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A PRACTICAL MANAGEMENT SYSTEM FOR THE EFFECTIVE USE OF OFFSHORE SOFTWARE PROJECT OPPORTUNITIES

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ABSTRACT

A qualitative, grounded theory research was conducted to explore and deepen the understanding of how middle and low level managers can initialize and manage information technology (IT) outsourcing projects. The study involved 17 managers and leaders working in Ukraine in offshore software development companies. A grounded theory was utilized to analyze data from participants to identify the interrelationship among seven core categories including: (a) project communication, (b) employee training, (c) flexible organization, (d) strategic communication, (e) team unit, (f) transparent management, and (g) vendor adaptability. The study results indicate that applying a combination of concepts in the new theory as strategies allow managers to overcome barriers and achieve the realization of opportunities beyond traditional benefits in outsourcing. Such opportunities include achieving value-added results, vendor motivation, improved software quality, efficiency and timely delivery, organizational growth potential. The study highlighted the importance of referring a practical management system with characteristics of easily understandable and imaginable management approaches. The study also raised public awareness of the specific outsourcing landscape in Ukraine formed by that country's cultural, technological, and political situation. The findings contribute to the body of knowledge on a practical management system in outsourcing although its scope was constrained by limited resources.

JEL: M11, M12, M53, M54

KEYWORDS: Offshore, Outsourcing, Software Development, Natural Approach, Opportunities, Benefits, Ukraine, Management, Motivation, Training, Project, Product, Expertise, Social Network

INTRODUCTION

There is a knowledge gap on how companies can realize opportunities beyond traditional economic benefits when outsourcing to destinations like Ukraine with a high concentration of scientists and complex expertise. Our qualitative, grounded theory research was conducted to explore and deepen the understanding of how middle and low level managers can initialize and manage information technology (IT) outsourcing projects. The study involved 17 managers and leaders working in Ukraine in offshore software development companies. The authors' findings offer insights into categories, which form the foundation of a new theory on the role of natural systematic approaches with social networking technologies in effective software outsourcing to Ukraine. The study results indicate that applying a combination of concepts in the new theory as a strategy, allows managers to overcome barriers and achieve the realization of opportunities beyond traditional benefits in outsourcing. Such opportunities include achieving value-added results, higher vendor motivation and organizational growth potential; increasing efficiency of outsourced development, improving software quality, and ensuring timely delivery. While much knowledge exists on the mutual benefits in international outsourcing engagements, outsourcing continues to be used mostly for a short-term economic advantage with advancement limiting long-term consequences

(Alexandrova, 2007; Aspray, 2010; Belcourt, 2006; Elango, 2008; Kumar, 2007). Large outsourcing markets with inexpensive labor, such as China and India, are well utilized but destinations like Ukraine with a high concentration of scientists and complex expertise remain undervalued (Aspray, 2010; Nation Master, 2002; Rosenberg, 2010). Since the first European computer was created in the city of Kiev, Ukraine has played the major role in the former Soviet Union's IT competition with the United States (Fitzpatrick, Berkovich, and Kazakova, 2006), and has continued to retain its scientific potential and complex expertise with 30,000 IT graduates for the workforce each year (Aspray, 2010; Nation Master, 2002; Rosenberg, 2010; "Ukrainian Outsourcing Market," 2007). Yet, while Ukraine has been on an independent path, it lacks a leadership model that will enable fulfillment of its IT industry potential on the global arena (Barbash, 2009; "Ukrainian Outsourcing Market," 2007).

The aim of this study was to fill the knowledge gap on how a practical management system with enabling information and communication technology can help effectively initialize and manage outsourcing to Ukraine with its unique situation in the software development industry. Initially, offshore IT outsourcing was driven mostly by cost (Patki & Patki, 2007). However, the accelerated rate of globalization and technology advancements have significantly increased the value of innovation, knowledge and process for many companies (Jung, Choi, and Songa, 2007; Perry, Candlot, and Schutte, 2010) and extended expectations in offshore IT arrangements beyond traditional benefits. Clott 2007) maintained that project and mid-level managers at a client, when entrusted with implementing offshore IT arrangements, need to operate with outsourcing vendor members in different time zones, across cultural differences, and over geographic distances. These IT project managers must face the tactical and strategic challenges of managing project members, vendors, and outsourced activities across multiple countries while possessing little diverse management experience (Clott, 2007). Theories of social networks (Vithessonthi, 2010) and the practical management system of an organic systems' analogy in organizational management (Midanek, 2008) offer needed mechanisms to effectively managing large virtual organization in broad-scope projects.

One primary research question guided the inquiry of this study: What theory might explain the influence of a practical management system with information and communication technology on the effectiveness in offshore IT outsourcing arrangements? Low-and middle-level managers in developed countries may use different practices to achieve the realization of offshore software development project opportunities like is seen in Ukraine. The data from previous research on developed countries' perspectives (Chadee & Raman, 2009; Hansen, Schaumburg-Müller, and Pottenger, 2008) and best management practices (Bowman, 2010; Kawamura & Nakamura, 2008; Pang, 2010), were triangulated with the data collected from the interview questions in this study. The depth of collected data enabled fulfillment of the secondary purpose of the study, which was developing a grounded theory on a practical management system that may lead to the effective use of offshore software project opportunities.

LITERATURE REVIEW

The field of outsourcing has emerged from transaction cost theory and has absorbed the theories of organization, resource, strategy, and knowledge management (Busi & McIvor, 2008). As the application of outsourcing remains limited, the theory does not provide full coverage of many existing practices. The growing popularity of outsourcing in the world's globalizing economy makes it one of the most rapidly changing areas of business, often with confusing concepts, conflicting practices, and controversial implications (Chadee & Raman, 2009). According to Wheatley 2001), if existing mechanistic models cannot keep up with the demands for innovation and effective leadership, a new worldview of organizations as living systems can allow leaders guiding people thought continuous change and achieving boundless creativity with them. Theories of social networks (Vithessonthi, 2010) and the practical management system of an organic systems analogy in organizational management (Midanek, 2008) offer solutions for similar challenges to effectively managing large virtual organization in broad-scope projects and realizing opportunities beyond traditional benefits. The initial transaction cost theory perspective on outsourcing

neglected the learning dynamics and quality aspects (Mahnke, 2001). Later studies identified decision-making and the knowledge-based view, in addition to transaction cost economies, as the strongest influencing factors in outsourcing (Schwarz, Jayatilaka, Hirschheim, and Goles, 2009). Another model that is very close to the body of outsourcing models is the theory of virtual organizations. Similar to a virtual organization concept, international outsourcing is characterized by the distributed organizational entities and resources that require people to use virtual space for interactions to achieve organizational objectives (Shekhar, 2006). Hwang (2008) maintained that organizations become increasingly global with the exponential increase in collaboration over distance activities, with their partners or units operating in a virtual way. This outlines a context for outsourcing as one of the dimensions of the globalization theory.
The advent of IT makes social networking systems a viable medium to maintain the dynamics in outsourcing. Ties (or connections), the core structural element in social networks, facilitate collaborative work and allow the sharing of ideas, information, and knowledge between the members of a network (Fliaster & Spiess, 2008; Vithessonthi, 2010). Dawley (2009) argued that social networks facilitate self-directed learning by the common characteristics of communication patterns with theories of constructionist, connectivist, and constructivist learning. The concept of strong and weak ties present in social networks fosters external and internal knowledge exchange in organizations (Perry et al., 2010). Individuals may create an innovation from weak ties and develop it further through explicit knowledge from other individuals connected via strong ties.

Exploration of international outsourcing in IT requires researchers to consider a combination of theories from distributed environments, outsourcing, and information technology, as well as large and complex systems. Lacity and Rottman (2009) characterized IT outsourcing work as more difficult than other areas of outsourcing. Projects in IT are very complex because of the complexity of knowledge involved. Basili et al. (2010) reported that weak management, lack of employee motivation, inadequate training, and misalignment of IT and business strategies often lead to IT project failures. Developing new organizational structures and leveraging the best management concepts (Clott, 2007) from the areas of global corporate value management (Fukukawa & Teramoto, 2009), living, and general systems theories (Wennberg, Brandt, and Révay, 2006) are necessary to overcome the boundaries and to achieve long-term competitive advantage in knowledge intensive IT industry.

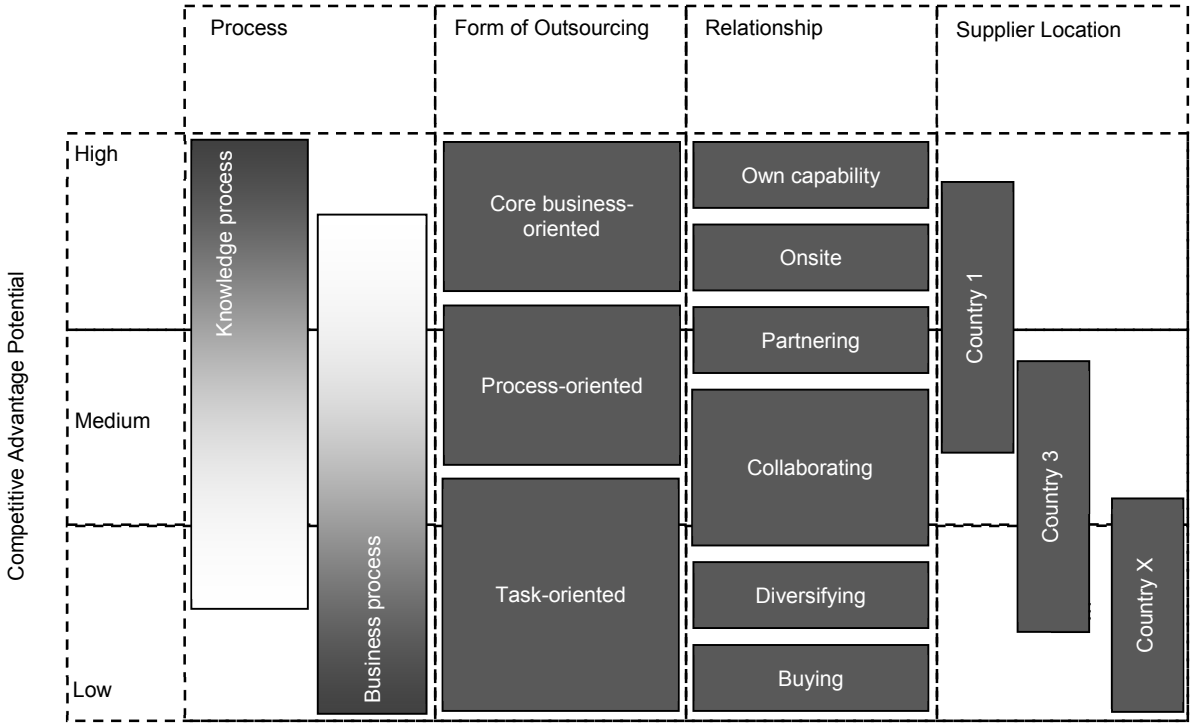
Understanding of large and complex systems is simplified by using metaphors and references to existing systems in nature (Bowman, 2010; Pang, 2010). Management approaches derived from the natural principles of harmony and synergy may positively influence efficiency of outsourcing relationships. Outsourcing as a form of buyer-vendor relationship is prone to the hierarchical partner relationship in which a dominant partner demands much more action from the weaker partner (Silva-Domingo & Canet-Giner, 2010). This undermines the efficacy of a relationship approach. Output in a relationship is greater if organizations are autonomous and compete in harmony rather than in dominance situations (Storbacka & Nenonen, 2009). Synergies in human, financial, and technological capital allow partnering organizations to capitalize better on the efficient use of resources and avoidance of duplication (Storbacka & Nenonen, 2009). Synergy and harmony in outsourcing relationships, similar to resources, lead to the efficient use of opportunities on both sides. As a result, the partnering organizations experience the advancement of various factors, such as innovation and size.

Leading Software Outsourcing

Outsourcing absorbed many mature theories and companies have been achieving significant cost and productivity improvements over many years of applying this tool (Busi & McIvor, 2008). Still many gaps and challenges exist in the IT offshoring. Sparse research exists on business and knowledge process outsourcing. International outsourcing methodology, which works for routine, well defined, and noncore activities, cannot be predictably applied to other tasks (Sen & Shiel, 2006). Deeper understanding of how to organize and manage international outsourcing seems an important topic as many organizations, pushed

by the competition, find themselves at the entry phase of outsourcing, but also recognize the moral obligation to keep domestic jobs (Aspray, 2010). By engaging in offshore software development, companies pursue gaining competitive advantage in several ways. Outsourcing reduces development costs via the substitution of higher wage employees for lower wage employees or lower skilled professionals with those with higher skills (Forbath, Brooks, and Dass, 2008). Forbath et al. (2008) also reported that companies achieve successful innovation by acquiring additional capabilities and expertise from outsourcing relationships. An organization can gain a strategic software outsourcing benefit by learning from the vendor's experience of the global competitive aspects, including market, technology, and industry knowledge (Forbath et al., 2008). A vendor may possess knowledge in intellectual property, process and technological leadership, scalability, and supply chain considerations that are valuable for the client. Gonzalez, Gasco, and Llopis (2006) proposed three essential steps to making strategic outsourcing decisions: identifying the advantages and risks of offshore outsourcing, selecting a suitable form of outsourcing relationship, and determining a country or location for acquiring a vendor. Those three steps are related, and an organization should select an outsourcing destination based on its needs and processes. One can construct a template (see Figure 1) to assess activities and to suggest the appropriate outsourcing relationship and vendor location selection.

Figure 1: Planning Template to Assess Organization's Activities and to Suggest Outsourcing Scenarios



Knowledge process has a higher competitive advantage potential but also is more challenging to outsource. Whether outsourcing an entire process, its parts, or specific functions and operations, the outsourcing decision should be a result of a thorough and systematic review of the organization's activities based on the competitive advantage potential of these activities (Insinga &Werle, 2000). Figure 1 arranges in one chart concepts of decision-making steps (Gonzalez et al. 2006), sourcing models, contractual forms, and locations (Robinson & Kalakota, 2004; Zhou & Mayhew, 2009) in relation to the levels of competitive advantage activities in offshore software development (Insinga &Werle, 2000).

The Ukrainian IT industry is characterized by a high-level expertise in complex solutions because of scientific inheritance and inventive engineers (Rosenberg, 2010). Free higher education and a strong focus on developing mathematical and engineering skills in Ukraine significantly increases the number of qualified graduates. According to World Bank statistics (Nation Master, 2002), Ukraine ranks 42nd in the world for the per capita number of scientists and engineers, with the United States and China ranking 59th and 85th respectively. In the 2007 and 2008 combined indexes of outsourcing published by the *Central and*

Eastern European IT Outsourcing Review (ITOlist Ukraine, 2010), Ukraine holds the top position among Central and Eastern European countries. According to a *Global Services 100* survey (Nair, 2010), Ukraine holds 11th place in the world in terms of the number of people involved in IT outsourcing, surpassing Russia and Belarus. Aspray (2010) stated that much work requiring high levels of mathematical ability is outsourced to former Soviet Union countries in which a legacy of highly trained mathematicians and physical scientists from the Cold War era remains.

Social and Organic Systems

Information and communication technologies still cannot replace many aspects of physical face-to-face meetings and social interactions (Nandhakumar & Baskerville, 2006). Nandhakumar and Baskerville (2006) reported that periodic face-to-face meetings enable the creation of commitment and relationships. Awareness of this risk should allow virtual teams to manage such technologies to achieve expected outcomes. The success of sustainable virtual teams, therefore, lies in the ability to nurture trust in personal and impersonal human relationships. Online social networking is a promising technology to provide a level of abstraction for users to communicate and interact with each other on the intranet and Internet (Fliaster & Spiess, 2008; Vithessonthi, 2010) and thus minimizes the need to be co-located.

The analogy of living organisms often is used in organizational management as a model for simplifying the understanding of complex systems and processes. Midanek (2008) used the biological model of companies as living, breathing organisms that respond to the owner's nurturing, to explain the nature of company growth. Malik (2002) reported that to imagine the distant future of a company, managers spontaneously seek clues in the evolution of a biological system rather than in organizational and economic theories. Anell and Wilson (2000) used the amoeba organism analogy to model changes in organization's internal structure to ensure the proper flow of resources with the change in scale and scope. Similar to biological amoeba, an organizational structure with amoeba units is amorphous; it changes, adjusting its shape to the environment (Low, 2000). Amoeba units are highly interconnected and have no clear boundaries. The growth of amoebas leads to their division, thus forming new amoebas. In contrast to bureaucratic and hierarchical organizational structures, amoeba organizations can create economic wealth by mixing and matching resources in an infinitely dynamic and ad hoc way (Cooper, 1995).

The amoeba management system (AMS) used in Kyocera (Kawamura & Nakamura, 2008) may provide valuable insight in how to realize maximum outsourcing benefits given the AMS's characteristics of internal, structural, and conceptual flexibility (Anell & Wilson, 2000; Cooper, 1995). The AMS uniqueness is in enabling the company to manage effectiveness at the level of small business units – amoebas (Trunecek, 2007). Small firms are recognized from many studies to be more effective than large firms in terms of entrepreneurship, innovation, performance, and finances (Ha-Brookshire, 2009; Ozenbas, and Portes, 2011). According to Cooper (1995), AMS facilitates an environment in which individuals enjoy their work and influence the way in which it is performed. The members of independent organizational units (amoebas) are expected to act as managers who devote their attention and creativity to the operation of the amoeba. This ensures improved trust and motivation among the members who can also help overcome challenges present in outsourcing, such as discontinuities caused by geographic distance, time zones, and cultural differences; knowledge coordination; and managing dispersed members (Espinosa et al., 2006; Lacity & Rottman, 2009).

METHOD

Design

For this research study, the constructivist grounded theory approach was the optimum choice because of the theoretical implications of outsourcing vendor managers' vast experience of in working on multiple

projects ("Ukrainian Outsourcing Market," 2007). The study was designed to generate meaningful categories within the offshore software development project management domain based on professional beliefs, practices, values of the effective achievement of the outsourcing outcomes (including direct and indirect economic advantages), globalization aspects, capacity (Alexandrova, 2007; Nordin, 2005; Pai & Basu, 2007), the efficient use of core competencies, technologies, and specialized expertise, as well as improvement of accountability (Alexandrova, 2007; Belcourt, 2006; Kumar, 2007). The constructivist grounded theory design provides the opportunity to generate new theoretical explanation (Bryant & Charmaz, 2010) regarding how natural approaches with social networking technology can effectively lead international outsourcing. In this study, the grounded theory design focused on the critical interpretive process by analyzing the meanings and concepts used by managers of outsourcing vendor organizations. The sample consisted of 17 randomly selected managers in outsourcing vendor companies who have managed or led a group of people in offshore software development projects. To meet study guidelines, participants were required to have been in a leadership role for at least two of the last five years, have at least five years of software development work experience, and be at least 18 years old. The participants were coded P1-P17 to ensure anonymity. Table 1 illustrates the participants' demographic background in terms of gender, age group, position, and experience.

Table 1: Aggregated Demographic Data

Demographic Category	**Total Respondents N=17**
Age	
25-34 years	10
35-44 years	7
Gender	
Female	2
Male	15
Manager position	
Manager	8
Project manager	3
Team leader	5
Senior engineer	1
Experience in software offshoring	
5-9 years	8
10-19 years	9
Experience in software development	
5-9 years	4
10-19 years	13

This table summarizes participants by demographic categories. The majority of the participants (ten respondents), identified themselves in the 25-34 years old category. Other seven participants were 35 and older. Of the 17 participants, only two were females and others were males. The software outsourcing industry in Ukraine remains male-dominated. All participants work in the offshore software development outsourcing industry in leadership positions and had five and more years of experience in software outsourcing industry.

Data Collection and Analysis

The data primarily was collected from interviews transcribed by the researcher and verified by the participants as well as the messaging logs of other interview formats convenient for the participants. Interviews fit Stancanelli's (2010) condition of participants possessing experience in the area of interest necessary to produce and research initial ideas and information. Open-ended interviews were used to illuminate expected and unexpected perceptions of a practical management system and IT in the context of offshore software development. The interviews were designed to last approximately 70 minutes and consisted of 11 questions. The 11 open-ended interview questions aimed to capture software development related practices, general outsourcing practices, and reflection on the client's leadership and management practices. Three questions concerned offshore software development practices, four addressed practices for outsourcing opportunities, and the remaining four related to the client perspective. The study used a grounded theory research design and constructivist approach to data analysis. The constructivist approach fulfilled the purpose of developing substantive theories through the identification of analytical categories

and their relationships with further development of those into social theories of actions. The approach employed text searches, linking ideas, coding data, and drawing models while ensuring instant access to the original data behind the concepts (Bryant & Charmaz, 2010). The interviews in this study were translated from Russian or Ukrainian into English and then transcribed.

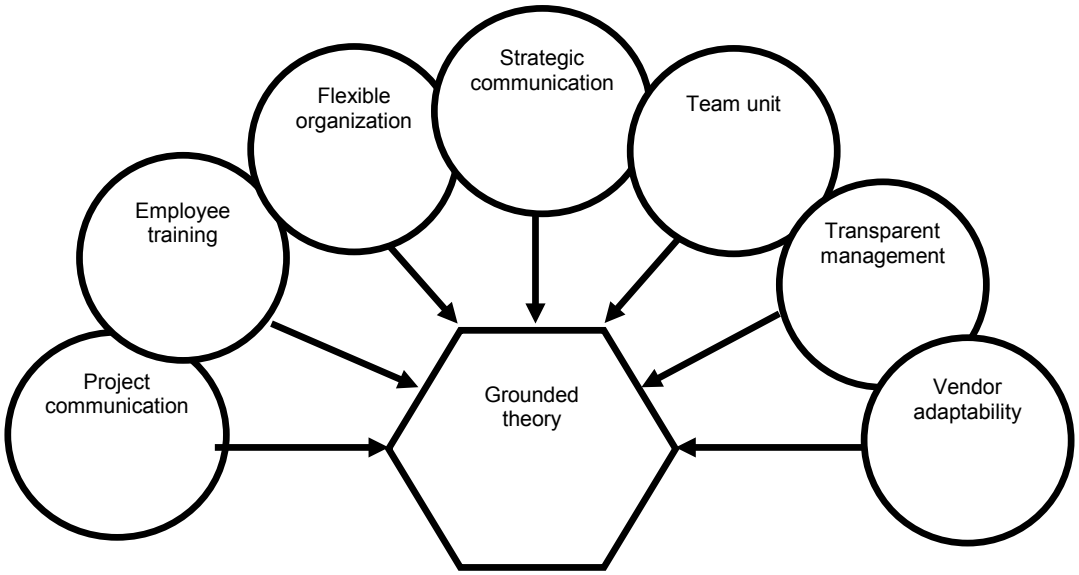
Analysis was conducted using NVivo® 10 qualitative analysis software to define categories that emerge from the data (Leech & Onwuegbuzie, 2011). The process of coding involved three steps of open, axial and selective coding. Parallel with coding, the constant comparison technique was used to identify similarities, differences, and refine concepts (Bryant & Charmaz, 2010). Each new code was compared to an existing code in the same category to determine each code's properties including opposites, variation, or continua. In addition to defined codes, categories from the outside such as literature or personal experiences were used for a comparison. The condition of theoretical saturation was achieved when gathering fresh data no longer sparked new theoretical insight nor revealed new properties of the core categories (Bryant & Charmaz, 2010).

RESULTS AND DISCUSSION

7 Core Categories

Analysis of the interviews of the 17 study participants led to identification of seven categories: (a) project communication, (b) employee training, (c) flexible organization, (d) strategic communication, (e) team unit, (f) transparent management, and (g) vendor adaptability. Figure 2 shows the identified thematic categories.

Figure 2: Core Categories in Grounded Theory

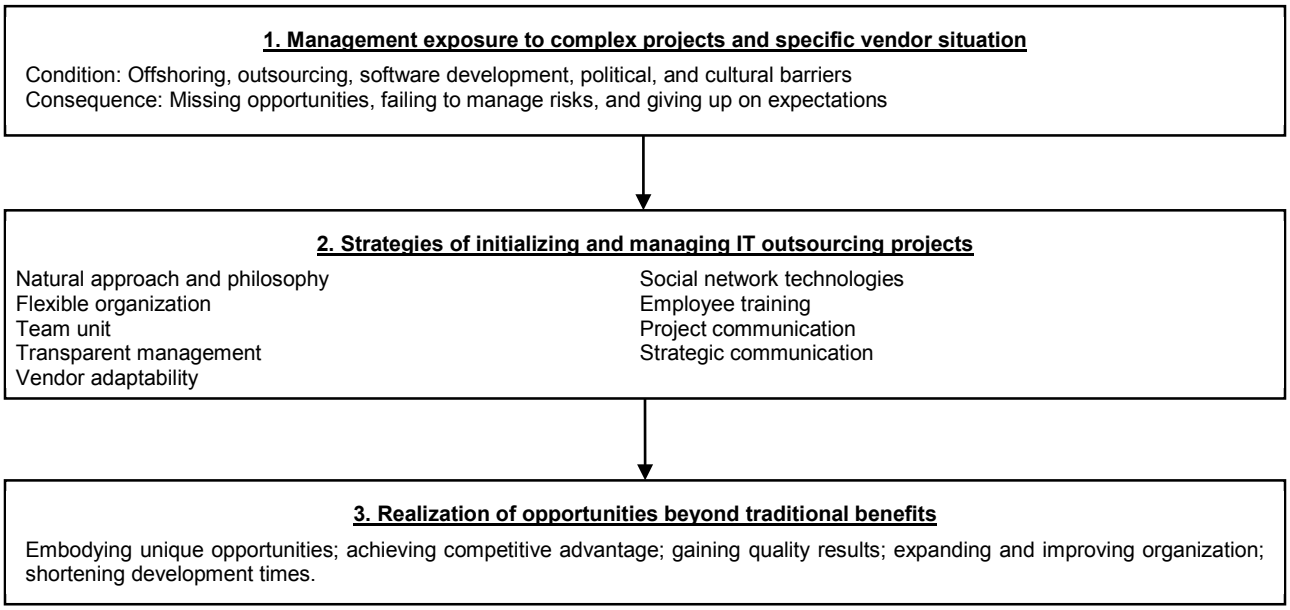


This figure shows 7 core categories constituting the grounded theory in this study.

The findings of the current grounded theory indicate that the managers in outsourcing vendor companies within the sampled population appeared to be using and experiencing combinations of management theories that were coded under seven emergent categories depicted on the Figure 2, including project communication, employee training, flexible organization, strategic communication, team unit, transparent management, and vendor adaptability practices. Development and relation of the categories resulted in the

theoretical model that portrays the general meaning (Creswell, 2007). Figure 3 illustrates a model of the grounded theory with related concepts of the general situation, strategies in applying management practices, and achievement of special benefits in the theoretical model of initializing and managing IT outsourcing projects to Ukraine.

Figure 3: Theoretical Model of Initializing and Managing IT Outsourcing Projects to Ukraine



This figure shows three steps of the problem-solution model of initializing and managing IT outsourcing projects to Ukraine. Step one is an acknowledgement of the problematic situation with offshore outsourcing. Step two lists strategies to apply in order to improve the situation. Finally, step three shows which opportunities beyond traditional benefits should be monitored in order to evaluate the successful implementation of the strategies.

All of the participants and literature (Chadee & Raman, 2009; Chou, 2009; Horwitz, Bravington, and Silvis, 2006; Jayatilaka & Hirschheim, 2009; Malik & Majeed, 2010) addressed the importance of project communication as enabling and challenging for offshore IT outsourcing. The participants indicated that to facilitate value-added results and vendor motivation, a client should communicate clear goals and expectations, be actively involved, provide feedback, and just in time directions to vendor. According to Chadee and Raman (2009), active participation and better communication lead to an improved client-vendor relationship. Horwitz, et al. (2006) stated that clearly defined objectives, roles, and responsibilities ensure effective coordination over distance, whereas appreciation for the virtual team achievements and efforts is crucial to motivate remote members and compensate for the lack of interaction in a virtual environment. Malik and Majeed (2010) reported the factors of project type and size, development strategy, communication approach, and cultural and geographical differences contribute to the success or failure of offshore software projects. Participants distinguished agile methodology in particular to help mitigating issues with distance communication in offshore engagements. Also the majority of the participants (P3, P5, P6, P7, P8, P9, P10, P12, P13, P15) indicated that to communicate project and company organizational principles, a client and vendor should use common language and tools including documents, e-mails, presentations, Skype®, chat rooms, Wiki pages on Confluence®, and Campfire® chat. Similar features and purposes can be found in social networking systems (Bennett et al. 2010).

Under the employee-training category, all of the participants discussed essential characteristics of Ukrainian IT professionals, which involves a high level of technical expertise and life-long-learning attitude. The participants suggested clients assign research tasks in Ukrainian IT outsourcing and direct the energy of developers by tasking them with technical challenges. A high concentration of scientists and engineers, as

well as technical skill and learning attitude characteristics are due to the availability of free higher education and a strong focus on developing mathematical and engineering skills in Ukraine. According to participants, this created advantageous conditions for IT outsourcing in Ukraine (Nation Master, 2002). Practices of leveraging new technologies, training by superiors and an exchange of visitations were noted by a majority of the participants as reasons that lead client companies to successful innovation, competitive technology, and new industry knowledge by acquiring additional capabilities and expertise from outsourcing relationships (Forbath et al., 2008). Consistent with the literature (Rosenberg, 2010), participants stated that despite the higher cost compared to China and India, Ukraine offers better efficiency and quality of the software development services. Competitive environments require learning dynamics in adaptability and capability development, aspects (Mahnke, 2001), which may not be measurable.

Yakhlef (2009) stated that IT outsourcing became a significant organizational restructuring force since its emergence in 1990s. Participants identified flexible organization structure as a major response to the variations of interactions in offshore IT outsourcing engagements. Most of the participants indicated (53% of the participants) that it is important to group people by projects and functions to effectively set up teams and ensure competence where needed. A resource pool manager who interacts with client and vendor managers, and central project technology repository simplify search of the expertise in the organization. Having two managers for each developer as in matrix organizations allows organizations to focus on long and short term objectives, as well as influence company's culture via vertical links. As suggested in the literature, participants emphasized that outsourcing offers resource flexibility (Chou, 2009). Vendors maintain dynamic structure to offer transitions from senior to junior level developers, temporary increases in work force, scaling up, and downsizing the team. Common philosophy and strategy between client and vendor serve guiding function towards collaborative flat organization (Insinga & Werle, 2000; Ketchen et al. 2008).The majority of the participants (71% of the participants) described strategic communication via concepts of sharing business information, connecting with horizontal teams, aligning general guidelines, and socializing with managers and employees, conferencing face-to-face; and sharing information across teams. The participants indicated that to achieve vendor motivation, align directions, and stimulate vendor input, client must share background business information with the vendor.

By sharing business information proactively, client and vendor minimize the need of communication during the project execution, which in turn reduces the risks of distance communication. Barr (2009) acknowledged that the international characteristics of distance communication and cultural differences deem for improved process efficiency in outsourcing. The participants also emphasized the importance of sharing business and project information among internal teams to enable faster knowledge transfer when assignments change. Desouza, Awazu, and Baloh (2006) identified the efficiency of knowledge exchange across the functions of an organization and between organizations is critical for organizational operation, and should be achieved through the optimization of software services and products. Participants indicated that to develop common organization principles, managers and employees need to socialize. The connections or ties in social networks facilitate collaborative work and allow the sharing of ideas, information, and knowledge between members (Fliaster & Spiess, 2008; Vithessonthi, 2010).

Under the category of team unit, all of the participants discussed the importance of autonomous team units in organization. This perspective is in alignment with the literature, which indicates that outsourcing should be considered in the context of organizational units in addition to the organization as a whole to identify in-house expertise, competitive technology, depth and risk-diversification at a finer level (Barr, 2009; Insinga & Werle, 2000). The participants indicated that accounting for complete components facilitates greater motivation, exploration of opportunities, and expansion of outsourcing teams. Clients should assign tasks in complete features for vendors to develop and stay with those features for longer period in contrast to the flow of non-related tasks as in discipline-oriented approach. With preliminary level of trust client can delegate component and high-level design creation to vendor, and can leave tasks open-ended for vendor to detail. Vendor teams work autonomously as independent organization unit for two employers. Similarly,

the literature describes the work of highly independent pseudo-firms in AMS, where units are responsible for selling products, both internally and externally (Cooper, 1995). Managers lead the teams and have the flexibility of making local decisions. The participants stated that managers feel responsible for the team and results, for which they pass client expectation to the team, set examples of organization principles, ensure local team culture, and act as the buffer against demotivating client behavior or changes. Cooper (1995) described the greatest strengths of the Kyocera's AMS as being opportunistic for individuals to become leaders of independent amoebas to realize themselves as company owners.

All of the participants addressed the importance of transparent management. To achieve client appreciation, the participants provide periodic results by developing the product in short iterations. Short iterations ensure a balance between clients desire to see the product as soon as possible and vendor developers' interest to research the technical side. Similar practice of periodical reviews for effective delivery is found in the literature. Kyocera Corporation conducts objective and transparent audits of management performance on a regular basis (Kyocera Corporation, 2006). Midanek (2008) determined that company grows its values by focusing continuously on cash and its movements; moving beyond periodic reports to qualitative assessment of the internal and external situation; and fostering a culture of valuing people with associated risks, mistakes, retrospection, and rehabilitation. To survive through challenges and deliver positive outcomes, company leaders should create a culture of innovation and collective spirit in addition to formal processes and material benefits (Weatherhead, 2008). Along with periodical results delivery, the participants identified the concept of early problem reporting as important to avoid damage to client. Consistently, Morali and Wieringa (2010) stated the importance of controlling risks in outsourcing to prevent excessive project costs. Social networking systems provide effective environment for more efficient collaboration, increased communication around a problem, higher transparency of communication, and better value innovation (Burrus, 2010).

Finally, under the vendor adaptability category the majority of the participants (88%) indicated that the ability of vendor to adapt to processes and scope changes is important for effective result delivery. By the nature of contractual outsourcing relationship, a vendor is interested in successful collaboration (Silva-Domingo & Canet-Giner, 2010). The participants indicated among practices in their companies the need to clarify vague requirements by interviewing and questioning the client. According to the study participants, during political conflicts in client, vendor engineers keep neutrality. To improve further collaboration, vendor strives to apply the best development process and recommend it to the client. The client should have understanding for these characteristics. Kumar (2007) described improvement of productivity and expertise access in organizations in outsourcing relationships. Forbath et al. (2008) reported that an organization could learn from the vendor's experience involving global competitive aspects, including market, technology, and industry knowledge, as a strategic software outsourcing benefit. The participants identified that Ukrainian developers are flexible to methodology and type of project including agile methodology for iterative and continuous development, RUP for fixed price projects, discipline-oriented tasks for firmer control over the results, as well as feature-oriented tasks for better motivation.

Jayatilaka and Hirschheim (2009) stated that the significance of costs involved and outcomes from the outsourcing depends from how effectively managers in charge can implement changes in IT sourcing arrangements. Plugge and Janssen (2009) suggested that vendors also need to improve their capabilities to adapt to meet customer demands. New Grounded Theory – Natural Systematic Approaches for Effective Outsourcing The seven categories identified through analyzing the data are interrelated and form the foundation of a new theory regarding the influence of managerial approaches within a practical management system with IT technology on effective initialization and management of the offshore software outsourcing. The effective initialization and management include realization of unique opportunities, achieving competitive advantage, gaining quality results, shortening development times, expanding, and improving organization. The concepts in participant responses, literature, and researchers' personal insights are related to each of the seven categories in the theory of Natural Systematic Approaches for Effective

Outsourcing. The management practices identified in different categories lead to positive outcomes in effectiveoutsourcing. Achieving value-added results and vendor motivation requires active goal and feedback communication; possibility to learn from challenges; experienced business, and architecture members in client's organization; appreciation of vendor ideas and results; alignment of client and vendor missions; and realistic plans. An aspect of improved software quality was referred by the participants in context of applying agile practices, which allowed keeping developers on goal and helped to overcome distance communication issues. Other quality prerequisites include reviewing and consulting by peers; synergizing from common education and cultural backgrounds; controlling quality by client; empowering vendor manager for decisions and responsibilities; reporting and addressing problems promptly; and acquiring sufficient resources.

Further, efficiency of outsourced development and timely delivery depend on applying practices of client involvement for effective decision making; sharing organizational principles; utilizing online tools; frequent meetings and responding to e-mails within a day; possessing lifelong-learning attitudes; online project and resource management; distributed decision making; and small self-organized teams in vendor. The final outcome described by the study participants is the organizational growth potential, which can be achieved by fostering horizontal communication by vertical links; defining contractual relationships, roles, and responsibilities between client and vendor; client knowledge accumulation in vendor; recognizing outsourcing contribution to business success; assigning high-level and open-ended tasks in outsourcing; balancing teams by workload, expertise, and gender; and nurturing long and trusted relationship.

CONCLUDING COMMENTS

Despite the practice of outsourcing increasingly gaining importance in the globalizing economy, effective collaboration across national borders remains one of the problematic areas. This qualitative, grounded theory study sought to address the general problem of the mutual benefits in international outsourcing engagements beyond a short-term economic advantage with advancement limiting long-term consequences. Large outsourcing markets with inexpensive labor, such as China and India, are well known, but destinations like Ukraine with a high concentration of scientists and complex expertise remain undervalued. The specific problem this study sought to address is the lack of clarity about how a practical management system with enabling information and communication technology can help effectively initialize and manage outsourcing to Ukraine with its unique situation in the software development industry.

Perspectives of the 17 managers and leaders included in this study were generalized through triangulation and analysis, which led to the construction of a new grounded theory: Natural systematic approaches for effective outsourcing. The theory constitutes seven principles of project communication, employee training, flexible organization, strategic communication, team unit, transparent management, and vendor adaptability. Strategies of combining those principles represent the perceptions and beliefs of low- and middle- managers on initialization and management of IT outsourcing projects. The findings of the current study indicate the application of management practices lead to realization of opportunities beyond traditional benefits in offshore software outsourcing.

Leaders of the client and vendor companies engaged in outsourcing relations must not underestimate the importance of managers and management practices in place. This study resulted in a grounded theory, a model and a practical management system, which represent the knowledge of the perceptions, and beliefs of outsourcing managers and leaders on how to realize unique opportunities, achieve competitive advantage, gain quality results, shorten development times, expand, and improve organization. Future research can focus on generalizing the grounded theory developed in this study as well as on testing the theory in other countries-destinations for outsourcing. The governments of countries with similar IT outsourcing may strengthen their positions in the world service offering market. An easy to understand and

imagine practical management system applied with the IT will lead to effective initialization and management of outsourcing process in the respective areas of country's expertise.

REFERENCES

Alexandrova, M. (2007), "*International outsourcing: Incentives, benefits and risks for the companies in SEE countries." Retr*ieved from http://www.asecu.gr/files/ RomaniaProceedings/02.pdf

Anell, B.I., and Wilson, T. L. (2000), "The flexible firm and the flexible coworker." *Journal of Workplace Learning, 12*(4), 165-170. doi:10.1108/13665620010332831

Aspray, W. (2010), "IT offshoring and American labor." *American Behavioral Scientist, 53*(7), 962-982. Retrieved from http://abs.sagepub.com/content/53/7/962.abstract

Barbash, A. (2009), "Outsourcing in Ukraine: Tendencies and prognosis." *Retr*ieved from http://www.it4business.ru/trends2009/2149/

Barr, J. G. (2009), "Outsourcing market trends." *Retr*ieved from http://www.faulkner. com/products/faccts/

Basili, V.R., Lindvall, M., Regardie, M., Seaman, C., Heidrich, J., Munch, J., and Trendowicz, A. (2010), "Linking software development and business strategy through measurement. *Computer, 43*(4), 57-65. doi:10.1109/MC.2010.108

Belcourt, M. (2006), "Outsourcing - The benefits and the risks." *Human Resource Management Review, 16*(2), 269-279. doi:10.1016/j.hrmr.2006.03.011

Bennett, J., Owers, M., Pitt, M., and Tucker, M. (2010), "Workplace impact of social networking." *Property Management, 28*(3), 138-148. doi: 10.1108/02637471011051282

Bowman, J.S. (2010), "The success of failure: The paradox of performance pay." *Review of Public Personnel Administration, 30*(1), 70-88. doi:10.1177/0734371X09351824

Bryant, A., and Charmaz, K. (2010), *The Sage handbook of grounded theory.* Thousand Oaks, CA: Sage Publications.

Bryman, A. (2007), "Barriers to integrating quantitative and qualitative research." *Journal of Mixed Methods Research, 1*(1), 8-22. doi:10.1177/2345678906290531

Burrus, D. (2010), "Social networks in the workplace: The risk and opportunity of Business 2.0." *Strategy & Leadership, 38*(4), 50-53. doi:10.1108/10878571011059674

Busi, M., and McIvor, R. (2008), "Setting the outsourcing research agenda: The top-10 most urgent outsourcing areas." *Strategic Outsourcing: An International Journal, 1*(3), 185-197. doi:10.1108/17538290810915263

Chadee, D., and Raman, R. (2009), "International outsourcing of information technology services: Review and future directions. *International Marketing Review, 26*(4/5), 411-438. doi:10.1108/02651330910971968

Chou, D.C. (2009), "Information systems outsourcing life cycle and risks analysis." *Computer Standards and Interfaces, 31*(5), 1036-1043. doi:10.1016/j.csi.2008.09.032

Clott, C. (2007), "An uncertain future: A preliminary study of offshore outsourcing from the manager's perspective." *Management Research News, 30*(7), 81-85. doi:10.1108/01409170710759702

Cooper, R. (1995), *When lean enterprises collide: Competing through confrontation.* Boston, MA: Harvard Business School Publishing.

Creswell, J. W. (2007), *Qualitative enquiry & research design: Choosing among five approaches* (2nd ed.), Sage Publications, London: United Kingdom.

Davis, G. F., and Marquis. C. (2005), "Prospects for organization theory in the early twenty-first century: Institutional fields and mechanisms." *Organization Science, 16*(4), 332-343. doi: doi:10.1287/orsc.1050.0137

Dawley, L. (2009), "Social network knowledge construction: Emerging virtual world pedagogy." *On the Horizon, 17*(2), 109-121. doi:10.1108/10748120910965494

Desouza, K.C., Awazu, Y., and Baloh, P. (2006), "Managing knowledge in global software development efforts: Issues and practices." *IEEE Software, 23*(5), 30-37. doi:10.1109/MS.2006.135

Egger, H., and Falkinger, J. (2006), "The role of public infrastructure and subsidies for firm location and international outsourcing." *European Economic Review, 50*(8), 1993-2015. doi:10.1016/j.euroecorev.2005.10.002

Elango, B. (2008), "Using outsourcing for strategic competitiveness in small and medium-sized firms." *Competitiveness Review, 18*(4), 322-332. doi:10.1108/10595420810920806

Espinosa, J.A., DeLone, W., and Lee, G. (2006), "Global boundaries, task processes and IS project success: A field study." *Information Technology & People, 19*(4), 345-370. doi:10.1108/09593840610718036

Fitzpatrick, A., Berkovich, S., and Kazakova, T. (2006), "MESM and the beginning of the computer era in the Soviet Union." *IEEE Annals of the History of Computing, 28*(3), 4-16. doi:10.1109/MAHC.2006.53

Fliaster, A., and Spiess, J. (2008), "Knowledge mobilization through social ties: The cost-benefit analysis." *Schmalenbach Business Review, 60*(1), 99-117." Retrieved from http://www.fachverlag.de/sbr/pdfarchive/einzelne_pdf/sbr_2008_jan-099-117.pdf

Forbath, T., Brooks, P., and Dass, A. (2008), "Beyond cost reduction: Using collaboration to increase innovation in global software development projects." (200*8 IEEE International Conference on Global Software Engineering*, 205-209. Bangalore, India. August 17-20. doi:10.1109/ICGSE.2008.32

Fukukawa, K., and Teramoto, Y. (2009), "Understanding Japanese CSR: The reflections of managers in the field of global operations." *Journal of Business Ethics, 85*(1), 133-146. doi:10.1007/s10551-008-9933-7

Ghodeswar, B., and Vaidyanathan, J. (2008), "Business process outsourcing: An approach to gain access to world-class capabilities." *Business Process Management Journal, 14*(1), 23-38. doi:10.1108/14637150810849382

Gonzalez, R., Gasco, J., and Llopis, J. (2006), "Information systems offshore outsourcing: A descriptive analysis." *Industrial Management & Data Systems, 106*(9), 1233-1248. doi:10.1108/02635570610712555

Gottschalk, P., and Solli-Sæther, H. (2005), "Critical success factors from IT outsourcing theories: An empirical study." *Industrial Management + Data Systems, 105*(5/6), 685-701." Retrieved from http://www.informatik.uni-trier.de/~ley/db/journals/imds/imds105.html

Ha-Brookshire, J. (2009), "Does the firm size matter on firm entrepreneurship and performance?" *Journal of Small Business and Enterprise Development, 16*(1), 131-146. doi:10.1108/14626000910932926

Hansen, M. W., Schaumburg-Müller, H., and Pottenger, E. (2008), "Towards a developing country firm perspective on outsourcing." *Strategic Outsourcing: An International Journal, 1*(3), 210-229. doi:10.1108/17538290810915281

Hohler, A. (2007), "Kyocera: Society first: An interview with Mr. Isao Ike Yukawa, senior managing executive officer of Kyocera Corporation." *Refocus, 8*(1), 34-35. doi:10.1016/S1471-0846(07)70027-6

Horwitz, F. M., Bravington, D., and Silvis, U. (2006), "The promise of virtual teams: Identifying key factors in effectiveness and failure." *Journal of European Industrial Training, 30*(6), 472-494. doi:10.1108/03090590610688843

Hwang, K. (2008), "International collaboration in multilayered center-periphery in the globalization of science and technology." *Science, Technology & Human Values, 33*(1), 101-133. doi:10.1177/0162243907306196

Insinga, R. C., and Werle, M.J. (2000), "Linking outsourcing to business strategy." *The Academy of Management Executive, 14*(4), 58-70. Retrieved from http://www.jstor.org/stable/4165685

ITOlist Ukraine (2010), "ITOlist - Catalogue of IT outsourcing companies in the CEE region." Retrieved from http://itolist.eu/Ukraine/

Jayatilaka, B., and Hirschheim, R. (2009), "Changes in IT sourcing arrangements: An interpretive field study of technical and institutional influences." *Strategic Outsourcing: An International Journal, 2*(2), 84-122. doi:10.1108/17538290910973349

Jin, C., Liang, T., and Ngai, E. W. (2008), "A qualitative study of inter-organizational knowledge management in complex products and systems development." *R&D Management, 38*(4), 421-440. doi:10.1111/j.1467-9310.2008.00523.x

Jung, J., Choi, I., and Songa, M. (2007), "An integration architecture for knowledge management systems and business process management systems." *Computers in Industry, 58*(1), 21-34. doi:10.1016/j.compind.2006.03.001

Kawamura, M., and Nakamura, N. (2008), "*Kyocera Corporation financial presentation." Retr*ieved from http://www.kyocera.com.vn/ir/presentations/pdf/sp0605_e.pdf

Ketchen, D. J., Boyd, B.K., and Bergh, D.D. (2008), "Research methodology in strategic management: Past accomplishments and future challenges." *Organizational Research Methods, 11*(4), 643-658. doi:10.1177/1094428108319843

Kumar, S. (2007, March 1), "How to protect data in outsourcing deals." *Managing Intellectual Property*." Retrieved from http://www.managingip.com/Article.aspx?ArticleID=1321250

Kyocera Corporation. (2006. *Form 6-K.* Washington, DC: Securities and Exchange Commission. Retrieved from http://www.sec.gov/Archives/edgar/data/57083/000119312506069359/d6k.htm

Lacity, M. C., and Rottman, J. W. (2009), "Effects of offshore outsourcing of information technology work on client project management." *Strategic Outsourcing: An International Journal, 2*(1), 4-26. doi:10.1108/17538290910935864

Leech, N. L., and Onwuegbuzie, A. J. (2011), "Beyond constant comparison qualitative data analysis: Using NVivo." *School Psychology Quarterly*, *26*(1), 70-84. doi:10.1037/a0022711

Low, L. (2000. *The economics of information technology and the media.* Singapore: Singapore University Press.

Mahnke, V. (2001), "The process of vertical dis-integration: An evolutionary perspective on outsourcing." *Journal of Management & Governance, 5*(3-4), 353-379. Retrieved from http://search.proquest.com/publicationbrowse/.

Malik, F. (2002), "Biological organisms as a new model?" *Cwarel Isaf Institute." Retr*ieved from http://www.kybernetik.ch/dwn/Biologische_Organismen.pdf

Malik, F., and Majeed, H. (2010), "Effect of development strategies and project types on offshore software development using agile paradigm." (201*0 Agile Conference*, 67-74. doi:10.1109/AGILE.2010.13

Midanek, D. (2008), "Cultivating companies: Growing value using turnaround management techniques." *The Journal of Private Equity, 11*(2), 19-23. doi:1553919981

Morali, A.,& Wieringa, R. (2010), "Risk-based confidentiality requirements specification for outsourced it systems." *18th IEEE International Requirements Engineering Conference*, 199-208. Sydney, New South Wales, Australia. September 27 - October 1. doi:10.1109/RE.2010.30

Nair, E. (2010), "*Spread of global delivery centers." Retr*ieved from http://www.globalservicesmedia.com/GS100/Home/Spread-of-Global-Delivery-Centers/26/27/9753/GS100622868484

Nandhakumar, J., and Baskerville, R. (2006), "Durability of online teamworking: Patterns of trust." *Information Technology & People, 19*(4), 371-389. doi:10.1108/09593840610718045

Nation Master. (2002), "*Research and development personnel (per capita) (most recent) by country." Retr*ieved from http://www.nationmaster.com/graph/eco_res_and_dev_per_percap-research-development-personnel-per-capita

Neuman, W. L. (2003), *Social research methods* (5th ed.), Upper Saddle River, NJ: Prentice Hall.

Nordin, B.G. (2005), "Outsourcing services in turbulent contexts." Stockholm School of Economics. *Leadership & Organization Development Journal, 27*(4), 296-315*." Retr*ieved from http://www.emeraldinsight.com/search.htm?ct=jnl&PHPSESSID =b4db2ve2vfo31vk47h14o3eso0

Oktay, J. S. (2012), *Grounded Theory.* New York, USA: Oxford University Press. doi:10.1093/acprof:oso/9780199753697.001.0001

Ozenbas, D., and Portes, L. S. V. (2011), "Does firm size matter? The relationship between firm level volatility, GDP volatility and capital structure decisions for firms of different size groups." *The Business Review, Cambridge, 17*(2), 35-41. Retrieved from http://www.jaabc.com/brcv17n2preview.html

Pang, A.S. (2010), "Futures 2.0: Rethinking the discipline." *Foresight, 12*(1), 5-20. doi:10.1108/14636681011020191

Patki, T., and Patki, A. B. (2007), "Innovative technological models for corporate offshoring." *Journal of Electronic Commerce in Organizations, 5*(2), 57-76." Retrieved from http://www.igi-global.com/viewtitlesample.aspx?id=3492

Perry, N., Candlot, A., and Schutte, C. (2010), "Collaborative knowledge networks emergence for innovation: Factors of success analysis and comparison." *Journal of Decision Systems, 19*(1), 75-91." Retrieved from http://arxiv.org/ftp/arxiv/papers/1201/1201.4642.pdf

Plugge, A., and Janssen, M. (2009), "Managing change in IT outsourcing arrangements: An offshore service provider perspective on adaptability." *Strategic Outsourcing: An International Journal, 2*(3), 257-274. doi:10.1108/17538290911005162

Robinson, M., and Kalakota, R. (2004), "*Offshore outsourcing: Business models, ROI and best practices."* Alpharetta, GA: Mivar Press.

Rosenberg, (2010, December 11), "Offshoring to Ukraine." *The Daily Telegraph*, 5-10. Retrieved from http://search.proquest.com/docview/817146612/12DD0694F28

Schwarz, A., Jayatilaka, B., Hirschheim, R., and Goles, T. (2009), "A conjoint approach to understanding IT application services outsourcing." *Journal of the Association for Information Systems, 10*(10), 748-781." Retrieved from http://aisel.aisnet.org/jais/vol10/iss10/1/

Sen, F., and Shiel, M. (2006), "From business process outsourcing (BPO) to knowledge process outsourcing (KPO): Some issues." *Human Systems Management, 25*(2), 145-155. Retrieved from http://www.deepdyve.com/lp/ios-press/from-business-process -outsourcing-bpo-to-knowledge-process-outsourcing-6DgUCi8agW

Shekhar, S. (2006), "Understanding the virtuality of virtual organizations." *Leadership & Organization Development Journal, 27*(6), 465-483. doi:10.1108/01437730610687755

Silva-Domingo, L., and Canet-Giner, T. (2010), "Achieving client-supplier alignment through management control paths." *Strategic Outsourcing: An International Journal, 3*(1), 33-45. doi:10.1108/17538291011023061

Stancanelli, J. (2010), "Conducting an online focus group." The Qualitative Report, 15(3), 761-765. Retrieved from http://www.nova.edu/ssss/QR/QR15-3/

Storbacka, K., and Nenonen, S. (2009), "Customer relationships and the heterogeneity of firm performance." *The Journal of Business & Industrial Marketing, 24*(5), 360-372. doi:10.1108/08858620910966246

Trunecek, J. (2007), "*The Amoeba Management System." Retr*ieved from http://projekt - synergie.com/data/12_seminarniprace8.pdf

Ukraine still has chances to become IT-industry leader. (2010, September 15), *GlobalLogic. Retr*ieved from http://www.globallogic.com.ua/index.php?option=com_content&view=article&id=18655045%3A-----it-&catid=11%3A2009-02-27-13-58-42&Itemid=207&lang=ru

Ukrainian outsourcing market reached $246 million in 2006. (2007, June 13), "*GoalEurope." Retr*ieved from http://goaleurope.com/main.php?p=30&more=1&c=1

Vithessonthi, C. (2010), "Knowledge sharing, social networks and organizational transformation." *The Business Review, Cambridge, 15*(2), 99-109." Retrieved from http://www.jaabc.com/brcv15n2preview.html

Weatherhead, A. (2008), "Successful employees = successful business." *T + D, 62*(9), 78-79. Retrieved from http://law-journals-books.vlex.com/vid/successful-employees-business -65340334

Wennberg, L., Brandt, P., and Révay, P. (2006), "Information security – An application of a systems approach." *Kybernetes, 35*(6), 786 – 796. doi: 10.1108/03684920610662584

Wheatley, M. J. (2001), "Innovation Means Relying on Everyone's Creativity." *Leader To Leader, 2001*(20), 14-20." Retrieved from http://www.hesselbeininstitute.org/knowledgecenter/journal.aspx?ArticleID=107

Yakhlef, A. (2009), "Outsourcing as a mode of organizational learning." *Strategic Outsourcing: An International Journal, 2*(1), 37-53. doi:10.1108/17538290910935882

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