات مختلفة. نحن على علم أن المدخلات الظرفية في السلوك في المبيعات والمحاسبة تتضمن ثقافة مهنية، مؤسسية ودولية. يركز هذا البحث على تأثير الثقافة المهنية في تفاعلات الصراع، مع ابقاء الثقافة الدولية و الثقافة المؤسسية ثابتة. تقترح البيانات من هذه الدراسة أن كلا من المحاسبة والمبيعات يمتلكان ثقافتين مهنتين قويتين ومتميزتين. تنشأ الإختلافات الأكبر في قيمة الثقافة مع بعدي النزعة الفردية وتجنب ظروف اللايقين. هناك ارتباط إيجابي كبير بين التغيرات المرتبطة بالأبعاد و تكرار حصول النزاع. تشير النتائج إلى أن الأبعاد الثقافية ذات القيم المتعارضة بين المهنتين ترتبط إيجابيا مع النزاع بين الدوائر. يمكن لنا ان نكون أكثر فعالية في إدارة النزاع في بيئة العمل من خلال الفهم الأفضل للثقافة المهنية.

الثقافة المهنية؛ النزاع؛ الفردية. الكلمات الرئيسية

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# **Social Capital Creation in Shorter Timeframes and its Role in Knowledge Sharing**

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## **Abstract**

Most of the knowledge sharing discussion has focused on the factors influencing and the role of knowledge sharing in organisational effectiveness and performance. The most common factors relate to an organisation's structure, infrastructure and practices (e.g. job design), individual employees (e.g. social networks) and types of knowledge (e.g. tacit). This paper is motivated by the assumption within the knowledge sharing literature that labour stability is essential to create and nurture the above knowledge sharing factors. Focusing on the individual factors and in particular the role of social networks in knowledge sharing, this paper aims to understand how properties emerging from social networks, referred to as people knowledge, can be perceived as a form of social capital that is developed in shorter timeframes and supports intra-organisational knowledge sharing in dynamic labour environments. Dynamic labour environments in this research were hospitality businesses experiencing frequent changes in the composition of teams of employees. Indeed the social network literature suggests the need for labour stability for the emergence of social network properties such as social capital. This requirement of labour stability though may be challenged in some contexts and industries such as the hospitality industry of the Northern Territory of Australia. Qualitative data collection techniques were used to acquire data from seventy-six front-office employees of three hotels in Darwin. The findings suggest the emergence of social capital in dynamic labour environments and the important role of social capital in supporting collaboration and knowledge sharing.

**Keywords:** Social networks, social capital, knowledge sharing, people knowledge, dynamic labour environments, hospitality, Northern Territory (NT).

## **Introduction**

The importance of sharing knowledge is understood as a critical activity for businesses [9]. Many industries have been described as knowledge intensive because managing their knowledge is their main activity and can also be their product. One such industry is the hospitality industry. The hospitality industry is knowledge intensive as employees deliver experiences, which require the coordination and application of knowledge [2].

Confusion exists in the literature around the most appropriate definition of this process and suggestions range from knowledge sharing, knowledge transfer to knowledge flow [29]. Transfer is usually related to impact as through transfer of knowledge, the recipient is expected to apply and make an impact with the acquired knowledge. In juxtaposition, knowledge sharing refers only to the process of moving the knowledge resource from the owner to the recipient [22]. This research is

positioned in the latter perspective and addresses the two-way sharing of knowledge between hospitality employees.

The knowledge sharing literature has focused on the factors influencing and the role of knowledge sharing in organisational effectiveness and performance. Factors refer to conditions that concern an organisation or individual employees and have the potential to facilitate or inhibit knowledge sharing [13]. Both research areas have been studied and discussed from an inter- and intra-organisational perspective [20]. The literature suggests that various factors facilitate knowledge sharing. The most common factors relate to an organisation's structure, infrastructure and practices (e.g. job design), individual employees (e.g. social networks) and types of knowledge (e.g. tacit) [30]. This research focuses on the social networks of hospitality employees and how social networks influence intra-organisational knowledge sharing between employees. More specifically, this paper aims to unpack how social capital develops within employees' social networks in shorter timeframes and labour dynamic environments, and how it influences intra-organisational knowledge sharing between employees. Based on these conditions we refer to this emerging concept as 'people knowledge'. Dynamic labour environments in this research were hospitality businesses experiencing frequent changes in the composition of teams of employees. It is important to understand how social capital develops in dynamic labour environments because the social network literature suggests the need for labour stability for the emergence of social network properties such as social capital. Indeed recent literature has highlighted the need for more research to illuminate the processes and factors influencing the dynamic creation of social capital irrespective of social networks with ties of variable strengths [5]. This requirement of labour stability though may be challenged in some contexts and industries such as hospitality.

This paper provides an overview of the social networks and social capital research to provide the theoretical context to the empirical data collected from Darwin's hospitality industry, in the Northern Territory (NT) of Australia. The analysis illustrates how the emergent properties of social relationships (e.g. people knowledge), referred to as social capital in this research context, helped employees collaborate and share knowledge. The paper concludes with implications for international business researchers and practitioners as well as limitations of the study and suggestions for future research.

### **Social networks influencing knowledge sharing**

Social networks have been defined as 'a set of actors connected by a set of ties' [33, p.716]. For example, employees could relate to each other through trust or advice ties and consequently create trust or advice social networks, often referred to as social capital. Unfortunately networks are not fully depicted in formal organisational structures such as organisational hierarchies, and it is often those networks outside the organisational structures that significantly influence work processes and outputs [8]. Formal organisational structures present only the professional relationships of peers, but peers relate to each other in a multitude of interdependent ways in a work environment (e.g. professional, social). This gives employee networks both social and professional facets that cannot be ignored because their existence and interdependency can positively or negatively influence business performance [32].

The role of social networks has been studied in relation to turnover, motivation and knowledge management practices [29]. The important role of social networks can be explained through their potential to create social capital. The idea underpinning social capital is that it is centred on the value of 'social networks...as interaction and connections develop shared norms, trust and reciprocity that in turn foster cooperation to achieve common ends' [21, p. 321]. Defining social

capital can be challenging. Social capital can be defined 'by its function. It is not a single entity but a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors – whether persons or corporate actors – within the structure' [7, p. 98]. Putnam [27] described it as referring to the relationships and norms that shape the quality and quantity of interactions in a society and said that it is based on trust, reciprocity and social networks. Lin [24] described it as 'capital captured through social relations' (p.9). This research uses Nahapiet and Ghoshal's [26] definition of social capital as 'the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit' (p. 243). Indeed social capital is perceived to be the emergent value from social networks' structures and interdependencies [10] which critically influences activities such as collaboration and consequently knowledge sharing.

Similar to the variety of definitions for social capital the components, facets or characteristics of social capital have been conceptualised in many ways depending on the context social capital is applied to. For example, when social capital is considered from a community development perspective, it could be perceived as bonding, bridging and linking social capital [25]. In this research, social capital literature is drawn to understand why and how employees collaborate and consequently share knowledge because of their social networks. Indeed, the focus of social capital and its basis in networks and relationships has the potential to explain collaboration and consequently knowledge sharing. In a working environment, having an organisation with a substantial stock of social capital provides a better platform for working together than an organisation without a substantial stock of social capital [27].

This research uses Nahapiet and Ghoshal's [26] dimensions of social capital, namely: structural, relational and cognitive capital, as a framework. Their model depicts the relationships between social capital and intellectual capital, as measured by the knowledge and knowing capability of an organisation, and they 'see the roots of intellectual capital deeply embedded in social relations and in the structure of these relations.' [26, p.260]. They argue that differences in the performance of organisations are based on the strength of the relationship between these concepts.

Relational social capital focuses on the types of relationships people engage in through a history of interactions and their influence on behaviour [26]. The relational aspect of social capital is pertinent to this research but it is important to state that references to relational social capital make an implicit connection to the importance of labour stability to ensure relationships are created and fostered through a history of interactions [18]. It is assumed that in a stable labour environment, employees more frequently collaborate with their colleagues within the business for a sufficient length of time to enable the development of social networks and the emergence of properties that facilitate intra-organisational knowledge sharing [11]. Indeed, the presence of labour stability is perceived to be critical as it provides employees sufficient time to create durable networks with distinct structure and content that can yield social capital.

However, contemporary business environments are labour dynamic because employees tend to move from one job to another, carry out multiple tasks and collaborate with a plethora of employees. The hospitality industry is a typical example of a dynamic labour environment and in most cases can be perceived as an extreme case because labour changes tend to manifest more frequently and more extremely [34]. The most widely accepted factors triggering labour instability in the hospitality industry are staff turnover, labour mobility, and the nature of businesses [37]. Interestingly, some social capital literature suggests that variations in social capital are caused by various factors such as mobility and turnover [16]. Additionally relational social capital, which

proposes that small-scale interpersonal networks translate into large scale patterns of interaction which in turn feed back into smaller groups, provides a basis for demonstrating the strength of weak social ties within professional groups. Granovetter argues that mobility between professional specialities 'sets up elaborate structures of bridging weak ties between the more coherent clusters that constitute operative networks in particular locations' [14, p, 1373]. This pattern of interaction can occur, for example, as a result of meetings and conventions where networks are reformed supporting a sense of community through the maintenance of weak ties [14, 15].

Although recent literature states very little about the processes and/or mechanisms of developing social capital, especially in dynamic labour environments [5], recent empirical research has offered interesting findings strengthening the discussion around the need to study and understand how social capital develops in dynamic labour environments. For example, Bozkurt and Mohr [5] discussed how different forms of cross-border employee mobility contributed to establishing social ties across different strategic business units of multi-national enterprises. The study found that different forms of mobility promoted the creation of social ties in different ways and to different degrees which all contributed towards collaboration. On this basis, this research set out to understand whether labour instability in hospitality could trigger more changes in employee's social networks and in turn create more opportunities to create social capital that could in turn help employees collaborate and share knowledge with each other in a timely manner.

### **Methodology**

This research paper argues that in dynamic labour environments, the study of the resources flowing through social networks can facilitate intra-organisational knowledge sharing and is part of a PhD research project based in a hotel chain in Darwin (the capital of the NT of Australia). Intra-organisational knowledge sharing was studied in relation to participant's perceptions of how they collaborate with their peers [17]. As such, exploring and understanding the perspectives and perceptions of employees are good ways to understand how intra-organisational knowledge sharing practices take place [28] and how their social networks help them in their work environment. As this research paper reports results from a completed PhD project with a focus other than social capital, social capital was not operationalised and measured. On the contrary, the acquired data were interpreted through the social capital literature. Nonetheless the use of qualitative studies with case study designs and the use of ethnographic data collection techniques (e.g. interviews) are perceived as appropriate for studying how social capital develops especially in dynamic labour environments [5].

Data collection was conducted over an eight-month period through semi-structured interviews and validated through two focus groups. The unit of analysis was the individual and care was taken to interview the same individuals during the eight months of data collection. A total of seventy-six employees were interviewed during the eight months of data collection. Only seven of those seventy-six employees had been interviewed monthly for the whole duration of the project. The length of the interviews varied between participants depending on the content of the information and the detail in describing and discussing this information. Interviews ranged between 20 to 60 minutes. At the beginning of data collection, participants were less talkative and less willing to disclose information. Three to four months into the project there were notable differences in their willingness to engage in conversation. This could be attributed to the systematic collection of data. Three or four months gave them the opportunity to familiarise themselves with the process of interviewing and, most importantly, they were 'convinced' about the confidentiality clause.

The content of interviews was divided into three parts starting with non-research-related questions such as 'how are you' in order to relax the participant and build rapport. The second part of the interview focused primarily on participant's collaboration with their colleagues in relation to the different types of labour changes (e.g. shifts, staff turnover, intra and inter hotel movements and handover). These questions were broad such as "What do you think of working with people you have just met?" The questions aimed to probe participants to identify and discuss the factors they perceived as important for their collaboration with peers. Additionally, participants were asked about the hotel chain's structure, infrastructure and practices (e.g. orientation, training, organisational values, employee satisfaction surveys) to ascertain how their role in knowledge sharing was perceived. The third and final part of the interviews gave participants the opportunity to discuss anything additional they felt was important about the study or whether they needed any clarification or updates on the progress of the study. In cases of new participants, background information was obtained (for example, hospitality experience, motivations to work in hospitality and life in the Northern Territory). In addition, they were asked to comment on topics discussed with existing participants during the previous months of data collection. This questioning strategy with new participants was adopted to monitor their perception from the inception of their employment.

Data analysis took place between April and August 2009. The coding of the data was divided into phases involving descriptive, topic and analytical coding. The data was reviewed in a variety of ways such as looking at individual responses and group responses and how they developed over time or looking at the three hotels separately. Throughout this process, coding was used to group responses in themes. Cross-coding by the authors was undertaken to ensure the reliability, consistency and trustworthiness of the findings [12, 24]. Transferability was achieved through 'thick description' [34, p. 39] providing a detailed account of the research embedded in a specific context. Both the criteria of dependability and confirmability were met by providing a detailed account of the investigation. Authenticity of the data can be verified by examining the audio files and transcripts of interviews and field notes.

### **Research Context: A dynamic labour environment**

Darwin is situated in the Northern Territory of Australia. It is considered a remote location that attracts a mobile workforce because of its characteristics. It has great employment opportunities because of high labour mobility as well as its being a great destination for people engaging in working holidays because of the combination of natural beauty and relatively low-skilled employment requirements to fund such travels. These characteristics explain why for the last thirty years, Darwin and the NT have experienced the highest rates of residential mobility of all Australian states and territories. High population turnover impacts all types of businesses but especially those in the hospitality industry. The 2006 Labour Mobility Survey reported that nearly 40 percent of all people employed in the accommodation sector stayed in their jobs for less than one year [1].

### **Hotel chain and participants profile**

The front office departments from three hotels located in the city of Darwin were used. All three hotels targeted different tourist sectors, and differed in their star rating, brand, guests and employee capacity. The size of the hotels ranged from 76 to 101 employees and 183 to 235 rooms. Their business was generated by airline crews, corporate and local businesses, corporate meetings, leisure, wholesale, and oil and gas businesses.

During the course of this study four types of labour changes were experienced: staff turnover, inter- and intra-hotel movements, and shifts. Forty-three arrivals and 40 employee departures were recorded covering all five types of labour changes. The majority of the new staff was external to the hotel chain while 20 employees came from intra- or inter- hotel movements.

Seventy-six front office employees participated in this study. Most of the participants (59%) worked in an operational capacity (e.g. porter) while the rest (41%) held managerial appointments. The majority of operational staff were female (82%) aged between 18 and 25 years old (78%). Forty percent of operational staff had been in Darwin for less than six months, 42% for more than seven months and 18% were locals from Darwin. More than half of the participants (53%) had been employed by the hotel chain for less than six months. The majority (73%) of the employees were non-career-oriented. Non-career-oriented employees were travellers that engaged in hospitality work in Darwin as a working holiday. These individuals were highly travelled and accustomed to living and working with people they had not known for a long time. Finally, the majority were Australian (80%).

Conversely, more of the managerial staff were female (55%) and aged between 18 and 30 years old (56%). The majority had finished high school (58%) while the rest held undergraduate and postgraduate qualifications. Sixty-one percent had been in Darwin for more than six months, and the majority (58%) had been employed by the hotel chain for more than six months. All employees were career-oriented. Career-oriented employees came to Darwin to fulfill their career progression aspirations. This group of employees had significant industry and travelling experience. This suggested they had been exposed to the challenges of collaborating with various peers as well as relocating and living in different destinations. Finally, most of the managerial staff were from overseas (65%) and were employed as duty managers (68%) on full time contracts (90%).

### **Results: Knowledge sharing among hospitality employees**

Participants engaged with each other both professionally in their working environment as well as socially. Through these interactions, they developed trust and friendship relationships. Career-oriented employees considered people who had shared their perceptions and ideas with regards to their work as friends. They felt comfortable with each other, which provided them with the necessary knowledge to carry out their respective tasks, and they also collaborated with each other. This sense of understanding provided them with a platform to trust each other, to offer help and also to feel safe asking for help. Trust in this instance referred to professional trust. As demonstrated by the following vignette, professional trust was associated with having confidence in peers to carry out their work activities:

In a work sense I trust all of them to help me and do their job.

Non-career-oriented employees considered people they could socialise with and confide in as friends. They felt comfortable with colleagues they were able to communicate with and engage on a social or personal basis whilst at work. The following vignette highlights non-career-oriented employees' perception of friendships:

Friends are people that can understand where I am coming from. We are into the same stuff. If I tell them personal stuff they won't tell anyone.

For this group of employees, trust referred to personal trust. Personal trust was perceived as the ability to divulge personal information to a colleague that would not be passed on to others in the organisation. Non-career-oriented employees who were new to Darwin were removed from their support networks of friends and family and found themselves living in a place unknown to them and without an existing social network. For this group of people, relating to others helped them create friends with whom they socialised and spent time with whilst in Darwin. Friendships developed under conditions of necessity and personal aspiration, and served as support networks and platforms to fulfill personal goals. These friendships did not require employees to have worked with or be associated with each other for lengthy periods. Making friends and developing trust relationships made their stay more enjoyable and decreased their feelings of isolation because they were not from Darwin while enabling them to disclose personal or family related issues and debrief at work:

For us who have no family or friends here relying on each other is important. Our professional and social relationships with these people provide us with a support network because we are far away from home and are lonely. For example, if something happens your family can't be here in 5 minutes so if anything does happen you will turn to your friends and ask for advice. I am really lucky I have Billy and Nicola here and have constantly been asking them questions, asking each other about what we do and how do we cope with this or where to go for stuff when you don't have transport or where do you go to do this or that. So for anyone that is coming up here they should look out for themselves and look for that strong group of friends around them. It's a different environment. You have to embrace people because everybody is in the same boat. Everybody is lonely, everybody is in the middle of nowhere and they all go that extra mile to protect each other.

Through these friendship and trust relationships that emerged from working and socialising, both career and non-career-oriented employees developed a good professional and personal understanding of each other as summarised in Table 1. They came to know how their peers behaved, reacted or communicated. Participants referred to the outcome of their professional and personal understanding as people knowledge.

**Table 1: People knowledge that facilitated knowledge sharing**

Professional people knowledge	Personal people knowledge
How to communicate/approach people	Know people's personality
Know people's work style	Know people's personal life circumstances
Know people's capabilities (e.g. quality of work)	(e.g. family or residence)
Know who people are	
Know what people know	
Know where to find people	
Know what people do	

Professional and personal people knowledge helped them collaborate, despite not knowing each other or not having worked with colleagues for a long time. For individuals, personal people knowledge was not perceived as critical but as an enabler of collaboration to carry out front office activities as it made them feel safe and confident to seek help when needed. This knowledge was tacit, as it was never recorded by the hotel, and was informally and socially created and shared between employees during social outings, work meetings or on-the-job. As highlighted in the following vignette, both professional and personal people knowledge supported their collaboration as they developed an understanding of how to adapt and work with each other:

You have to understand that turnover is a reality in the hospitality industry. You have to accept it and understand that the industry is like that. Yes, some get bitter but they always find ways to adapt. Knowing when is a good time to approach them or how to ask them for help can help you adapt. Adapting to people is important to get the team working quickly. Staff turnover is frequent and regular so you say “ok this is the person I am working with at the moment let’s make the most of it”. You cannot afford to be whining about the person that left last week.

For example, people knowledge helped employees find ways of gaining assistance from colleagues such as seeking help from management or from another colleague who perhaps had socialised with them and had established some familiarity with them. If negative relationships existed between colleagues, a third person that had a higher position or a good relationship with one of the two would act as the intermediary. Finally, managing some work-related matters required gender sensitivity. In such cases, employees would seek the help of someone based on their gender. All approaches ensured collaboration and knowledge sharing were not affected. The following excerpt illustrates this point:

I usually tell people directly to their face but sometimes with Gary, when I know he is in a bad mood and he is in housekeeping, he gets annoyed and frustrated if I have been on the radio to him all day and have been annoying him with stupid little things. So when someone else gets on the shift I make them ask Gary my queries because I don’t want him to react badly.

The prevalence of labour instability in the hospitality industry in the Darwin hotel studies triggered these professional and non-professional social interactions that yielded friendship and trust relationships and in turn developed people knowledge. Employees worked in unstable labour environments because of the frequency of staff turnover, inter- and intra-hotel movements and shiftwork. For example, participants commented on the benefits of intra-hotel movements such as helping out other departments at times of slow work activity in the front office. They felt that being exposed to the activities of other departments and other colleagues helped them increase their professional and personal knowledge of others, which in turn supported their collaboration with those colleagues. The opportunity to acquire people knowledge from working in other areas and interacting with other colleagues is highlighted in the vignette below:

It’s good to go and work in other departments. It makes it easier to work together. It does help. We have a French guy who is a housekeeper. He wouldn’t respond to radio messages. After a few times I tried to contact him via radio but this time I said his name and he responded straight away. Now if you use his name he does it a lot quicker for you. Now I know how to approach him.

Shiftwork also had a cumulative effect on people knowledge. The more employees worked with each other, the more they came to know each other. Knowing each other meant they had people knowledge of one another, which helped them collaborate should they be rostered together again. In cases of new employees, shiftwork facilitated the rapid creation of people knowledge because they were exposed to existing employees on a variable and frequent basis. The following example pinpoints the advantages of shiftwork in terms of creating new or upgrading existing people knowledge:

I have worked with Emerald more, pretty much all my shifts with her. She's the only person I work with so I suppose her leaving will help me get used to and getting to know other people. I have worked with Siena once and I get along with her really well. Since then I have never worked with her before. So it will be good because it will give me the chance to know other people's style of work, people I haven't spoken to or worked with them.

The hotel chain offered opportunities for staff to interact through their formal organisational socialisation activities (orientation and induction to the working environment) or social interaction practices (regular staff barbeques) and formal communication structures (monthly staff meetings and one-to-one meetings between management and staff). The following comment pinpoints one of the benefits of one-to-one meetings:

We catch up for ten minutes. We do that to see how they are going in their life and make sure everything is fine. It gives employees a time out and they can talk to us about anything. Gives them a good opportunity to get to know us and us them.

Similarly, employees developed people knowledge both during their professional and non-professional interactions through voluntary behaviours matching the organisational citizenship profile such as helping or social interaction behaviours. What motivated employees to engage in these relationships were their employment motivations, their hospitality experience and most importantly their tenure in Darwin. Career-oriented employees ensured labour instability did not affect their own or their team's performance, as the latter was critical to fulfill their career progression aspirations. Moreover, having industry experience meant they were familiar with labour instability in the sector and also with moving frequently to pursue those career opportunities. As mentioned in the following example, this travelling experience helped them collaborate in both shorter timeframes and with colleagues they had not worked with for a sufficient length of time:

We always travelled for work and pleasure so we are used to it. The difficulty in transitioning to an environment is that you leave your home and have to make home another place for 4-6 weeks or longer. Once you have been doing for a while it gets easier.

It was not sufficient for non-career-oriented employees to only gain a professional understanding of their peers. Gaining a non-professional understanding of their peers was also an important factor influencing their quality of collaboration and it also helped them to fulfill their experiential motivations. These differences in participants' employment motivations suggested differences in the ways employees achieved the common goal of collaboration. Therefore, participants' employment motivations played an important role in supporting knowledge sharing in dynamic labour environments.

Employees living and working in Darwin appeared to be positively influenced by the inevitability of labour instability in Darwin. This environment helped them develop or reinforce the importance of voluntary behaviours towards collaboration in such an unstable labour environment. Voluntary behaviours to facilitate collaboration suggested the need for certain levels of flexibility towards collaboration and knowledge sharing with peers because teams were very likely to change through labour instability. For career-oriented employees, voluntary behaviours towards collaboration were not new because they had been exposed to such situations before. For all employees (career and non-career-oriented) with no industry experience, their tenure in Darwin helped them develop and understand the importance of voluntary behaviours. Indeed voluntary

behaviours were perceived as an important survival strategy enabling them to cope with labour instability and acknowledge the importance of knowledge sharing and the difficulties in creating durable social networks. The following comment summarises perceptions of labour instability in Darwin and how it influences people's approach toward new people:

Darwin has a good atmosphere; it's laid back and the people here are so welcoming. People here are not from Darwin so they absorb Darwin's culture, which is non-judgmental and accepting of everyone. This culture does not exist in other regions. For example, people get to know each other within days over a beer. Everyone is nice probably because of their young age, being from different parts of Australia and not knowing anyone here or being on a working holiday so they are here to have fun meet new people.

Summarising, both types of employees perceived the notion and functional role of social networks differently. For career-oriented employees, social networks had a role of helping achieve their work tasks and contribute toward their long-term career goals. On the other hand, for non-career oriented employees social networks were a means of enabling them to fulfill their motivations of experiencing a different lifestyle and interacting with different people. Despite these differences, people knowledge emerged from the social networks of both types of employees and enabled them to complete their front office tasks despite the prevalence of labour instability and the associated time constraints.

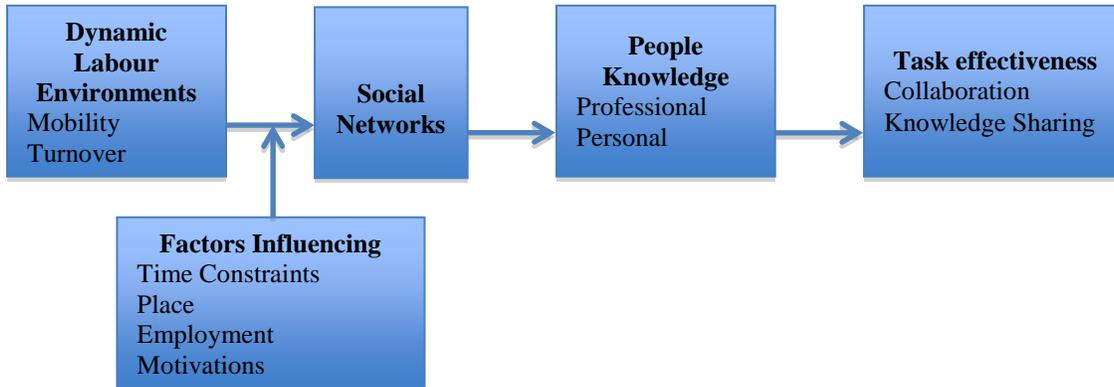
#### **Discussion: Social capital supports knowledge sharing in dynamic labour environments**

Despite participants' different career-orientations, and different perceptions of social networks, the common characteristic emerging from both types of employees' social networks was professional and personal people knowledge. People knowledge appeared to be similar to what Borgatti and Cross [4] called learned relationship characteristics, characteristics such as knowing, value, access, and cost that helped employees seek information which developed from employees' social networks [26]. Cross et al. [8] argued that these learned characteristics had the potential to 'help people become better connected so the organization can get the true benefit of their expertise more quickly' (p. 112). Indeed, people knowledge facilitated collaboration by giving employees the opportunity to become flexible towards their professional relationship with peers [6]. This flexibility gave colleagues the opportunity to align or adapt themselves to peers they had not interacted or worked with for a long time, which in turn enabled them to collaborate and share knowledge (Figure 1). This finding seems to support Wilson et al.'s [35] argument that social capital has the potential to save time in business transactions (such as collaboration and knowledge sharing) as well as the findings of Bozkurt and Mohr [5] who argued that social capital, developed between employees in geographically dispersed strategic business units, supported collaboration. Finally, this finding is consistent with social network research arguing that knowledge sharing often occurs between actors who have not had sufficient time to interact and create the necessary knowledge sharing conditions [14, 5].

Social capital variations are caused turnover and mobility [16]. Although mobility and turnover have been described as negatively affecting the creation of social capital it is important to explain that in this research context, mobility, turnover and other factors triggering labour instability, together with other factors (e.g. employment motivations), positively influenced the creation of people knowledge. Indeed, the sheer labour instability of this research context gave way to ongoing change in the composition of the front office team as well as the interaction between

employees, and triggered the ongoing creation and update of people knowledge. This finding supports the notion of the strength of weak ties as depicted by Granovetter [13, 14], appears to add nuances to research arguing the importance of network stability [18], and confirms Halpern's [16] discussion on mobility and turnover and the variations they cause on the creation of social capital. Therefore, it could be argued that people knowledge could be a form of relational social capital with the difference that it develops more in unstable labour environments and in shorter time frames than in other geographical and labour contexts. The relatively quick emergence of people knowledge and the resulting social capital is based on place-based (Darwin) factors and associated time frames.

Figure 1: Social capital supports knowledge sharing in dynamic labour environments



Finally, people knowledge was an outcome of friendship, comfort and professional relationships, which were triggered both by the employees and the hotel chain. The creation of people knowledge through the development of professional and social interactions could be consistent with the rationale of the social construction of knowledge. According to Berger and Luckman [3] the social construction of knowledge is a 'social phenomenon that is continually built and re-built and emerges in interpersonal and group processes, processes which themselves can potentially be enhanced through certain management interventions' [19, p. 4]. Indeed, based on the results of this research, people knowledge emerged from actions initiated by both employees and the hotel chain.

### **Conclusion**

This research investigated how people knowledge, a form of social capital that emerged from social networks, helped employees working in dynamic labour environments share knowledge. Interviewing employees from three different hotels in the NT of Australia revealed that the interaction of employees' formal and informal social networks produced people knowledge that, despite the dynamic labour conditions, enabled employees to share knowledge and collaborate. This form of social capital developed in relatively shorter timeframes and helped employee collaboration and consequently supported knowledge sharing, critical for the operation of the front office departments.

What we found was that the context played a key role with regard to the creation and development of social capital. Shorter timeframes, turnover patterns, isolation, and other aspects specific to this dynamic environment of Darwin can be used to develop strategies, which assist the creation of people knowledge and consequently result in relational capital within the organisation.

The findings suggest that businesses could shift their focus away from minimising or eradicating labour instability and focus more on supporting employees to create personal and professional people knowledge. For example, businesses could create more opportunities to enable employees to interact and could create emergent properties in the form of people knowledge to provide a platform for successful collaboration. Businesses could also increase their formal approach toward organisational and interpersonal socialisation to offer employees opportunities to interact and develop professionally as well as personally. Additionally, behavioural interviewing recruitment strategies could be revised to include questions that will help management detect personalities and characters with appropriate interpersonal skills to engage in social networks.

This finding is also applicable to multinational corporations where synchronous and asynchronous collaboration between geographically dispersed business units is critical. With the help of people knowledge or other emergent social network properties, collaboration, and consequently, knowledge sharing, could take place between employees as members of virtual teams who have never worked with each other before. This could support businesses product and service innovation or streamlining of processes.

Furthermore, the finding highlights the importance of non-career-oriented employees in hospitality. The numerical balance between career and non-career-oriented employees in front office teams led both types of employees to complement each other in different ways and collaborate and share knowledge. Perhaps this could suggest that some industries or sectors might benefit from the combination of career and non-career-oriented employees in teams. It could also make businesses aware of the positive influence of non-career-oriented employees and consequently make them more appealing to such employers. Indeed this could be very important when the availability of career-oriented employees in certain places is scarce.

This research was limited to studying knowledge sharing in dynamic labour environments. The findings presented cannot paint an all-encompassing picture of knowledge management in dynamic labour environments. Studying other aspects of knowledge management could certainly be the topic of future research across different industries and destinations. Furthermore, future research could engage in studying and understanding the role of social capital in other knowledge management activities. The measurement of social capital in this research is preliminary and needs further development and verification. Finally, this research was based on the hospitality industry of Darwin in the Northern Territory because labour instability in this environment appeared to be more prevalent when compared to other destinations or industries. Therefore the findings of this research should be cautiously applied to other industries or hospitality sectors as the prevalence of labour instability may differ between sectors and industries. It may also be that Darwin's remoteness and the type of workforce it attracts (backpackers and career-oriented employees) may explain the findings relating to the development of relatively weak relationships in shorter timeframes.

In conclusion, the development of people knowledge is an important concept, which informs research in the social network domain. Future research could examine the emergent properties of social network's influence on knowledge sharing in other dynamic labour environments and additionally how they influence other aspects of knowledge management such as the acquisition, storing and processing of knowledge. Furthermore, as people knowledge appears to develop in shorter timeframes than previously found, further research on the length of time needed for people knowledge to be created using social capital measurement constructs is critical.

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English Abstract

# **Social Capital Creation in Shorter Timeframes and its Role in Knowledge Sharing**

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## **Abstract**

Most of the knowledge sharing discussion has focused on the factors influencing and the role of knowledge sharing in organisational effectiveness and performance. The most common factors relate to an organisation's structure, infrastructure and practices (e.g. job design), individual employees (e.g. social networks) and types of knowledge (e.g. tacit). This paper is motivated by the assumption within the knowledge sharing literature that labour stability is essential to create and nurture the above knowledge sharing factors. Focusing on the individual factors and in particular the role of social networks in knowledge sharing, this paper aims to understand how properties emerging from social networks, referred to as people knowledge, can be perceived as a form of social capital that is developed in shorter timeframes and supports intra-organisational knowledge sharing in dynamic labour environments. Dynamic labour environments in this research were hospitality businesses experiencing frequent changes in the composition of teams of employees. Indeed the social network literature suggests the need for labour stability for the emergence of social network properties such as social capital. This requirement of labour stability though may be challenged in some contexts and industries such as the hospitality industry of the Northern Territory of Australia. Qualitative data collection techniques were used to acquire data from seventy-six front-office employees of three hotels in Darwin. The findings suggest the emergence of social capital in dynamic labour environments and the important role of social capital in supporting collaboration and knowledge sharing.

**Keywords:** Social networks, social capital, knowledge sharing, people knowledge, dynamic labour environments, hospitality, Northern Territory (NT).

French Abstract\*

Social Capital Creation in Shorter Timeframes and its Role in Knowledge Sharing

# **La création du capital social dans des temps plus courts et son rôle dans le partage de la connaissance**

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## **Résumé**

La majeure partie de la discussion académique sur le partage de la connaissance s'est concentrée sur les facteurs qui l'influencent et le rôle de celle-ci dans l'efficacité organisationnelle et la performance. Les facteurs qui influent le plus sont habituellement la structure organisationnelle, l'infrastructure et les pratiques (par exemple la création de poste), les employés (par exemple les réseaux sociaux) et les types de connaissances (par exemple tacites). Cet article se fonde sur l'hypothèse, suggérée par la littérature, que la stabilité de la main-d'œuvre est une condition essentielle pour créer et consolider les facteurs favorisant le partage de la connaissance. En se concentrant sur les facteurs individualistes, et en particulier le rôle des réseaux sociaux, cet article vise à comprendre comment les propriétés qui émergent des réseaux sociaux, dont la connaissance de personnes, peuvent être perçues comme une forme de capital social se développant dans des temps courts et qui favorise le partage de la connaissance intra-organisationnelle dans des environnements de travail dynamiques. Les environnements professionnels dynamiques de cette recherche étaient des hôtels, qui subissent des changements fréquents dans la composition de leurs équipes d'employés. En effet, la littérature sur les réseaux sociaux suggère qu'il est nécessaire que la main-d'œuvre soit stable pour que les propriétés des réseaux sociaux se produisent. Cette condition de stabilité de la main-d'œuvre est cependant difficile à tenir dans certains contextes et secteurs tels que l'hôtellerie dans le Nord de l'Australie. Des entretiens qualitatifs ont permis de rassembler des données auprès de soixante-seize employés de la fonction "accueil" dans trois hôtels à Darwin. Les résultats montrent l'apparition du capital social dans des environnements de travail dynamiques et le rôle important que joue ce capital social pour favoriser la collaboration et le partage de la connaissance.

**Mots-clés :** Réseaux sociaux, capital social, le partage de la connaissance, connaissance de personnes, environnements de travail dynamiques, hôtellerie, territoire du Nord d'Australie.

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Spanish Abstract\*

## **Social Capital Creation in Shorter Timeframes and its Role in Knowledge Sharing**

# **Creación de Capital Social en el Corto Plazo y su Rol en el Conocimiento Compartido**

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### **Resumen**

La mayoría de las investigaciones sobre el conocimiento compartido se han enfocado en el rol del conocimiento compartido y de los factores que influyen en la eficiencia de la organización y su rendimiento. Los factores más comunes son los relacionados con la estructura de la organización, infraestructura y prácticas (ej. diseño del trabajo), empleados (ej. redes sociales) y tipos de conocimiento (ej. tácito). La motivación de este artículo resulta de la premisa, dentro de la literatura del conocimiento compartido, de que la estabilidad laboral es esencial para crear y nutrir los factores que influyen en el conocimiento compartido. El objetivo de este artículo es el entender el rol de las redes sociales en el conocimiento compartido, y cómo las propiedades que emergen de estas redes, denominadas conocimiento de las personas, pueden ser percibidas como una forma de capital social que es desarrollado de modo más rápido y da soporte al conocimiento compartido intra-organizacional en entornos de trabajo muy dinámicos. Los entornos dinámicos considerados en este trabajo fueron los de la industria hotelera, que experimentan una rotación de empleados alta en los equipos de trabajo. De hecho, la literatura de redes sociales sugiere la necesidad de estabilidad laboral para que surjan las propiedades de la redes sociales, como el capital social.

Sin embargo este requerimiento de estabilidad puede ser cuestionado en algunos contextos e industrias como la industria hotelera en el norte de Australia. A través de métodos de investigación cualitativos se obtuvo información sobre setenta y seis empleados de oficina en tres hoteles en Darwin. Los resultados sugieren el surgimiento del capital social en entornos laborales dinámicos y la importancia del capital social para promover la colaboración y el conocimiento compartido.

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German Abstract\*

Social Capital Creation in Shorter Timeframes and its Role in Knowledge Sharing

# **Die kurzfristige Bildung von Sozialkapital und dessen Rolle im Knowledge Sharing**

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## **Zusammenfassung**

Der Kern der Diskussion rund um die Knowledge Sharing Diskussion fokussierte bis jetzt auf die Einflussfaktoren und die Rolle des Knowledge Sharings auf organisationale Effektivität und Performance. Die meisten dieser Faktoren beziehen sich auf die Struktur einer Organisation, auf die Infrastruktur und die Verhaltensweisen (z.B. im Job Design), Individuen (z.B. soziale Netzwerke) und die verschiedenen Wissenstypen. Dieses Paper wird motiviert von der Annahme, dass in der Knowledge Sharing Literatur Arbeitsstabilität eine existentielle Basis dafür darstellt, um Knowledge Sharing Faktoren sich herausbilden und etablieren können. Der Fokus wird dabei auf individuelle Faktoren gelegt, hier insbesondere auf die Rolle von sozialen Netzwerken. Die Autoren wollen insbesondere die Eigenschaften verstehen, die von sozialen Netzwerken ausgehen und die als gemeinschaftliches Wissen gelten, welche als seine Form von Sozialkapital angesehen werden kann. Dieses wird kurzfristig entwickelt und unterstützt intra-organisationales Knowledge Sharing besonders in dynamischen Arbeitsumgebungen. Das Paper basiert auf qualitativen Data von 76 Angestellten im Kundendienst von drei Hotels in Darwin. Die Ergebnisse belegen die kurzfristige Herausbildung von Sozialkapital in dynamischen Arbeitsumgebungen und die Bedeutende Rolle von Sozialkapital bei Kooperation und Knowledge Sharing.

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Italian Abstract\*

## **Social Capital Creation in Shorter Timeframes and its Role in Knowledge Sharing**

# **La creazione del capitale sociale in tempi brevi e il suo ruolo nella condivisione del sapere**

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### **Abstract**

La maggior parte del dibattito sulla condivisione del sapere si è concentrata su fattori che influenzano questi aspetti rispetto all'efficacia e redditività aziendale. I fattori più comuni sono quelli relativi alla struttura organizzativa, infrastrutture e pratiche aziendali ( ad esempio organizzazione del lavoro ), aspetti individuali ( ad esempio reti sociali ) e tipologie del sapere ( ad esempio tacito ). Questo studio origina dalla convinzione, tratta da studi sulla condivisione del sapere, che la stabilità lavorativa è essenziale nel creare e sviluppare i fattori di condivisione del sapere di cui sopra. Nel focalizzarsi su fattori individuali, ed in particolare sul ruolo delle reti sociali nella condivisione del sapere, questo studio ambisce ad analizzare come proprietà che emergono dalle reti sociali, intrinsecamente relative al sapere delle persone, possono essere percepite ad espressione di capitale sociale che si sviluppa a breve termine e supporta dinamiche di condivisione del sapere all'interno dell'azienda in contesti dinamici di lavoro. Questi contesti dinamici di lavoro nella presente ricerca erano attività nel settore alberghiero che hanno cambiamenti frequenti nella composizione delle loro squadre di lavoro. La letteratura specializzata evidenzia la necessità di stabilità nel lavoro per generare capitale sociale. Questo aspetto può venire a meno in contesti e industrie come quella alberghiera in Nord Australia. Sono stati utilizzati metodi di raccolta dati qualitativi da sessantasei impiegati di reception di tre hotel in Darwin. I risultati dello studio evidenziano l'emergere di capitale sociale in ambienti di lavoro dinamici e il ruolo importante del capitale sociale nel supportare collaborazione e condivisione del sapere.

**Parole chiave:** Reti sociali, capitale sociale, condivisione del sapere, il sapere delle persone, ambienti di lavoro, settore alberghiero, Territori del Nord

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Arabic Abstract\*

Social Capital Creation in Shorter Timeframes and its Role in Knowledge Sharing

## خلق رأس العمل الإجتماعي على مدى فترات زمنية قصيرة و دوره في تشارك المعرفة

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### خلاصة

ركزت معظم مناقشات على العوامل المؤثرة على التشارك في المعرفة و دورها في الفعالية و الأداء المؤسسي . ترتبط العوامل العامة الأكثر شيوعا بهيكلية المؤسسة، و بنيتها التحتية و الممارسات (مثال: تصميم العمل)، و الموظفين كأفراد (مثال : الشبكات الإجتماعية)، و أنماط المعرفة (مثال : المعرفة الضمنية). المحرك وراء هذا البحث هو الإفتراض ضمن ادبيات تشارك المعرفة بأن إستقرار العمالة ضروري لخلق ورعاية عوامل التشارك بالمعرفة السابق ذكرها. عبر التركيز على العوامل الفردية وبالأخص دور الشبكات الإجتماعية في تشارك المعرفة، يسعى هذا البحث إلى فهم كيف ان الخصائص الناجمة عن الشبكات الإجتماعية، والتي يشار إليها "كمعرفة الناس"، يمكن النظر إليها كرأس مال إجتماعي يتطور على مدى فترات زمنية أقصر، و يدعم المشاركة في المعرفة داخل المؤسسة في ظل بيئة العمالة النشطة. وفرت الأعمال في قطاع الضيافة المثال المستخدم في هذا البحث حول بيئة العمل النشطة كونها تشهد تغيرات متكررة في تركيبة فرق الموظفين. في واقع الأمر، تقترح الأدبيات حول الشبكات الإجتماعية الحاجة إلى الإستقرار في العمالة لبروز خصائص الشبكات الإجتماعية مثل: رأس المال الإجتماعي . ومع ذلك يمكن تحدي متطلب إستقرار العمالة هذا في ظروف سياق وقطاعات اقتصادية معينة مثل قطاع الضيافة في المنطقة الشمالية من أستراليا. تم استخدام أساليب جمع البيانات النوعية للحصول على البيانات من ستة وسبعون موظفا من موظفي المكاتب الأمامية لثلاثة فنادق في منطقة داروين- أستراليا. تشير النتائج الى ظهور رأس المال الإجتماعي في بيئات العمالة النشطة و دوره المهم في دعم التعاون و التشارك في المعرفة.

الإجتماعية، رأس المال الإجتماعي، تشارك المعرفة، معرفة الناس، بيئات العمل النشطة، قطاع الشبكات: الكلمات الرئيسية  
أستراليا-الضيافة، المنطقة الشمالية (م . ش )

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# Evolution of Shared Cognitive Structures in Entrepreneurial Teams and their Impact on Opportunity Identification and Exploitation

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## Abstract

In the pursuit of opportunity identification and exploitation, entrepreneurs develop cognitive structures. Although the classical view in entrepreneurship suggests that these cognitive structures are mainly developed by a single individual, they oftentimes span across the entire entrepreneurial team [1, 2, 3]. West [4] recently examined collective cognition in entrepreneurial teams.

This paper analyzes the differences in team members' cognitive structures and their contributions to a shared cognition of the entrepreneurial team. Furthermore, this study is interested in the evolution of cognitive structures. In this respect, the paper responds to calls for more entrepreneurial process research (e.g., [5]). Finally, this study examines the relationship between the change in shared cognition in the entrepreneurial teams and the identification and exploitation of entrepreneurial opportunities. Hence, the research questions are: (1) How do shared cognitive structures of entrepreneurial teams evolve over time? (2) How do these shared cognitive structures relate to opportunity identification and exploitation?

**Keywords:** Entrepreneurship, teams, shared cognition, cognitive map.

## Introduction

Shared team cognition has been understood in many different ways. In this paper, shared cognition is conceptualized as overlapping causal maps as shown by Laukkanen [6]. More generally, shared mental models are “beliefs that shape inferences, predictions, and decisions about what actions to take” [7: p. 228]. In management, shared mental models were discussed in the form of “dominant logic” [8] and other frameworks of social cognition [9, 10]. Levine, Resnick and Higgins [9] pointed out that “outside the laboratory and the school, cognition is almost always collaborative” (p. 591). Walsh [10] argues that “when a group of individuals is brought together, each with their own knowledge structure about a particular information environment, some kind of emergent collective knowledge structure is likely to exist” (p. 291). There is plenty of empirical evidence that entrepreneurial teams are omnipresent. Kamm et al. [3] mention a number of empirical studies supporting this claim. Cooper and Bruno [11], for instance, found that over 80% of the high growth companies they surveyed had been founded by a team. Therefore, it seems reasonable to assume that “entrepreneurship is more likely to be plural” [12: p.17].

In order to better understand shared mental models of entrepreneurial teams, this study draws on insights from group research in management and organizational behavior (e.g., [13]). Particularly, Fiol [14] discusses the tensions between unified thinking and multiple interpretations. In addition, there is evidence of cognitive variance among team members [8, 15]. In the field of entrepreneurship, West [4] proposes a model where Entrepreneurial Team Collective Cognition (ETCC) is a mediator between the individual-level factors and the decisions and actions of new ventures. West finds an inverted U-shaped relationship between the new venture performance and the degree of differentiation and integration of strategic constructs within entrepreneurial top management teams. The current study builds on the insights gained from a limited number of studies on entrepreneurial teams [e.g., 1, 4] and from group research in management [e.g., 13].

Yet, the objective of this paper goes beyond understanding shared mental models of entrepreneurial teams. This paper focuses on the evolution of shared mental models and their impact on opportunity identification and exploitation. With the prominent exception of Barr, Stimpert and Huff [16] very few studies analyze cognitive maps over time. Barr et al. investigated cognitive maps of two railroad companies over a period of time in which only one stayed in business. Although both railroad companies recognized the decline in the rail industry, only the surviving firm adapted their mental models. While Barr et al.'s paper is extremely important and highly relevant, by design it cannot analyze the divergence among the different members of the management team, because it uses letters to shareholders as its data source rather than individual interviews, as used by the current study.

### **Methodology and Research Design**

The research is designed as a comparative case study [17, 18, 19] of nine software ventures in the German-speaking area. The software industry is interesting for several reasons. First, the burst of the internet bubble (European Information Technology Observatory, 2004) and the economic downturn 2001/02 (OECD report, 2002/03) affected the software industry. This, of course, led to major change and new opportunities in this industry. In addition, many potential opportunities arose through merging with other industries, such as the telecommunications industry. Second, the software industry reaches maturity over the observation period (2004-2006) during which professionalization, standardization, and industrialization became relevant. The above arguments (together with the fact that this industry is characterized by little regulation by authorities, few standards and no patents) make it an interesting industry within which to study entrepreneurial opportunities.

The nine ventures investigated here are located in Munich, Germany, and Zurich/St. Gallen, Switzerland, and are comparable along a number of dimensions such as business, customers, size, structure and development of the company (Table 1).

At three equidistant time points between 2004 and 2006, semi-structured interviews of 90 minutes each were conducted with the three most influential individuals in each one of the nine ventures, resulting in 81 interviews.

The method used for data analysis is the cognitive mapping technique [20, 21, 14, 22, 10]. Specifically, the causal mapping technique [23] was used. The causal maps are analyzed on the individual level and on the collective level. For the collective level, the causal maps are aggregated with the focus on the diversity of team members' explanations [6, 24, 25]. As opposed to congregate maps, aggregate maps include dominant causalities and concepts of individual maps [24]. This is essential for this study because it preserves the diversity of concepts. In sum, the cognitive maps are

analyzed on three levels: (1) individual cognitive structures, (2) collective cognitive structures, and (3) collective cognitive structures over time. This analysis allows for comparing the collective cognitive structures over time and their impact on entrepreneurial opportunity identification and exploitation.

Table 1: Characteristics of the Ventures in the Sample

<b>Firm</b>	<b>Origin</b>	<b>Country</b> <sup>3</sup>	<b>Industry focus</b>	<b>Function focus</b>	<b>Number employees</b>	<b>TMT size</b>	<b>Mgt. turnover</b>	<b>Expertise</b>
<b>Alpha-Tech</b>	ETH	CH (US, H)	Banking	Security	100	5	Low	Technology Business
<b>Beta-Tech</b>	Tech Company	GER	None	None	100	5	Very low	Technology Business Philosophy
<b>Gamma-Tech</b>	Bain & Company	CH	None	Web design	70	8	Very high	Business Technology
<b>Delta-Tech</b>	Tech Corp.	GER	Public Sector	Information mgt.	20	3	Very low	Business Technology
<b>Epsilon-Tech</b>	McKinsey	GER	Building	Project mgt.	200	7	Low	Business Technology Building
<b>Zeta-Tech</b>	Business School	CH	None	HR processes	20	4	Low	Business
<b>Eta-Tech</b>	Technical University Munich	GER	None	Security	70	3	Very low	Technology Some Mgt.
<b>Theta-Tech</b>	Design/Business School	CH	None	Marketing	120	7	Medium	Mgt. Design Technology
<b>Iota-Tech</b>	ETH	CH	Financial	Security	80	11	Low	Technology

Legend: Table 1 describes the nine software ventures constituting the sample of this study.

Regarding opportunity exploitation, an index was created from the actual opportunities that have been implemented by the company on a scale of 1 through 10. It is important to note that these measures are – as opposed to the shared cognitive maps described above - not subjective but objective. A multitude of internal and external documents from the nine ventures (e.g., internal reports, marketing reports, websites, reports about the company, sales figures, etc.) were triangulated to create an objective measure. In order to be comprehensive, a given venture’s opportunity exploitation was examined along five dimensions: product innovation, service innovation, technology innovation, marketing innovation, and organizational innovation. The opportunity identification is constructed from additional information and interviews with people within and outside of the entrepreneurial team in order to get a sense of the number of opportunities identified at the time of the study.

In the interviews, a set of questions was asked relative to opportunities identified by each of the nine ventures. Exemplary questions are: “What is the goal of your company?”, “What is your current business model?”, and “How does your company differ from your competitors regarding your value proposition?” These questions were posed in the same way at each point in time, t<sub>1</sub>, t<sub>2</sub>, and t<sub>3</sub>. This comprehensive set of questions covers the different areas of the company’s business:

<sup>3</sup> Countries: CH=Switzerland; GER=Germany; US=United States; H=Hungary.

business model, learning and challenges, strategy and core competencies, customer focus and management, strategic alliances, perception of industry and competition and vision. While the focus of these interviews is intentionally broad, the set of questions is consistent over time. Based on these interviews at the three points in time, cognitive maps were developed. These maps were then aggregated into a comprehensive map representing the overlap and diversity of concepts and causalities. The aggregate maps were subject to an analysis of centrality, domain and cluster. Taken together, these three measures are indicators of cognitive complexity. These three measures together indicate the dominance of certain concepts based on different properties and therefore guarantee validity. The coding process for several randomly selected interviews was replicated by two independent researchers that are active in other disciplines. The inter-rater reliability was 87%.

### Data Analysis and Results

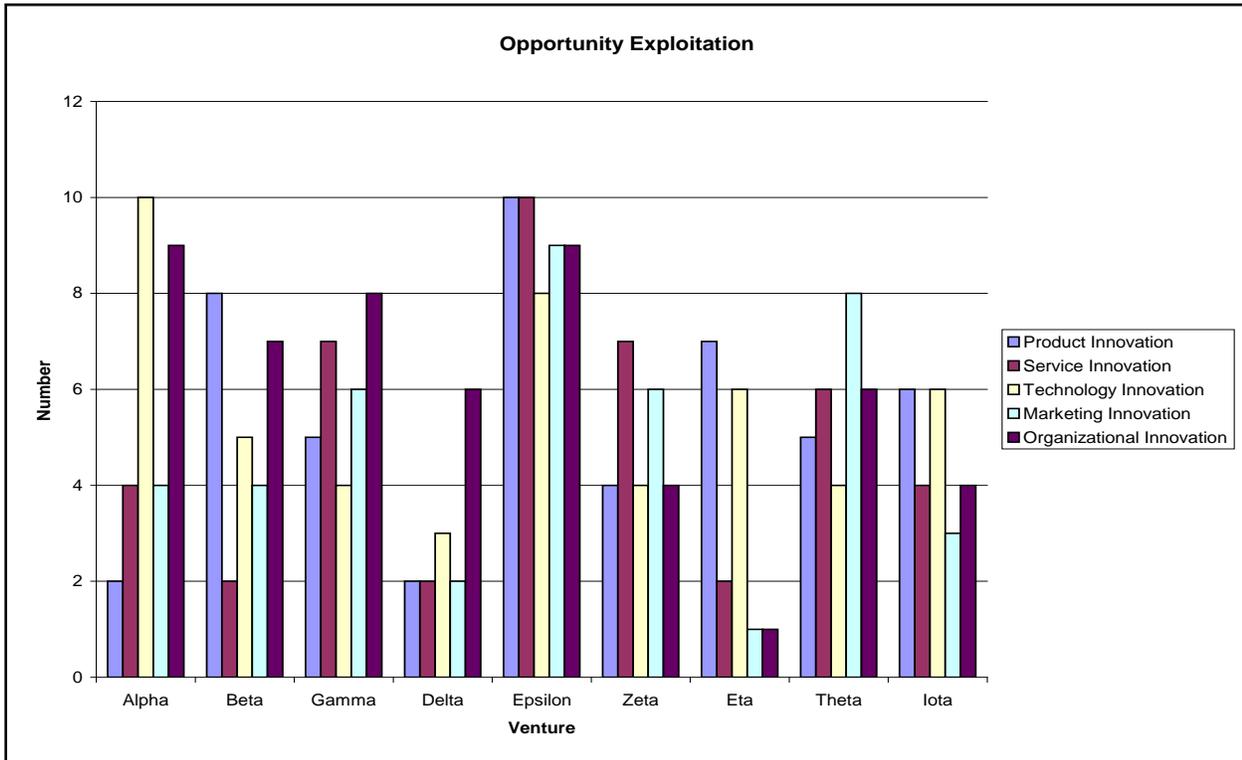
In the following, the analysis of the individual and the shared cognitive maps over time is presented. These are then associated with the number of opportunities that the ventures identified and exploited.

Figure 1: Opportunity Identification along five dimensions for the nine ventures



Legend: Figure 1 describes the opportunity identification at the nine software ventures in the five areas of innovation.

Figure 2: Opportunity exploitation along five dimensions for the nine ventures



Legend: Figure 2 describes the opportunity exploitation at the nine software ventures in the five areas of innovation.

### Number of Shared Concepts and Causalities

Fiol [14] investigated the new venture development process and found that organizational learning is really about the development of diverse interpretations. Fiol shows how the team members in the ventures that she analyzed developed unified ways of framing their arguments, while at the same time maintaining diversity through differences in the content of team members' interpretations. Similarly, Clarysee and Moray [26] relate knowledge diversity to team learning, which, is likely to lead to a greater number of opportunities. On the one hand, cognitive diversity promotes different ideas and creativity in the decision making process [27, 28] and avoids group think [29]. On the other hand, too much diversity may lack the ground for common understanding and hence may not be most effective for opportunity identification.

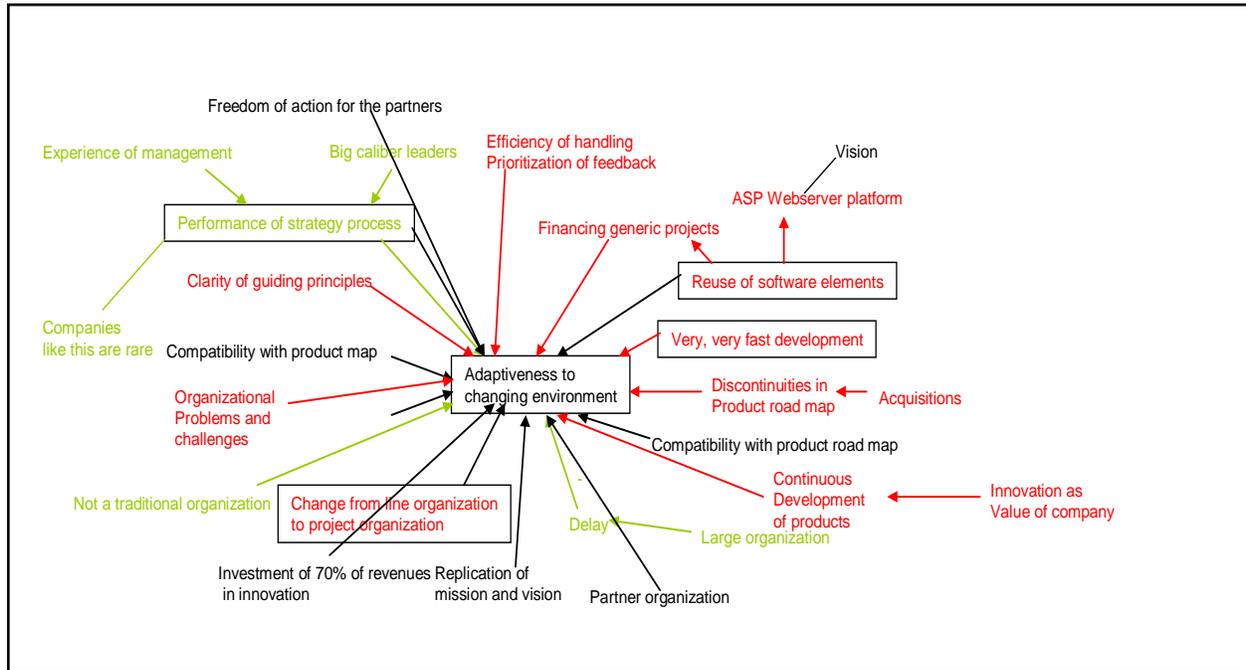
For the study of shared cognitive maps, this finding would translate into a high number of shared concepts of the maps and a low number of shared causality of the maps. Given that the constituent elements of cognitive maps are concepts and links, the following is proposed:

**Proposition 1a:** A high number of shared concepts with a low number of shared causal links results in the identification and the exploitation of many opportunities.

**Proposition 1b:** A high number of shared concepts and a high number of shared causal links results in the identification of many, but the exploitation of fewer, opportunities.

At Epsilon-Tech, for instance, “adaptiveness” was the most dominant concept for all three interviewees.

Figure 3: Cognitive Map for Epsilon-Tech at t<sub>1</sub>

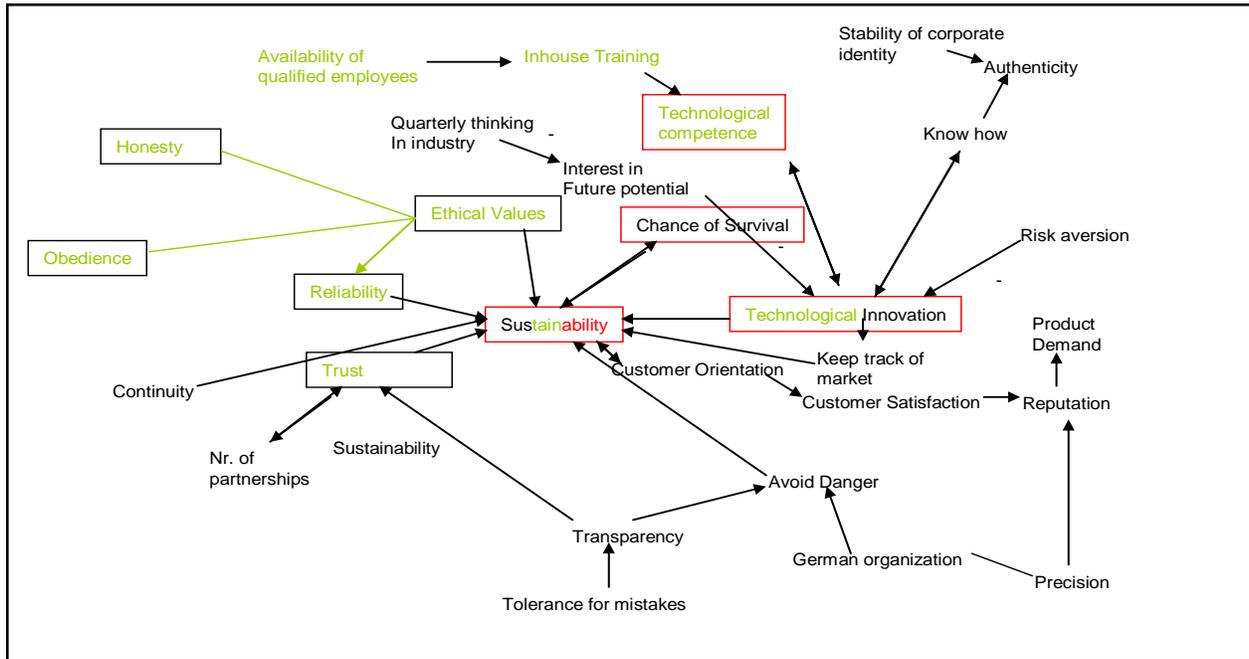


Legend: Figure 3 illustrates the aggregate map for Epsilon-Tech.

The dominant decision makers referred to different explanations as to how adaptiveness serves the company and how it may be reached. Yet, the different causal explanations all support the general concept of adaptiveness to the environment. The reasons provided by the team members are of different natures such as “freedom of the partners,” “clarity of guiding principles,” “performance of strategy process,” or “compatibility of product roadmap.” In the case of Epsilon-Tech, this constellation appears to guarantee a consensus about the main orientation or identity of the company while leaving room for interpretation as to how “adaptiveness” is reached. This could then explain how commitment at a strategic orientation can be combined with the flexibility necessary to make changes in how the adaptiveness is reached. Next, the map of Epsilon-Tech is contrasted with Beta-Tech. For Beta-Tech’s cognitive map, refer to Figure 4.

Beta-Tech, by contrast, demonstrates the highest number of shared concepts and causalities in the sample. In other words, the maps of Beta-Tech are strikingly coherent and integrated; nearly every element in any of Beta-Tech’s maps is connected with every other element in that map. The dominant concepts are consistent over time. Beta-Tech identifies quite a number of opportunities, such as developing a new product on a different technological platform and a new business model and organizational structure. Beta-Tech did have some interesting ideas, yet all the members of the team were so familiar with the company that they found many reasons why the opportunities should not be exploited at that time. In this sense, the shared cognition inhibited the exploitation of opportunities.

Figure 4: Cognitive map for Beta-Tech at t<sub>1</sub>



Legend: Figure 4 illustrates the aggregate cognitive map for Beta-Tech at t<sub>1</sub>.

### Complexity of individual cognitive maps as moderator

Researchers have found that complex mental model structure increases both individual and organizational capacity to respond and perform successfully [15]. Bartunek, Gordon, and Weathersby [30] showed that cognitive complexity (understood as high capability to differentiate and integrate) leads to more accurate perceptions and more effective behavior. Cognitive complexity has been related to positive outcomes in various papers. Calori, Johnson, and Sarnin [31] found evidence that the cognitive complexity of the CEO should match the complexity of the environment. Although those authors could not show the relationship between the cognitive complexity and performance, they suggest that such a pattern exists. It is reasonable to assume that cognitive complexity positively impacts the relationship between the cognitive structure of the aggregate map and the identification and exploitation of opportunities. Therefore, the following is proposed:

**Proposition 2a:** Low complexity of individual cognitive maps negatively moderates the relationship between the cognitive structure of the aggregate map and the identification and exploitation of opportunities.

**Proposition 2b:** High complexity of individual cognitive maps positively moderates the relationship between cognitive structure of the aggregate map and the identification and exploitation of opportunities.

Table 2 informs about concepts and links contained in each one of the three individual cognitive maps. This table illustrates that ventures with a high average across the individual cognitive maps are associated with greater opportunity identification and exploitation (e.g., Alpha-Tech), whereas firms where the individual cognitive maps are less complex are associated with the identification and exploitation of fewer opportunities. In all cases, the first interviewee, one of the

founders/the founder and CEO has a more complex map. The complexity changes slightly over time.

Table 2: Cognitive Complexity of the nine ventures

<u>Firm</u> #	<u>First interviewee</u>		<u>Second interviewee</u>		<u>Third interviewee</u>		<u>Average</u>	
	Concept	Link	Concept	Link	Concept	Link	Concept	Link
<b>Alpha-Tech</b>	101	87	62	51	42	24	68.33	54.00
<b>Beta-Tech</b>	78	69	62	54	70	61	70.00	61.33
<b>Gamma-Tech</b>	78	70	67	56	40	35	61.67	53.67
<b>Delta-Tech</b>	54	40	36	29	41	35	43.67	34.67
<b>Epsilon-Tech</b>	79	66	55	38	78	55	70.67	53.00
<b>Zeta-Tech</b>	115	97	89	45	76	66	93.33	69.33
<b>Eta-Tech</b>	67	54	66	51	44	31	59.00	45.33
<b>Theta-Tech</b>	76	60	56	45	38	29	56.67	44.67
<b>Iota-Tech</b>	68	51	55	39	52	42	58.33	44.00
<b>Avg.</b>	79.6	66	60.9	45.3	53.4	42	64.6	51.1

Legend: Table 2 summarizes the complexity scores for each one of the three individual cognitive maps respectively.

### Change of Shared Cognitive Maps over time

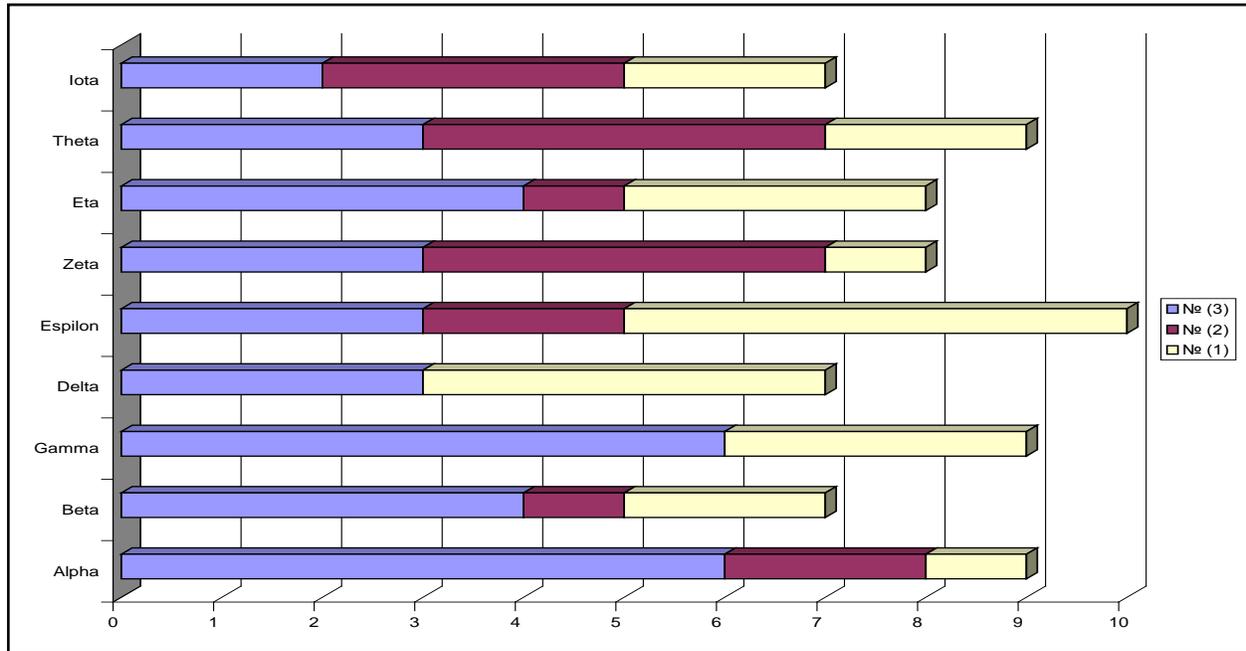
Only very few studies in the field of management investigate the change of cognitive maps over time. Barr et al. [16], the most prominent exception, looked at the concepts and links separately rather than as a combined measure of cognitive complexity which is the method used by the current paper. This study was able to compare the continuity of the concepts over time. In this regard, it seems plausible to argue that continuity of concepts is associated with less change in the strategy of the firm. If there is discontinuity of concepts, there is more change. Based on the identification of continuity vs. discontinuity of concepts from  $t_n$  to  $t_{n+1}$ , the following set of propositions was explored:

**Proposition 3a:** The continuity of concepts in shared cognitive maps (concepts and causalities) is associated with the identification of and hence exploitation of fewer opportunities.

**Proposition 3b:** The discontinuity of concepts in shared cognitive maps (concepts and causalities) is associated with the identification of and exploitation of more opportunities.

Figure 5 and 6 illustrate this relationship based on this study's data.

Figure 5: Comparison of the Evolution of dominant logic in the nine ventures



Legend: Figure 5 illustrates the continuity of the maps of the nine ventures ( $N_e(3)$ )=major concepts & links are continued over all periods;  $N_e(2)$ =major concepts & links are continued over two periods;  $N_e(1)$ =discontinuity, i.e. major concepts and links only appear in one map, either at  $t_1, t_2$ , or  $t_3$ ).

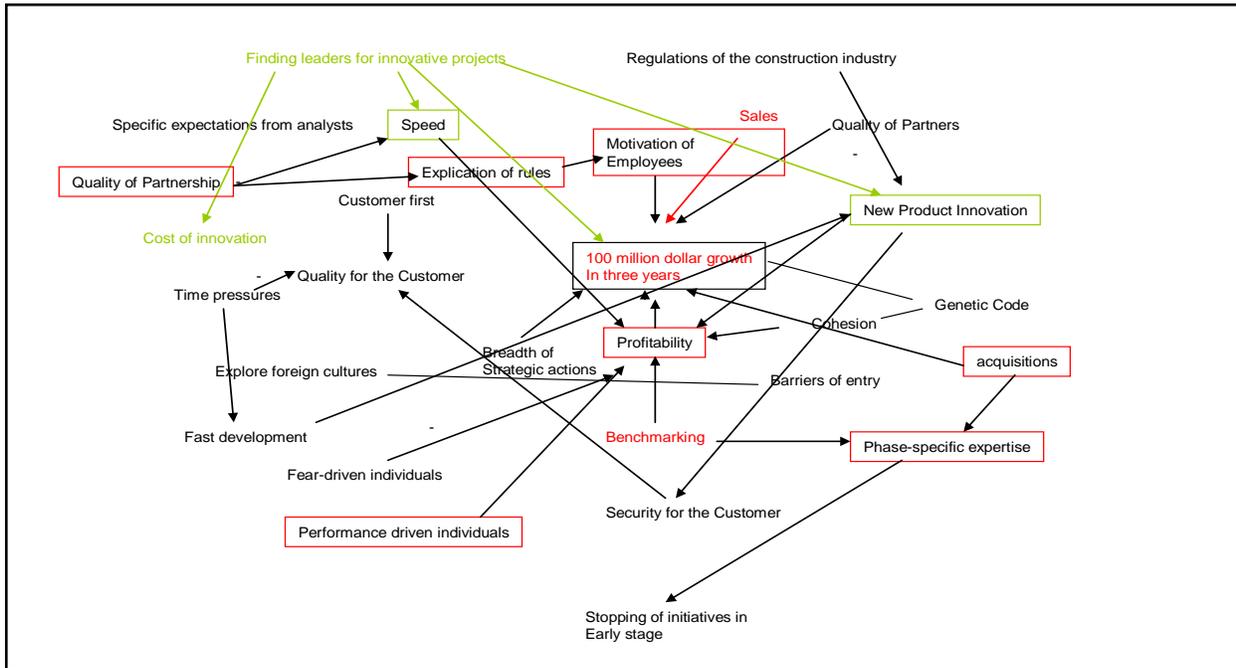
While the evolution of the shared cognitive maps at Alpha-Tech is characterized by the highest continuity (the maps at  $t_1, t_2$ , and  $t_3$  remain highly consistent), the cognitive maps at Epsilon-Tech changed a lot over time. At  $t_2$ , the most dominant shared concept at Epsilon-Tech is a financial goal, i.e. “100 million dollar growth in three years” and at  $t_3$  the most dominant shared concept is “profit” with acquisitions and, more precisely, the development of an acquisition capability being the main driver for profits.

### Summary and Contribution

The objective of this study was to analyze the emergence of shared cognitive structures and their impact on opportunity identification and exploitation. As a result of the comparative case study of nine ventures in the German-speaking software industry a number of propositions were created.

While the total overlap between concepts and domains is negatively related to opportunity identification and exploitation, the partial overlap of concepts (but not causal links) is positively related to opportunity identification but negatively related to opportunity exploitation. Discontinuity of concepts contained in the shared cognitive map over time, is also positively related to opportunity identification and exploitation. This research also identified the overall cognitive complexity of the collective map as a moderator in this relationship.

Figure 6: Dominant concepts at Epsilon-Tech at t<sub>2</sub>



Legend: Figure 6 shows an extract of the shared map of Epsilon-Tech at t<sub>2</sub>. When comparing Figure 3 and Figure 6, the reader can see the development at Epsilon-Tech over time. This development over the three time periods at all nine ventures is then quantitatively summarized in a diagram in Figure 5.

There may be trade-offs between these variables that have not yet been fully explored in this study. It would be interesting to understand, for instance, whether a discontinuity of concepts (that could be generated through external consultants and/or industry outsiders) could mitigate the negative effect of limited cognitive complexity or exceeding overlap at a map at one point in time. Conceivably, an intervention in some companies that share too much knowledge in order to generate creative “follow-up opportunities” could be a valid basis for generating new ideas. However, the complexity of the maps needs to be increased through outsider input generating discontinuity. The propositions presented here invite researchers to undertake a rigorous large sample test and (entrepreneurial) teams to reflect on their current practices and shared cognition and how they fit this model.

This paper showed the evolution of shared cognitions for a selection of ventures located in German-speaking countries. It would be interesting to further investigate whether these results can be transferred to a different cultural context. For this, more case studies like this one are needed and, eventually, these propositions should be tested in a large scale survey across cultural contexts. This requires a modification in method, as the causal mapping method that is used here is not suitable to be executed across a large number of firms.

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English Abstract

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## **Abstract**

In the pursuit of opportunity identification and exploitation, entrepreneurs develop cognitive structures. Although the classical view in entrepreneurship suggests that these cognitive structures are mainly developed by a single individual, they oftentimes span across the entire entrepreneurial team [1, 2, 3]. West [4] recently examined collective cognition in entrepreneurial teams.

This paper analyzes the differences in team members' cognitive structures and their contributions to a shared cognition of the entrepreneurial team. Furthermore, this study is interested in the evolution of cognitive structures. In this respect, the paper responds to calls for more entrepreneurial process research (e.g., [5]). Finally, this study examines the relationship between the change in shared cognition in the entrepreneurial teams and the identification and exploitation of entrepreneurial opportunities. Hence, the research questions are: (1) How do shared cognitive structures of entrepreneurial teams evolve over time? (2) How do these shared cognitive structures relate to opportunity identification and exploitation?

**Keywords:** Entrepreneurship, teams, shared cognition, cognitive map.

French Abstract\*

Evolution of Shared Cognitive Structures in Entrepreneurial Teams and their Impact on Opportunity Identification and Exploitation

# L'évolution des structures cognitives partagées dans des équipes entrepreneuriales et son impact sur l'identification et l'exploitation d'opportunités

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## Résumé

Les entrepreneurs, lorsqu'ils tentent d'identifier et d'exploiter des opportunités, développent des structures cognitives. Alors que la théorie suggère que ces structures cognitives soient principalement développées par un seul individu, souvent elles sont développées par la totalité d'une équipe entrepreneuriale. West a récemment examiné la cognition collective des équipes entrepreneuriales. Cet article analyse les différences dans les structures cognitives des membres d'une équipe entrepreneuriale et leur contribution au partage de la connaissance. Cet article répond à une demande pour plus de recherche sur des processus entrepreneuriaux. Cette étude examine le rapport entre le changement dans la connaissance partagée dans les équipes entrepreneuriales, d'une part, et l'identification et l'exploitation des opportunités entrepreneuriales, d'autre part. Nos questions de recherche sont les suivantes. (1) Comment les structures cognitives que partagent des équipes entrepreneuriales évoluent-elles dans le temps ? (2) Comment ces structures cognitives partagées contribuent-elles à l'identification et à l'exploitation d'opportunités?

**Mots clés** : l'esprit d'entreprendre, équipes, connaissances partagées, modèles cognitifs.

\*Translated by: Johannes Schaaper, Senior professor in International Management, BEM Bordeaux Management School

Spanish Abstract\*

Evolution of Shared Cognitive Structures in Entrepreneurial Teams and Their Impact on Opportunity Identification and Exploitation

# Evolución de las Estructuras Cognitivas Compartidas en los Equipos Empresariales y su Impacto en la Identificación y Explotación de Oportunidades

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## Resumen

En la búsqueda de la identificación y explotación de oportunidades, los empresarios desarrollan estructuras cognitivas. A pesar de que la visión clásica del espíritu empresarial sugiere que estas estructuras cognitivas se desarrollan principalmente por un único individuo, con frecuencia se expanden a todo el equipo empresarial [1, 2, 3]. West, [4] examinó recientemente el conocimiento colectivo en los equipos empresariales.

Este trabajo analiza las diferencias en las estructuras cognitivas de los miembros del equipo empresarial y su contribución a un conocimiento compartido. Además, este estudio se interesa por la evolución de las estructuras cognitivas. En este sentido, el trabajo responde a las llamadas para profundizar en la investigación sobre el proceso empresarial (ej.[5]).

Por último, el presente estudio examina la relación entre el intercambio de conocimiento en los equipos empresariales y la identificación y explotación de oportunidades. Por todo lo anterior, planteamos las siguientes cuestiones de investigación: (1) ¿Cómo evolucionan a lo largo del tiempo las estructuras cognitivas compartidas de los equipos empresariales? (2) ¿Cómo pueden estas estructuras cognitivas compartidas relacionarse con la identificación y explotación de oportunidades?

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German Abstract\*

Evolution of Shared Cognitive Structures in Entrepreneurial Teams and Their Impact on Opportunity Identification and Exploitation

# Die Entwicklung von geteilten kognitiven Strukturen in Entrepreneurial Teams und ihr Einfluss auf die Identifikation von Opportunities und deren Erschließung

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## **Zusammenfassung**

Im Streben nach der systematischen Identifikation von unternehmerischen Chancen und deren Erschließung entwickelt ein Entrepreneur eigene kognitive Strukturen. Auch wenn die klassische Entrepreneurship-Perspektive davon ausgeht, dass diese Strukturen individuell ausgebildet werden, zeigt es sich, dass diese Strukturen auch das gesamte Gründerteam betreffen können. Dieses Papier basiert auf den Annahmen von West und einer Untersuchung zur kollektiven Kognition in Gründerteams. Im Rahmen dieses Artikels werden die Differenzen in den kognitiven Strukturen der Gründerteams analysiert und diskutiert, welchen Beitrag diese zu geteilten kognitiven Strukturen leisten. Des Weiteren will die vorliegende Studie die Entwicklung dieser Strukturen verstehen und erklären. Die leitenden Forschungsfragen hierzu lauten: (1) Wie entwickeln sich geteilte kognitive Strukturen in Gründerteams im Laufe der Zeit? (2) In welcher Beziehung stehen diese zu Opportunities und deren Erschließung?

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Italian Abstract\*

**Evolution of Shared Cognitive Structures in Entrepreneurial Teams and Their Impact on Opportunity Identification and Exploitation**

**Evoluzione nelle strutture cognitive condivise in squadre imprenditoriali ed il loro impatto sull'identificazione e utilizzo di opportunità**

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**Abstract**

Nel perseguire l'identificazione e l'utilizzo di opportunità, gli imprenditori sviluppano strutture cognitive. Anche se la visione classica dell'imprenditoria suggerisce che queste strutture cognitive siano principalmente sviluppate da un singolo individuo, nella realtà spesso sono condivise da una squadra di imprenditori. West ha recentemente analizzato la cognizione collettiva in squadre imprenditoriali.

Questo studio analizza le differenze di strutture cognitive fra membri di una squadra di lavoro ed il loro contributo alla condivisione delle strutture cognitive all'interno della squadra. Inoltre, questo studio approfondisce l'evoluzione delle strutture cognitive. In relazione a questo risponde alla richiesta di fare ricerche aggiuntive sui processi imprenditoriali. Infine, questo studio esamina la relazione fra il cambiamento in cognizioni condivise all'interno della squadra di imprenditori e l'identificazione e utilizzo di opportunità imprenditoriali. Per questo i quesiti di ricerca sono: 1) come si sviluppano nel tempo le strutture cognitive di squadre imprenditoriali? 2) Come si rapportano queste strutture cognitive condivise all'identificazione ed utilizzo di opportunità.

**Parole chiave:** imprenditoria, squadre, cognizione condivisa, mappe cognitive.

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Arabic Abstract\*

Evolution of Shared Cognitive Structures in Entrepreneurial Teams and Their Impact on Opportunity Identification and Exploitation

## تطور البنية المعرفية المشتركة و فرق المشاريع الريادية وتأثيرها على تحديد الفرص وإستغلالها

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### خلاصة

يركز الهيكل الإدراكي الريادي على تعريف الفرص و إستغلالها الذي يرى أن الهيكل الإدراكي يطور بشكل رئيسي على يد الفرد مؤخراً بدراسة الإدراك [4] 'ويست' حيث قام الباحث [1, 2, 3] الواحد وفي بعض الأحيان يكون على شكل مجموعات ريادية الجماعي للفرق الريادية. وتركز هذه تقوم هذه الورقة بتحليل الفروقات بين أعضاء الهيكل الإدراكي ومساهماتها في الإدراك المشترك للفرق الريادية الدراسة على تطور الهيكل الإدراكي وفي هذا النطاق فإن هذه الورقة مسؤولة عن طلبات الباحثين الريادين. أخيراً نتناول هذه الدراسة العلاقة بين التغيرات المشاركة في إدراك الفرق الريادية وبين تحديد وإستغلال الفرص الريادية. وبالتالي فإن أسئلة البحث كيف يرتبط الهيكل الإدراكي بتحديد الفرص تدور حول: 1. كيف يتطور الهيكل الإدراكي للفرق الريادية عبر الوقت؟ 2. وإستغلالها.

الريادية؛ الفرق؛ الإدراك المشترك؛ الخارطة الإدراكية: الكلمات الرئيسية

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# **Task-related Information Sharing in Group Decision Support Systems (GDSS)**

## **The Importance of Knowing Who Knows What**

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### **Abstract**

Group Decision Support Systems (GDSS) are among the most common software systems designed to enable and enhance group communication for collective decision-making. Members of a work group normally confer and exchange information in order to make decisions and there are three types of task-related information: common (or shared) information known by all members of a work group; unique (or unshared) information known by only one group member; and partially shared information known by more than one but not all members. To date, only a handful of studies have evaluated information exchange in GDSS groups engaged in decision-making and this study examines the effect of expertise role-assignment and the proportion of common, unique, and partially shared information available in GDSS groups. The results indicate that information distribution and expertise role-assignment can affect information sharing in GDSS groups. Increasing the proportion of unique information distribution can be used as a way to enhance the pooling of unique information in expertise role-assigned groups. Expertise role-assignment increases the amount of partially shared information during group discussions and increasing the proportion of unique information results in an increase in the retaining of partially shared information but decreases the retaining of unique information following group discussions.

**Keywords:** Information sharing, group decision supported system (GDSS), expertise role-assignment.

### **Introduction**

People join groups for a number of reasons, with some group members motivated to join a group to complete a specific task, whilst others may join a group to enjoy the social benefits of communication with the other group members. Groups usually congregate to solve problems or to make decisions and each group member desires to effectively accomplish their task objectives. However, groups often have difficult problems to solve and important decisions to make and, for a group to be successful, they must find a means to improve problem solving and decision making in order to reach their goals and achieve satisfactory results (Pissarra and Jesuino, 2005; Leinonen and Bluemink, 2008).

In order to solve problems or make decisions, members of a group discuss and exchange their information resources (Shirani, 2006) and groups are potentially able to make better decisions

than individuals because group members have access to a larger pool of information than an individual does. There are three types of task-related information discussed in a work group: common or shared information that is known by all the members in the work group; unique or unshared information that is known by only one group member; and partially shared information that is only known by some group members (Dennis, Hilmer, and Taylor, 1997; Stasser and Titus, 1987; Winquist and Larson, 1998; Vathanophas and Liang, 2007). Each type of information plays a different role in group decision making. Common information helps to establish a common understanding and build consensus, whereas the advantage of access to unique information underlies the advantage of groups compared to individual decision making (Clark et al., 2002; Shirani, 2006). The proportion of common and unique information affects the role of unique information used during group discussion and also the amount of unique information retained by group members following a discussion. For example, when less common information is available group members tend to emphasize unique information to make their case stronger, consequently unique information will play a larger role in any discussion and will be remembered. However, a previous study failed to empirically support this argument (Hightower and Sayeed, 1996) and other previous research studies have shown information exchange ineffectiveness in verbal groups and that while groups concentrate their discussion on common information they fail to disseminate effectively, unique information that members individually possess (Stasser and Titus, 1985; Stasser and Titus, 1987). Furthermore, this information exchange pattern is also exhibited in Group Decision Support Systems (GDSS) (Dennis, 1996) and, as a result, the original intention behind the formation of groups to provide access to larger pools of information than is available to an individual is negated. This paper seeks to address this by identifying a means of increasing the pooling and utilization of unique information in GDSS groups.

Group Decision Support Systems (GDSS) are among the most common software systems used for collective decision-making (Ba et al., 2001) and GDSS enables and enhances group communications, which in turn aids in decision making. GDSS use is less likely to increase the overall pooling of information during discussions (unique or common information, or both) compared to face-to-face settings, due to parallelism and anonymity (Dennis, 1996). However, research has shown that less information is discussed in computer-mediated communication systems than in face-to-face groups (Hightower and Hagmann, 1995) and that more common information was also discussed compared to unique information during GDSS group discussions. Moreover, post-discussion individual written recall showed that GDSS groups pooled less unique information during a discussion than face-to-face groups (Dennis, 1996; Hightower and Sayeed, 1995). The lack of recall of unique information in GDSS groups might be ascribed to reduced information credibility, resulting from the anonymity of group members, although these results indicated overall poor information processing in GDSS groups. However, only a handful of studies have evaluated information exchange in GDSS groups engaging in decision-making tasks (Dennis, 1996; Hightower and Sayeed, 1995; Mennecke, 1997). This research study examines the effect of expertise role-assignment and the proportions of common information and unique information available in facilitating the pooling and processing of unique information, while keeping the proportion of partially shared information constant, in GDSS groups.

Various outcomes had been compared between face-to-face and GDSS groups. Some researches show better group social interaction (Huang and Wei, 2000), group satisfaction (Mennecke and Valacich, 1998), and decision quality results (Heninger, Dennis, and Hilmer, 2006) in face-to-face groups than GDSS groups. Conversely GDSS group results were superior in exchanging information within teams (Heninger, Dennis, and Hilmer, 2006), enhancing group task

(Huang and Wei, 2000), increasing the number of ideas generated and participants' satisfaction (Dennis, Wixom, and Vandenberg, 2001), and enhancing the feedback quality and learning cooperation by reducing domination and communication barriers (Waikwok, Ma, and Vogel, 2002). Different outcomes are caused by the different fitting between GDSS structures and tasks which impacts decision quality, and group support which impacts process satisfaction (Dennis, Wixom, and Vandenberg, 2001; Huang and Wei, 2000). Therefore, this research study examines the effect of expertise role-assignment information distribution in facilitating the pooling and processing of information in GDSS groups.

## **Literature Review**

In general, group discussions are inefficient in exchanging common and unique information (Larson et al., 1998). Group members tend to discuss common information that is known to all group members and are less likely to share unique information, often leading to incorrect decision making (Worchel et al., 1992). Information exchange is usually less resourceful where there is a higher proportion of common information (Stasser and Stewart, 1992; Stasser and Titus, 1985; Stasser et al., 1989). When compared to a face-to-face setting, GDSS can enhance the exchange of unique information. This result can be caused by parallelism that lessens blocking and anonymity, which in turn, reduces reluctance to share information to most of the groups' members (Dennis, Hilmer, and Taylor, 1997). GDSS research was conducted in an attempt to enhance the discussion of unique information. Unshared information was distributed to two group members (i.e. unique information becomes partially shared), instead of one member (i.e. unique information) in a four-member group (Hightower and Sayeed, 1995). Still, the unique information in the study was not shared during group discussion.

### **Information Sharing in GDSS**

Two attributes of GDSS affect sampling and pooling of information: parallelism and anonymity. *Parallelism* enables group members to exchange information simultaneously, since they can enter information concurrently with no interruption. Parallel communication provides members with the ability to oscillate between contributing and reading the ideas of other group members. However, engaging in parallel cognitive activities can impede the processes of information recall, evaluation and exchange (Ball et al., 1992). Alternatively, *anonymity*, is the ability of members to input information without attaching any identity to the information, which in turn overcomes social and behavioral communication barriers by allowing group members to promote equal participation and enhance information exchange (Dennis, 1996).

GDSS group members had better unique information recall and exchange than did members of face-to-face groups, since they brought unique information into discussions earlier than in the face-to-face groups (Shirani, 2006). Group memory is an intrinsic characteristic of GDSS groups that allows the group members to withdraw from the discussion at will, with the intention to refer to and think about previously discussed information, and later rejoin the discussion and continue where they left off (Nunamaker et al., 1991). As such, this should equalize the repetition of information (unique, common or partially shared) in GDSS groups, however, GDSS groups still discussed proportionately more partially shared and common information rather than unique information. Group members found it too tedious to read through long transcripts to refer to previously mentioned information and, instead, they re-keyed information that was previously mentioned to emphasize their contributed information, thereby leading to the repetition of information, in

particular common information, because more members shared access to that information prior to discussion (Vathanophas and Liang, 2007).

### **Expertise Role-Assigned GDSS Groups**

Expertise Role-Assignment is an explicit label applied to group members to show that a specific group member possesses more information in a specific area than the other group members (Stasser et al., 2000) and this label should be indicated prior to the group discussion. Role-assigned GDSS groups were found to pool proportionately more information overall, more unique information and more partially shared information, than in non role-assigned groups (Stasser et al., 2000; Vathanophas and Liang, 2007). The results of this study were consistent with those found in verbal groups, as expertise role-assignment was also found to increase the pooling of unique information in face-to-face discussions (Stasser et al., 2000). However, there was no difference in the proportion of common information pooled during discussions between role-assigned vs. non role-assigned groups. GDSS groups, as with all groups, utilize transactive memory processes (which should increase the pooling of unique information during discussion) and social validation effects also apply (which should increase the retention and utilization of unique information) (Stewart and Stasser, 1995).

By making unshared information significant to the group member assigned that information, each group member knew what information they had that the other group members did not have, so they would therefore be more likely to mention it (Schittekatte and Hiel, 1996). The sampling advantage of common information over unique information was reduced because during a strict division of labor, members of the group are expected to mention information relevant to their area of expertise (Stasser et al., 1995; Stasser et al., 2000). When specific group members are role-assigned, GDSS groups could have subjected themselves to a cognitive division of labor, hence encoding and storing information pertaining to their area of expertise prior to discussion. During a discussion, group members retrieve and recall information pertaining to their own area of expertise and, at the same time, elicit information from the areas of expertise of other members. This possibly led to an increased pooling of unique and partially shared information in role-assigned groups (Stasser and Stewart, 1992).

## **Research Design**

### **Statement of Goals and Objectives**

This research study focused on information sharing in three-member GDSS groups. Three types of information were introduced, namely: unique information (information unique to only one group member); partially shared information (information shared by two group members); and common information (information shared by all three group members).

Expert role-assignment was examined for its effectiveness in increasing the use of uniquely owned information during GDSS group discussions. In addition, two different types of pre-discussion *information distribution* were introduced. When the amount of partially shared information is held constant across Information Distribution Types 1 and 2, the different proportion of common and unique information also remains constant. Information Distribution Type 1 provides equal amounts of common (33.33%), partial (33.33%) and unique (33.33%) information; while Information Distribution Type 2 provides less common (16.67%), partial (33.33%) and more unique (50.00%) information.

Three dimensions of information exchange are explored in this research study. The first dimension is the amount of information exchanged, the second dimension is the type of information

exchanged and the third dimension is the sequence of information exchange. Dependent variables were measured by type, as well as by amount of information exchanged, and were observed twice; both during and after group discussions. Based on the dimensions of information exchange, a series of hypotheses were explored as follows:

*H1: In non-expertise role-assigned ( $X_2$ ) GDSS groups, members will mention more common information ( $Y_1$ ) than partially shared information ( $Y_2$ ) and more partially shared information than unique information ( $Y_3$ ) during group discussions ( $O_1$ ).*

*H2a: In expertise role-assigned ( $X_1$ ) GDSS groups, members will mention partially shared information, during group discussion ( $O_1$ ), more often than in non-role-assigned ( $X_2$ ) GDSS groups (when the effect of group allocated information distribution is controlled).*

*H2b: In expertise role-assigned ( $X_1$ ) GDSS groups, members will mention unique information ( $Y_3$ ), during group discussion ( $O_1$ ), more often than in non-role-assigned ( $X_2$ ) GDSS groups (when the effect of group allocated information distribution is controlled).*

*H2c: In expertise role-assigned ( $X_1$ ) GDSS groups, members will mention more information overall ( $Y_4$ ) during group discussions ( $O_1$ ) than in non-role-assigned ( $X_2$ ) GDSS groups (when the effect of group allocated information distribution is controlled).*

*H3a: In expertise role-assigned ( $X_1$ ) GDSS groups, members will retain more partially shared information after group discussions ( $O_2$ ) than in non-role-assigned ( $X_2$ ) GDSS groups (when the effect of group allocated information distribution is controlled).*

*H3b: In expertise role-assigned ( $X_1$ ) GDSS groups, members will retain more unique information ( $Y_3$ ) after group discussions ( $O_2$ ) than in non-role-assigned ( $X_2$ ) GDSS groups (when the effect of group allocated information distribution is controlled).*

*H3c: In expertise role-assigned ( $X_1$ ) GDSS groups, members will retain more information overall ( $Y_4$ ) after group discussions ( $O_2$ ) than in non-role-assigned ( $X_2$ ) GDSS groups (when the effect of group allocated information distribution is controlled).*

*H4a: During discussions ( $O_1$ ), groups allocated information using Information Distribution Type 2 ( $X_b$ ) will pool more partially shared information (in absolute amounts), compared to groups allocated information using Information Distribution Type 1 ( $X_a$ ) (when the effect of expertise role-assigned ( $X_1$ ) GDSS groups is controlled).*

*H4b: During discussions ( $O_1$ ), groups allocated information using Information distribution Type 2 ( $X_b$ ) will pool more unique information ( $Y_3$ ) (in absolute amounts), compared to groups allocated information using Information Distribution Type 1 ( $X_a$ ) (when the effect of expertise role-assigned ( $X_1$ ) GDSS groups is controlled).*

*H4c: During discussions ( $O_1$ ), groups allocated information using Information Distribution Type 2 ( $X_b$ ) will pool more information overall, compared to groups allocated information using Information Distribution Type 1 ( $X_a$ ) (when the effect of expertise role-assigned ( $X_1$ ) GDSS groups is controlled).*

*H5a: After discussions ( $O_2$ ), groups allocated information using Information Distribution Type 2 ( $X_b$ ) will retain more partially shared information (in absolute amounts), compared to groups allocated information using Information Distribution Type 1 ( $X_a$ ) (when the effect of expertise role-assigned ( $X_1$ ) GDSS groups is controlled).*

*H5b: After discussions ( $O_2$ ), groups allocated information using Information Distribution Type 2 ( $X_b$ ) will retain more unique information ( $Y_3$ ) (in absolute number), compared to groups allocated information using Information Distribution Type 1 ( $X_a$ ) (when the effect of expertise role-assigned ( $X_1$ ) GDSS groups is controlled).*

*H5c: After discussions ( $O_2$ ), groups allocated information using Information Distribution Type 2 ( $X_b$ ) will retain more information overall, compared to groups allocated information using Information Distribution Type 1 ( $X_a$ ) (when the effect of expertise role-assigned ( $X_1$ ) GDSS groups is controlled).*

**Research Study Design**

Since the research study is designed to explore the effects of role-assignment and information type on information processing, the study was designed using the 2x2 factor design outlined below in Table 1. The independent variables are categorized into two groups: expert role-assignment and information distribution.

Table1: Research Study Design

Independent Variables	Information Distribution Type 1( $X_a$ )	Information Distribution Type 2 ( $X_b$ )
Role-Assigned ( $X_1$ )	12	12
Non Role-Assigned ( $X_2$ )	12	12

This study was conducted using respondents from the general student population at the College of Management, Mahidol University (CMMU). Three participants formed each group, and may or may not have previously known each other. Participants were also mixed into different groups. Each *unit of analysis* is a discussion group consisting of three participants.

This research study used a combination of ‘hidden profiles’ (Faraj and Sproull, 2000) in which each group member was provided with a different amount of information (information distribution) without prior notice, and role-assignment in which group members were made aware of their roles. The research study began with a pre-questionnaire that consisted of demographic questions and measured attitude towards working with a group and working in this discussion group. Information sheets were then distributed and group members had fifteen minutes to read and understand all the information. The information sheets were collected before the discussion began and the participants were not allowed to take notes of the information given. In the case of role-assignment, the role of each respondent was indicated clearly in the information sheets given to them.

This research study used Microsoft MSN as a GDSS communication tool, with each group member acting the role of a detective in a murder investigation team and common, partially shared, and unique information was distributed. During each thirty-five minute discussion all MSN conversations were recorded between all the participants in the same team.

Unique information is an item of information that only one of group members knows. Partially shared information or shared information is information only known by two of the group members. Information that appears in information sheets provided to each group member is categorized as common information. Each type of information item was specified in advance and

was to be kept secret. The group members did not know which type of information or the number of information items of each type they possessed.

To measure information mentioned during group discussions, each 35-minute conversation in each group discussion was recorded using the 'Message History' feature of the GDSS application. All the discussion transcripts of the 48 groups that participated in the experiment were then coded. Content analyses of all the discussion transcripts were conducted independently by two experienced coders. All coding disagreements between these coders were noted. Then the disagreements were reconciled through discussion and a final code was assigned in each case of disagreement. Each time an information item (about a particular suspect) relevant to the case was mentioned correctly, this was noted. Information that was noted did not have to be verbatim with the exact information found in the booklet issued to the group members; as long as the fundamental meaning was conveyed during the discussion it was noted. For example, evidence provided about Bernard (Suspect 2) read "Visited the victim once only, using the front gate. However, he has never seen the backyard before" and in Group 7 (role-assigned, information distribution type 1) a group member typed "He doesn't know that the house has a backyard" and this was therefore recorded. Each information item was then manually recorded and counted. Following each discussion, group participants were asked to complete a Post-Discussion Questionnaire and a Self-Reporting Questionnaire (O<sub>2</sub>).

### **Data Analysis and Results**

By using 2x2 factorial experimental design, statistical analysis was carried out using Two-Way ANOVA to investigate the effects of the two variables of expertise role-assignment and information distribution simultaneously. Although ANOVA assumptions are normality and equal variance, if the group sizes are equal, the statistical analysis is quite resistant to violations of normality assumption and equal variance. Two-Way ANOVA was used to investigate the effects of the two variables simultaneously and permitted investigation of both the effects of either factor alone and of the two factors together as shown in Table 2.

Pre-questionnaire testing revealed that there was no difference between the median of '*attitudes toward the group tasks*' assigned to members of the research study groups (Kruskal Wallis Test, p-value= 0.964) and no difference between the mean of '*attitude toward working with the group members*' assigned to members of the research study groups (ANOVA test, p-value = 0.079) indicating that these two extraneous variables were successfully controlled.

### **Discussion**

Human cognitive processes are verified in this study as follows: first there is information recall and exchange (polling of information during group discussions); second there is information recall; and then evaluation and storage of this information in the memory (information retained after group discussions) (Dennis et al., 1997) and to facilitate and support these cognitive processes is an important objective for effective group communication. This research study increased the information retention of participants through Expertise Role-Assignment and Information Distribution Type 2 (containing a higher proportion of unique information) and measured the amount of unique information, partially-shared information and common information necessary for correct decision outcomes.

Table 2: Results of Hypotheses Testing Using Two-Way ANOVA

Groups	Treat-ments	Control Variables	Effect of Variables	Hypothesis Statements	Result $\alpha = 0.05$	Statistical Test	P-Value
<b>H1</b>							
X <sub>2</sub>	None	None	Y <sub>1</sub> and Y <sub>2</sub> mentioned(O <sub>1</sub> )	Y <sub>1</sub> >Y <sub>2</sub>	Not supported	ANOVA &planned contrast	0.210
X <sub>2</sub>	None	None	Y <sub>2</sub> and Y <sub>3</sub> mentioned(O <sub>1</sub> )	Y <sub>2</sub> >Y <sub>3</sub>	Supported	ANOVA &planned contrast	0.010
<b>H2a</b>							
All	X <sub>1</sub> ,X <sub>2</sub>	Information Distribution	Y <sub>2</sub> mentioned(O <sub>1</sub> )	X <sub>1</sub> >X <sub>2</sub>	Not supported	Two-way ANOVA	0.712
<b>H2b</b>							
All	X <sub>1</sub> ,X <sub>2</sub>	Information Distribution	Y <sub>3</sub> mentioned(O <sub>1</sub> )	X <sub>1</sub> >X <sub>2</sub>	Supported	Two-way ANOVA	0.016
<b>H2c</b>							
All	X <sub>1</sub> ,X <sub>2</sub>	Information Distribution	Y <sub>4</sub> mentioned(O <sub>1</sub> )	X <sub>1</sub> >X <sub>2</sub>	Not supported	Two-way ANOVA	0.332
<b>H3a</b>							
All	X <sub>1</sub> ,X <sub>2</sub>	Information Distribution	Y <sub>2</sub> retained(O <sub>2</sub> )	X <sub>1</sub> >X <sub>2</sub>	Not supported	Two-way ANOVA	0.299
<b>H3b</b>							
All	X <sub>1</sub> ,X <sub>2</sub>	Information Distribution	Y <sub>3</sub> retained(O <sub>2</sub> )	X <sub>1</sub> >X <sub>2</sub>	Not supported	Two-way ANOVA	0.406
<b>H3c</b>							
All	X <sub>1</sub> ,X <sub>2</sub>	Information Distribution	Y <sub>4</sub> retained(O <sub>2</sub> )	X <sub>1</sub> >X <sub>2</sub>	Not supported	Two-way ANOVA	0.270
<b>H4a</b>							
All	X <sub>a</sub> ,X <sub>b</sub>	Role-assigned GDSS	Group partially shared information	X <sub>b</sub> >X <sub>a</sub>	Not supported	Two-way ANOVA mentioned(O <sub>1</sub> )	0.295
<b>H4b</b>							
All	X <sub>a</sub> ,X <sub>b</sub>	Role-assigned GDSS	Group unique information	X <sub>b</sub> >X <sub>a</sub>	Supported	Two-way ANOVA mentioned(O <sub>1</sub> )	0.00
<b>H4c</b>							
All	X <sub>a</sub> ,X <sub>b</sub>	Role-assigned GDSS	Y <sub>4</sub> mentioned(O <sub>1</sub> )	X <sub>b</sub> >X <sub>a</sub>	Not supported	Two-way ANOVA	0.449
<b>H5a</b>							
All	X <sub>a</sub> ,X <sub>b</sub>	Role-assigned GDSS	Y <sub>2</sub> retained(O <sub>2</sub> )	X <sub>b</sub> >X <sub>a</sub>	Supported	Two-way ANOVA	0.013
<b>H5b</b>							
All	X <sub>a</sub> ,X <sub>b</sub>	Role-assigned GDSS	Y <sub>3</sub> retained(O <sub>2</sub> )	X <sub>b</sub> >X <sub>a</sub>	Not supported	Two-way ANOVA	1.00
<b>H5c</b>							
All	X <sub>a</sub> ,X <sub>b</sub>	Role-assigned GDSS	Y <sub>4</sub> mentioned(O <sub>2</sub> )	X <sub>b</sub> >X <sub>a</sub>	Not supported	Two-way ANOVA	0.186

In the first hypothesis, this research explores the nature of human information sharing when group members are not assigned an expertise role, i.e. no group members are assigned more knowledge than the other group members on a particular topic. The results indicate that in *non-expertise-assigned* GDSS groups unique information ( $Y_3$ ) is mentioned less often than common information ( $Y_1$ ) and partially-shared information ( $Y_2$ ). The research then verified the effect of two interventions that are aimed at enhancing human cognitive processes: Expertise Role-Assignment and Information Distribution Type 2. The results are shown in the Table 3.

Role-assignment increased the amount of unique information mentioned during group discussions (*H2b is supported*). This finding supports the research findings on verbal groups in face-to-face discussions (Stasser et al., 2000) and GDSS groups (Stasser and Titus, 1987; Stasser et al., 1995; Vathanophas and Liang, 2007). The enhancing effect is due to a cognitive division of labor in which group members are expected to mention information relevant to their area of expertise (Stasser et al., 1995), so they encode and store information pertaining to their area of expertise prior to discussion. During the discussion, members retrieve and recall information pertaining to their own area of expertise and, at the same time, elicit information from the area of expertise of other group members. Increasing the proportion of unique information exposed to the group members before a discussion (Information Distribution Type 2) can enhance the discussion of unique information by group members (*H4b: is supported*), although this finding was not supported by a previous study (Hightower and Sayeed, 1995).

Table3: Effect of Role-assignment and Information Distribution on Information Mentioned and Retained

Information	Role- Assignment		Information Distribution		Interaction Effect (Role-Assignment/Information Distribution)
	Yes	No	Type 2	Type1	
<b>Information mentioned during group discussion</b>					
Partially-shared	No difference		No difference		No
Unique	Yes > No		Type 2 > Type 1		Yes
All	No difference		No difference		Yes
<b>Information retained after group discussion</b>					
Partially-shared	No difference		Type 2 > Type 1		No
Unique	No difference		Type 2 < Type 1		No
All	No difference		No difference		No

Alternatively, in this research study role-assignment was *not* found to enhance any type of information retained after a group discussion (*H3a, H3b, and H3c are not supported*). This result can be interpreted in two different ways: First, role-assignment is not effective in enhancing the process of evaluating and storing information in memory by group members; second, because the research study measured this process after discussions by using a Self-Reporting Questionnaires ( $O_2$ ) that respondents completed individually, their expertise may be less often recalled by other participants. Even in an environment, such as an electronic network, where *anonymity* exists, *reputation* and *status* still act as positive social controls because contributions are visible to the network as a whole (Constant et al., 1996). For this reason, when the participants complete the Self-Reporting Questionnaire, which is not visible to other members, the social incentives consisting of reputation and status may be reduced using GDSS application, which can lessen the effect of role-assignment on measuring information retained after a group discussion.

If more unique information than common information is provided to group participants this can enhance the amount of partially shared information that is retained (*H5a is supported*) but can reduce retained unique information when compared to the distribution of equal proportions of unique and common information (*H5b is not supported*). These results imply that in order to enhance group members' ability to recall and store unique information in their memories by increasing the proportion of unique information distribution, we should also increase the proportion of the number of group members who have access to that information before the discussion (i.e. make that information partially shared information instead of unique information).

### **Conclusions and Implications**

Results from this research study support past research findings (Dennis, 1996) that GDSS groups without expertise role-assignment will pool less unique information than common information during discussions. However, GDSS groups with expertise role-assignment do increase pooling of unique information, which supports the findings for both verbal groups (Stasser and Stewart, 1992; Stasser and Titus, 1985; Stasser et al., 2000) and GDSS groups (Stasser et al., 2000; Vathanophas and Liang, 2007).

This research study extends the insight of previous research on information sharing in GDSS groups in which two different types of *Information Distribution* were introduced (i.e. Information Distribution Type 1; common: partial: unique = 33.33%: 33.33%:33.33% versus Information Distribution Type 2; common: partial: unique = 16.67%:33.33%:50.00%). The results indicate that Information Distribution can have implications in information sharing in GDSS groups in two ways. First, increasing the proportion of unique information distribution among group members can be used to enhance pooling of unique information mentioned during group discussions, as well as to enhance the retention of partially shared information following group discussions. Second, because there is an interaction effect between the type of information distribution and expertise role-assignment on unique information mentioned, this research acknowledges that in order to enhance unique information mentioned, more unique information should be provided together with expertise role-assignment. In addition, the anonymity effect in GDSS shows that social control by reputation and status enhances information sharing among the group members. Role-assignment is effective in enhancing unique information mentioned during a group discussion; however, it does not prove helpful in enhancing any type of information retained after a group discussion. This argument is consistent with the environment of electronic networks where anonymity exists, although reputation and status act as positive social controls in electronic networks because contributions are visible to the network as a whole (Constant et al., 1996). The effect of social control should be examined in further research studies.

For practical implication, this research study has provided an insight for management to manage information sharing via GDSS more effectively. The importance of enhancing unique information sharing cannot be overstated, since a cross-functional team is frequently used in order to achieve various types of tasks in many organizations today. In cross-functional teams, group members possess unique information because of their diverse backgrounds, as in the research study where one of the treatments included providing more unique information and less common information (Information Distribution Type 2). These research results can guide a team leader to assign specific roles to specific group members in order to retrieve more unique information during a group discussion via GDSS. In addition, in order to retain unique information after a group discussion, more common background information is needed among group members. This can be

accomplished by providing common information as a background before a group discussion via GDSS.

Although this study provides interesting insights into information sharing in GDSS groups, it has limitations that should be noted as follows: Laboratory experiments were used to control variables in order to ensure the internal validity of the effect of variables on information sharing and retaining. Alternatively, there is a limitation of the external validity for this type of research design. Employing research studies using students might not be representative of other user groups with different profiles, the composition of the group, size of the group, facilitation in the group process, and power distance with inherent hierarchy in work, all mean that results must be interpreted with caution. Second, using Microsoft MSN as a GDSS communication tool might not be representative of other GDSS tools. Finally, the results of the study must be evaluated taking into consideration the effect of cultural differences which will affect the degree of information sharing. For instance, countries characterized as having high power distance perceive a gap between themselves and people who may be of higher status, while countries depicted as having low power distance do not. Singaporeans, portrayed as having high power distance, may perceive status being a strong determining force in their cultures. As a result, they may be more hesitant in contributing their opinions explicitly. Information distribution in group discussion may not affect the information sharing due to the cultural differences. (Quaddus and Tung, 2002). Future research should address this aspect by replicating this study with samples from multiple-profile population samples and using different GDSS tools.

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English Abstract

# **Task-related Information Sharing in Group Decision Support Systems (GDSS)**

The Importance of Knowing Who Knows What

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## **Abstract**

Group Decision Support Systems (GDSS) are among the most common software systems designed to enable and enhance group communication for collective decision-making. Members of a work group normally confer and exchange information in order to make decisions and there are three types of task-related information: common (or shared) information known by all members of a work group; unique (or unshared) information known by only one group member; and partially shared information known by more than one but not all members. To date, only a handful of studies have evaluated information exchange in GDSS groups engaged in decision-making and this study examines the effect of expertise role-assignment and the proportion of common, unique, and partially shared information available in GDSS groups. The results indicate that information distribution and expertise role-assignment can affect information sharing in GDSS groups. Increasing the proportion of unique information distribution can be used as a way to enhance the pooling of unique information in expertise role-assigned groups. Expertise role-assignment increases the amount of partially shared information during group discussions and increasing the proportion of unique information results in an increase in the retaining of partially shared information but decreases the retaining of unique information following group discussions.

**Keywords:** Information sharing, group decision supported system (GDSS), expertise role-assignment.

French Abstract\*

Task-Related Information Sharing in Group Decision Support Systems (GDSS): The Importance of Knowing Who Knows What

## Partage D'information Dans Les Systemes D'aide A La Decision De Groupe (SADG) : L'importance De Savoir Qui Sait Quoi

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### Résumé

Les systèmes d'aide à la décision de groupe (SADG) sont des systèmes d'information très répandus et conçus pour favoriser la communication de groupe et la prise de décision collective. Afin de prendre des décisions collectives, les membres d'un groupe de travail partagent et échangent des informations. Il y a trois types d'information: l'information commune (ou partagée), connue par tous les membres d'un groupe; l'information unique (ou non-partagée), connue par un seul membre du groupe et l'information partiellement partagée, connue par plusieurs mais pas par tous les membres d'un groupe. Jusqu'ici, seulement quelques études ont étudié l'échange des informations dans des groupes de SADG engagés dans des processus de prise de décision. Cette étude examine les effets qui se produisent sur la proportion d'informations communes, uniques et partiellement partagées dans des groupes de SADG lorsqu'on assigne au préalable quelqu'un qui joue le rôle d'expert dans le groupe. Les résultats montrent que désigner un expert affecte le partage d'information dans des groupes de SADG. On peut également accroître la distribution d'informations uniques comme manière de favoriser la mise en commun des d'information dans des groupes où l'on a assigné quelqu'un jouant le rôle d'expert. Ce rôle d'expert augmente la quantité 'informations partiellement partagées pendant les discussions du groupe. Accroître la proportion d'informations uniques engendre une augmentation de la retenue d'information partiellement partagée mais diminue la retenue d'informations uniques lors de discussions de groupe.

**Mots-clés** : Partage d'informations, les systèmes d'aide à la décision de groupe (SADG), assigner le rôle d'un expert.

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Spanish Abstract\*

Task-Related Information Sharing In Group Decision Support Systems (GDSS): The Importance of Knowing Who Knows What

# Compartir la Información Relacionada con las Tareas en los Sistemas de Apoyo en la Toma de Decisión Grupal (Gdss): La Importancia de Saber Quién Sabe Qué

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## Resumen

Los Sistemas de Apoyo a la Toma de Decisiones Grupal (GDSS) se encuentran entre los sistemas de "software" más extendidos de cuantos se han diseñado para facilitar y fortalecer la comunicación grupal para la toma colectiva de decisiones. Los miembros de un equipo de trabajo normalmente intercambian información para tomar decisiones y existen tres tipos de información relacionada con las tareas: información común (o compartida) que es conocida por todos los miembros del grupo; información única (o no compartida) que es conocida por solamente un grupo de miembros; e información parcialmente compartida que es conocida por más de una persona pero no por la totalidad de los miembros. Hasta la fecha, sólo un puñado de estudios han evaluado los intercambios de información en grupos GDSS implicados en la toma de decisiones y el presente estudio examina el efecto de la asignación cualificada de roles y la proporción de información común, única, y parcialmente compartida, disponible en los grupos GDSS. Los resultados indican que la distribución de información y la asignación cualificada de roles pueden afectar a la información compartida por grupos GDSS. El incremento proporcional en la distribución de información única puede utilizarse como una manera de reforzar la concentración de información única en grupos de asignación cualificada de roles. La asignación cualificada de roles aumenta la cantidad de información parcialmente compartida durante las discusiones grupales e incrementa la proporción de resultados de información única en la retención de información parcialmente compartida, pero reduce la retención de información única que sigue a las discusiones de grupo.

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German Abstract\*

Task-related Information Sharing In Group Decision Support Systems (GDSS): The Importance of Knowing Who Knows What

# Die gemeinsame Nutzung von aufgabenspezifischen Informationen in Group Decision Support Systemen (GDSS):

die Bedeutung zu wissen, was wer weiß?

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## Zusammenfassung

Group Decision Support Systeme (GDSS) gehören zu den häufig genutzten Standardsoftware-Systemen und wurden entwickelt, um die Kommunikation für eine gemeinsame Entscheidungsfindung zu ermöglichen und zu verbessern. Mitglieder einer Arbeitsgruppe teilen und tauschen Informationen normalerweise mit der Zielsetzung aus, Entscheidungen zu treffen. Es existieren drei unterschiedliche Typen von aufgabenspezifischen Informationen: Allgemeine (oder geteilte) Information die allen Mitgliedern der Gruppe bekannt sind; einzigartige, personenbezogene (oder ungeteilte) Informationen die nur von einem Gruppenmitglied gekannt werden; und partiell geteilte Informationen, die von mehr als einem Mitglied aber nicht von allen Mitgliedern gekannt werden. Bisher haben erst wenige Studien den Informationsaustausch in GDSS-Gruppen vor dem Hintergrund der Entscheidungsfindung bewertet. Diese Studie untersucht den Effekt einer rollenbezogenen Expertise und des Anteils von allgemeinen, einzigartigen und partiell geteilten Informationen in GDSS-Gruppen. Die Ergebnisse deuten darauf hin, dass die Informationsverteilung und die rollenbezogene Expertise den Informationsaustausch in GDSS Gruppen beeinflussen. Die gesteigerte Teilung von einzigartigen Informationen kann genutzt werden, um die Zusammenführung von Einzelinformationen in Gruppen mit rollenspezifischer Expertise zu verbessern. Die rollenbezogene Expertise steigert den Anteil von partiell geteilten Informationen. Gruppendiskussionen und eine Steigerung des Anteils an einzigartigen Informationen führen zu einer Erhöhung der partiell geteilten Informationen und schlussendlich zu einer Verminderung der verbleibenden einzigartigen, personenbezogenen Informationen.

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Italian Abstract\*

Task-Related Information Sharing In Group Decision Support Systems (GDSS): The Importance of Knowing Who Knows What

# **Sistemi Di Condivisione Delle Informazioni In Gruppi Di Lavoro Focalizzati Su Un Obiettivo:** L'importanza Di Sapere Chi Sa Che Cosa

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## **Abstract**

I sistemi di condivisione delle informazioni in gruppi di lavoro focalizzati su un obiettivo (GDSS) sono fra i più comuni sistemi creati per incrementare l'efficacia del decision making collettivo. I membri del gruppo normalmente comunicano utilizzando questi sistemi per prendere decisioni; ci sono tre tipi di informazioni relativi a compiti da svolgere: comuni (o condivise) fra tutti i membri del gruppo di lavoro; informazioni particolari (o non condivise) non condivise tra tutti i membri del gruppo; informazioni parzialmente condivise fra i membri del gruppo. Fino ad oggi solo pochi studi hanno approfondito le dinamiche di condivisione delle informazioni all'interno di questi gruppi al fine di formulare decisioni. Il presente studio approfondisce l'impatto della professionalità dei ruoli e il rapporto proporzionale di informazioni condivise, particolari e parzialmente condivise all'interno del gruppo. I risultati dimostrano che la distribuzione delle informazioni e la professionalità dei ruoli hanno un impatto sulla condivisione delle informazioni. L'incremento della proporzione delle informazioni particolari condivise può essere utilizzato come metodo per concentrare informazioni che possono essere utilizzate da ruoli professionali qualificati. Incrementando la professionalità di ruolo si incrementano le informazioni parzialmente condivise nelle discussioni di gruppo e l'incremento di informazioni particolari risulta in un maggior grado di ritenzione delle informazioni stesse parzialmente condivise, al tempo stesso diminuisce la capacità di ritenzione di informazioni particolari a seguito di discussioni in gruppo.

**Parole chiave:** condivisione delle informazioni, sistemi di condivisione di informazioni fra gruppi di lavoro focalizzati su obiettivi (GDSS), assegnazione di ruolo in base alla professionalità

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Arabic Abstract\*

Task-related Information Sharing In Group Decision Support Systems (GDSS): The Importance of Knowing Who Knows What

تشارك المعلومات المتعلقة بالمهام في مجموعة أنظمة دعم  
القرار (م.ن.د.ق):  
"أهمية معرفة من يعرف ماذا"

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خلاصة

تقع مجموعة أنظمة دعم القرار (م.ن.د.ق) ضمن نظم البرمجيات الأكثر شيوعاً المصممة من أجل تمكين وتعزيز مجموعة الاتصالات من أجل إتخاذ القرارات الجماعية. يقوم أعضاء مجموعة العمل في العادة بمنح وتبادل المعلومات من أجل إتخاذ القرارات. هنالك ثلاثة أنواع من المعلومات ذات الصلة بالمهام: المعلومات العامة (أو المشتركة) المعترف بها من قبل جميع أفراد العمل، المعلومات الفريدة من نوعها (أو غير المشتركة) من قبل عضو واحد فقط في المجموعة، والمعلومات المعروفة جزئياً من قبل أكثر من عضو واحد و لكن ليس من قبل جميع الأعضاء. حتى الآن، لم يتم تقييم تبادل المعلومات في مجموعات أنظمة دعم القرار المشاركة في صنع القرار، وتبحث هذه الدراسة أثر إحالة دور الخبرة ونسبة المعلومات المشتركة، والفريدة من نوعها، والمشاركة جزئياً المتاحة في (م.ن.د.ق). تشير الدراسات إلى أن توزيع المعلومات وخبرة تكليف الأدوار تؤثر على مشاركة المعلومات في (م.ن.د.ق). يمكن أن يتم إستخدام زيادة نسبة توزيع المعلومات الفريدة من نوعها في مجموعات إحالة دور الخبرة المعين. تزيد خبرة إحالة الأدوار من كمية المعلومات المشتركة جزئياً من خلال النقاشات الجماعية ونسبة نتائج المعلومات الفريدة من نوعها في زيادة الحفاظ على المعلومات المشتركة جزئياً، لكنها تقلل من الإحتفاظ بالمعلومات الفريدة من نوعها عقب مناقشات المجموعة.

الكلمات الرئيسية: تشارك المعلومات؛ مجموعة نظم دعم القرار (م.ن.د.ق)؛ إحالة دور الخبرة.

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Thai version\*

## Task-related Information Sharing in Group Decision Support Systems (GDSS)

การแบ่งปันข้อมูลการทำงานในระบบสนับสนุนการตัดสินใจในการทำงานก

ลุ่ม

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### Abstract

ระบบสนับสนุนการตัดสินใจในการทำงานกลุ่ม (GDSS)

เป็นหนึ่งในหลายระบบปฏิบัติการที่ช่วยเพิ่มประสิทธิภาพในการสื่อสารของกลุ่มการทำงานที่มีการตัดสินใจร่วมกัน

โดยสมาชิกในกลุ่มจะสามารถสนทนาปรึกษา และแลกเปลี่ยนข้อมูลเพื่อช่วยในการตัดสินใจกลุ่มได้

ข้อมูลสำหรับการทำงานในกลุ่มสามารถแบ่งออกเป็นสามประเภท คือ ข้อมูลทั่วไป (common information/ shared information)

ซึ่งเป็นข้อมูลที่รับรู้โดยสมาชิกทุกคนในกลุ่มการทำงาน ข้อมูลเฉพาะ (unique information/ unshared information)

ซึ่งเป็นข้อมูลที่รับรู้เฉพาะบุคคลเพียงหนึ่งคนในกลุ่ม และข้อมูลบางส่วน (partially shared information)

ซึ่งเป็นข้อมูลที่รับรู้เฉพาะบางคนในกลุ่มทำงาน ในปัจจุบัน

มีเพียงไม่กี่การศึกษาวิจัยที่ให้ความเข้าใจเพิ่มเติมเกี่ยวกับผลกระทบของการแลกเปลี่ยนข้อมูลในระบบสนับสนุนการตัดสินใจในการทำงานกลุ่ม

งานศึกษาวิจัยนี้มีการประเมินผลกระทบดังกล่าว โดยมีการเพิ่มเงื่อนไขเกี่ยวกับการระบุความเชี่ยวชาญให้แก่บุคคลในกลุ่ม (Expertise-Assignment)

และการกระจายสัดส่วนลักษณะข้อมูลทั่วไป ข้อมูลเฉพาะและข้อมูลบางส่วน ซึ่งผลที่ได้รับจากงานศึกษาวิจัยนี้พบว่า

สัดส่วนของการกระจายลักษณะข้อมูลมีผลกระทบต่อตัดสินใจของกลุ่มการทำงาน

การเพิ่มสัดส่วนของการแบ่งข้อมูลทั่วไปให้แก่สมาชิกในทีมการทำงานเป็นการเพิ่มขีดความสามารถในการดึงข้อมูลเฉพาะของบุคคลและยังสามารถ

เพิ่มการกล่าวถึงข้อมูลบางส่วน อีกทั้งยังสามารถเพิ่มขีดความสามารถในการจดจำข้อมูลบางส่วนหลังจากการทำงานกลุ่มนั้นอีกด้วย

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