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Understanding of Organizational Intention to Distributed Work Adoption

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Abstract

The objective of this paper is to provide an integrative framework for DWA adoption. In this article, we try to understand the concerns of organizational decision makers more comprehensively from an economical view using transaction cost theory, from an intra-organizational (corporational) and extra-organizational (industrial) view using institutional theory. The possible significance of this research is to achieve a better understanding of the relationships between the economical and organizational factors that could affect the adoption of mobile communications and the new ways of working. Practical recommendations for practitioners, especially policy makers and top executives, are also provided to assess the opportunities and needs to assimilate such an innovation.

Keywords: Distributed work arrangement, Transaction cost theory, Institutional theory

1. Introduction

Many organizations are virtualizing their businesses to compete. Driven by the new E-economy, what is remarkable is the pace of growth in distributed workforce. A study of national workforce (WorldCom 2001) reported the widespread trends of distributed work practices in the US. More than two-thirds of American workers surveyed have engaged in telework - a variant of distributed work arrangements (DWA), in which nearly half of them (46%) work from their home base, for at least once a week and 14% do so daily. The American Telework Association estimates there are 28 million people in the U.S. who work from home or from outside the office, with up to 20% of the workforce. According to statistics from the European Union, Denmark and Finland are the telework leaders in Europe, with 17.4% and 12.4% respectively of the workforce who telework. This is followed by the United Kingdom, Sweden, The Netherlands and France, fractionally under 6% of the workforce (Prerost 2002).

DWA is defined as “working away from the traditional office using computers and telecommunication facilities to maintain a link to the office” (Belanger 1999, p.139). It describes works accomplished with new information technologies without traditional regarding to time, place, or organizational boundaries (Scully 2002). With such new technologies, employees could use their notebook computers to stay connected in any time zones, offices, or even companies. Organizations favor the alternative work practice mainly due to the espoused benefits of increased productivity and profitability. For instance, sending emails could save time by making it easier to stay in touch worldwide and to enhance learning by allowing more people to exchange information quickly. Information is documented in shared online workspaces and the contribution emphasized on results. In

accordance with the survey of American workers (WorldCom 2001), the vast majority (91%) agreed that distributed work saves both the time and money for their companies. Alternative work practices include mobile work, virtual project teams, hotelling, remote management of geographically dispersed employees and telecommuting. The growth in DWA is enabled by technological advancements such as email, web conferencing and high-speed Internet connections.

However, distributed works does not necessarily always have positive effects on the organization or its employees. For example, social isolation is often mentioned when some teleworkers experience the loss of direct contact with colleagues (Prerost 2002; Olson 1983). Flexibility of anytime-anywhere contact could also result in the intrusion of work into the private life of a teleworker, because of the necessity to be contactable at any time (Shamir et al. 1985). Moreover, changes to performance evaluation criteria and management style arising from a switch to teleworking could be disruptive and stressful to managers (Tomaskovic-Devey et al. 1993; Nilles 1994).

This paper is organized into three sections. First, a theoretical groundwork for the key drivers of organization innovation is discussed. Second, a framework to study the distributed work adoption is developed. Finally, the paper conclusion is presented.

2. Background

In this section, we briefly discuss the conceptualization of key drivers that form a theoretical basis for understanding the adoption of distributed works. Currie and Seltsikas (2002) examined the factors affecting organizational adoption of new work arrangements. The study shows that the enablers of organizational innovation are: market drivers, business drivers and technical drivers (Table 1). It provides a reasonable starting point for developing our framework of DWA adoption.

Table 1: Key Drivers of New Ways to Work (Curries and Seltsikas 2002)

MARKET DRIVERS	BUSINESS DRIVERS	TECHNICAL DRIVERS
- Increased global competition - New business (e.g. virtual organization) - Faster time to market - Global IT expertise shortage	- Focus on core competencies - Enhanced customer oriented services - Reduce total transaction cost - Better value proposition - Agility and flexibility	- Access to technical expertise - Information delivered through Internet and corporate intranets - Global access to information - Net-centric application

An organization often considers adopting an innovation when it recognizes either a need for change when increased competition arises (Johnston et al. 2000) or when a new technology that offers the promise of increased flexibility and productivity becomes available (Zmud 1984). Recent literatures indicate that the study of innovation adoption requires both intra- and extra-organizational and economical considerations (Zhu et al. 2003;

Wheeler et al. 2002; Martinez et al. 1999). Such factors could have significant positive influences on the drivers of organizational innovation (see Table 2).

Table 2: Market, Business and Technical Drivers Addressed by Specific Aspects of Theoretical Frameworks

Curries and Seltsikas, 2002		Theoretical Frameworks		
		Extra-organization	Intra-organization	Economic
Market	• Increased global competition			➢ Improved profitability ➢ Uncertainty Management
	• New business opportunities	➢ Institutional promotion ➢ Isomorphism (e.g. learning from others)	➢ Purposive Innovation ➢ Risk attitude	➢ Adaptable Organization Structure
	• Faster time to market	➢ Institutional promotion ➢ Isomorphism (e.g. learning from others)		➢ Workload Management
Business	• Focus on core competencies	➢ Isomorphism (e.g. learning from others)	➢ Purposive innovation	➢ Reduced Asset Specificities
	• Customer oriented services	➢ Isomorphism (e.g. learning from others)	➢ Virtual customer service ➢ Organizational trust	➢ Decentralized employee and performance-based rewards
	• Reduce transaction cost	➢ Isomorphism (e.g. learning from others)		➢ Reduced Asset Specificities
	• Value proposition	➢ Institutional Promotion ➢ Isomorphism (e.g. learning from others)	➢ Purposive innovation	➢ Improved Profitability
	• Agility and flexibility	➢ Institutional Promotion ➢ Isomorphism (e.g. learning from others)	➢ Purposive innovation	➢ Uncertainty Management and Flexible Organization Structure
Technical	• Access to technical expertise			➢ Reduced Technical Asset specificities
	• Global access to information	➢ Isomorphism (e.g. learning from others)	➢ Purposive innovation ➢ Organizational Trust	➢ Decentralized Organization Structure
	• Net-centric application	➢ Isomorphism (e.g. learning from others)	➢ Purposive innovation	➢ Decentralized Organization Structure

Market drivers of organizational innovation include increased global competition, new business opportunities, and the need for faster time to market. Increased global competition over the last decade has led to the emergence of more flexible working arrangements. Such flexibility creates better responsiveness to market forces and better

ability to manage uncertainties existing in the market. This should ultimately lead to more economic benefits for the organization. New business opportunities often necessitate changes to existing organizational structures, and call for heightened innovation and risk taking within the organization. As organizations successfully adapt to new business opportunities, other similar organizations within the same industry are likely to follow suit so as to emulate the success. This could result in greater institutional isomorphism and promotion. The need for faster time to market would also make better workload management an imperative. Successful use of flexible work arrangement to achieve faster time to market could also lead to greater isomorphism and promotion within the industry.

Business drivers comprise the need to provide customer-oriented services, reduce transaction cost, deliver proper value proposition, focus on core competence, as well as increase agility and flexibility of the organization. To achieve a good business position in today's market economy, the provision of quality customer-oriented services is crucial. Such services are increasingly being offered beyond temporal and geographical boundaries (e.g. virtual customer service). Ultimately, the management mode for decentralized employees have to change, from directing workers physically on daily basis to performance-based rewards, which in turn should increase the employees' productivities and improve the profitability of the firm. An increased focus on core competencies by the organization could streamline business processes and reduce transaction costs. It would also permit the organization to continuously innovate to the demands of the environment. For example, some companies introduce distributed works because of the demands for flexible working, better and more innovative response to customer demands, cost cutting initiatives, reducing asset specificities, and improving profitability (value proposition). Decentralized work structures not only reduce cost but also resolve long commutes and transport problems, and lower absenteeism. The need for greater agility and flexibility could also drive the move towards flexible distributed work structures with institutional promotion and support showcasing successful examples, with the promise of more innovative organizational responses, and with better uncertainty management.

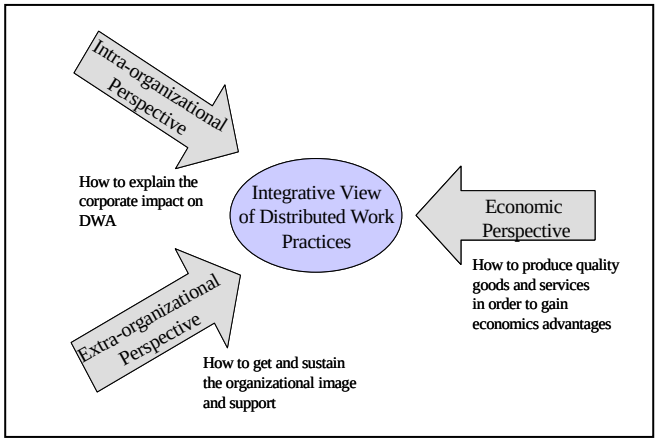
Technical drivers facilitate better access to technical expertise, global access to information and make net-centric application available. All of these play a significant role in networking the distributed employees who work from wherever appropriate. The Internet Protocol networks (net-centric application) enable the access to a wider pool of technical expertise more easily (enable the decentralized organization structure) which in turn reduce technical asset specificities. Research shows broad agreements that wireless technology development stimulates changes to facilitate inter- and intra-organizational business connections and interactions. The decentralized employees can work together through the ways including but not limited to videoconference, over the phones and emails. They can constantly exchange large volumes of information through the technological advancement to expedite the working process and make business decisions (global access to information). Such extensive communication needs could be facilitated by a decentralized organization structure, and are often accompanied by organizational cultures that promote innovation and trust. Isomorphism could also result as consequential success stories which become widely circulated within the industry.

Overall, the key drivers are closely related to both economic and intra- and extra-organizational factors, which are deemed important for cultivating the adoption of distributed work. Through understanding how these factors affects organizations' adoption intention, this paper could provide more comprehensive and deeper insight to assimilate such work-arrangement innovation.

3. Organizing Framework

Past research suggests that economical and institutional factors could have significant influence on innovation adoption. To get started, consider, theoretical frameworks in view of three components: cost efficiency from an economic view, which are the bottom-line benefits to encourage distributed work; organizational constraints from the intra-organizational view, which impacts the compatibility and success of alternative work practices; and institutional forces from the extra-organizational view, which emerges from mimic and industrial support. This section focuses on characterizing these three factors (Figure 1).

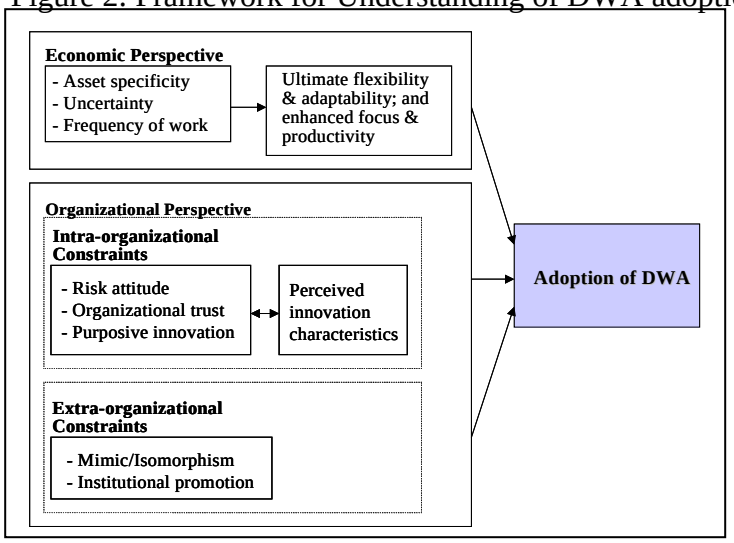
Figure 1: An Integrative View of Distributed Work Practices



Based on both economic and intra- and extra- organizational perspectives, a literature review was performed on the theories from IS, economics and organizational behavior, to develop the theoretical frameworks in the DWA domain. Figure 2 portrays an integrative framework for understanding various influences on innovations involved significant work process change, such as DWA. First, transaction cost theory is applied since it has been widely adopted in many organization studies as an economical approach to study modern organizations (Williamson 1981). It is theoretical lens to investigate the economic benefits associated with distributed works. Business discourages DWA if no benefit is perceived. However, it is inadequate to examine the innovation adoption from a solely economic perspective. Scholars have argued for the inclusion of another dimension, institutional theory and other organizational factors, to complement the economic view (Roberts et al. 1997). Martinez and Dacin (1999) provide a synthesis of institutional theory and transaction cost economics, and recommend combining different aspects in organizational study has the

potential to strengthen the explanatory power and increase the integrative efforts among the theoretical approaches, both in explaining decision behavior and innovation adoption.

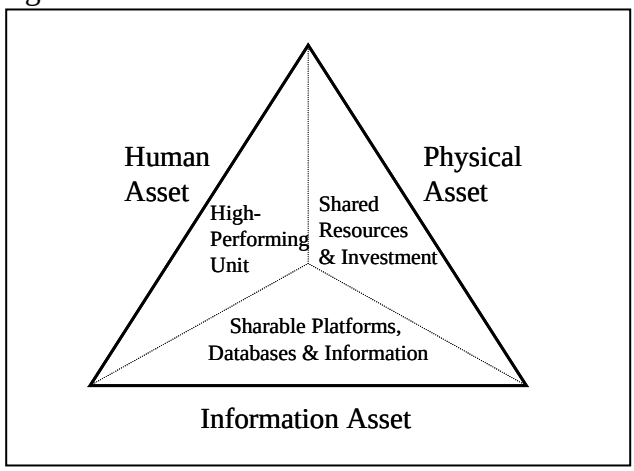
Figure 2: Framework for Understanding of DWA adoption



3.1 Economic Factors and DWA Adoption

Considering from an economic perspective, transaction cost approach entails a comparison of the costs of planning, adapting, and monitoring task completion under alternative organization designs or governance structures. Cost efficiency increases when a transfer occurs smoothly without needless loss or wastage or using the minimum of relevant resources. Before choosing any alternative work practices, a clear picture of what organizations are expecting from the adoption is needed. To perform such a comparison, three major dimensions of transaction costs, asset specificity, uncertainty, and frequency of work, would be described.

Figure 3: Asset model of DWA



(Adapted from Wheeler et al. 2002)

Asset specificity is which large fixed investments are specialized to particular transactions. Unspecialized goods or services would not pose a problem since they are always available on the market (Williamson 1981). Asset specificity is important to the study of cost efficiency in adopting distributed work because once an investment is made, the customer and service provider are operating in a bilateral exchange relation for a substantial period of time and both of them would be "locked into" the transaction. Based on the economic incentives for innovation, we contemplate the relevant IT asset specificity, such as human asset specificity, physical asset specificity and Information asset specificity (see Figure 3).

Adapted from Wheeler et al. (2002), we modified the IT asset model in targeting DWA. When adopting DWA, a reduction in asset specificity such as human asset, physical asset and/or information asset could positively impact organizational performance such as flexibility and productivity. First, a wider pool of professionals could be more easily accessed and therefore reduces the human asset specificity. Distributed works provide increased flexibility in hiring workers, and by tying the reward system to performance rather than to seniority, a more cost-effective manpower strategy could then be achieved. Second, possibility of decreased physical asset specificity is offered. This is often the case in discussing about telecommuting programs, in which organizations economically justify the costs of new technology investments for virtual work against the costs of maintaining current systems, such as expensive maintenance contracts for large centralized computing equipment, electricity (lighting and air-conditioning) or office building maintenance. Third, access of specialized or timely information is facilitated. Potential for capturing and sharing the critical information via shared applications, Internet and Intranet connections etc, is offered. In traditions, critical information is specific to some individuals. Organizations have to pay a premium (in terms of remuneration) to continue tapping on the critical knowledge of those individuals. Conversely, DWA would provide immediate web resources to access to, and thus remote workers could respond effectively and rapidly to situations that call for such knowledge application. Being closer to clients is another example of feasible reduction in information specificity. Mobile workers should be easier to collect and respond very efficiently to time-critical information provided by their customers.

Uncertainty in transactions arises mainly from environmental and behavioral disturbances. When transactions are highly uncertain and complex, more measures to write and enforce complete contracts between the transactional parties, and to monitor and measure the performance of tasks are required. It increases the needs for greater flexibility and speed in coordination and control, which permits organizations to detect and respond more effectively to unforeseen problems and opportunities. DWA, through its use of decentralized structures, could increase the information processing capacity by "promoting the processing of information among those who are closest to the work being performed" (Nadler et al. 1988). Obviously good practices of distributed work help reduce uncertainty and have positive impact on organizations.

Frequency of work (transaction) has implications for transaction costs, which could be lowered when governance structures specific to a particular situation are designed to facilitate frequent interactions between transacting parties. Depending on the necessity, a

specially designed DWA facilitating the handling of transactions of high frequencies is likely to lead to greater organizational efficiency than the traditional one. Some percentages of virtuality allow increased flexibility and efficiency coping with different workload according to market situation. When decision makers perceive higher organizational performance with DWA that effectively process current and future transactional frequencies, the performance of organizations is enhanced.

3.2 Organizational Factors and DWA Adoption

Apart from economic perspective, organizational constraints are important as well. Previous transaction cost theory focuses mainly on the economic aspects and ignores important organizational aspects on organizational design adoption. In this part, both intra- and extra-organizational factors are discussed. It is critical if organizations want to re-engineer the processes successfully.

Intra-organizational perspective

Intra-organizational factors that could affect DWA mainly include risk attitudes, trust, perceived innovation characteristics and the pursuit of purposive innovation by management. Adopting distributed work means more individuals and teams could communicate and collaborate largely via new telecommunications technology rather than face to face. It involves a fresh way to manage, collaborate on or even transform working process. To certain extent, DWA requires investments in advanced information and communications technologies, and necessitates the restructuring of administrative arrangements resulting in changes to working styles, control and coordination systems. As a lower than expected return on investments could be resulted from new technologies, or as some hurdle may emerge from control of those who work remotely, all of which demonstrate certain amount of adoption risk could pose to organizations. Yates and Stone (1992) define risk as the possibility of loss. It has been conceptualized in different characteristics: risk-neutral, risk-averse, or risk-seeking. Organizations with a risk-seeking attitude tend to have a better perception on distributed work and realize the potential benefits.

Trust is a concept related to risk. New practice of working at remote location creates interpersonal challenges, comparing with supervisors and leaders in traditional organizations using face-to-face to meet employees and build trust. In cyberspace, only email, video conferencing and other technological means of communications could be relied on to monitor and track progress. Problems and reactions may be arisen due to miscommunications and lack of trust. For instance, some mobile workers do not feel that they are a part of a mission or an organization when they frequently work away from their office or even work in a small satellite office. Opportunistic behavior by workers is arisen as a result of the difficulty in supervision, performance evaluation and isolation. Trust between organizational decision makers and remote workers, however, could reduce such an opportunistic behavior.

Moreover, to succeed in the long run, organizations need to have a sense of purpose to provide themselves with the ability to adapt and innovate, with the flexibility to select the appropriate governance structure to achieve long-term efficiency. Organizations need to

engage in purposive innovation, even in the absence of short-term benefits (Ghoshal et al. 1996). Since to adopt DWA as an alternative practice of working would necessitate a redesign of the governance structure, it constitutes an innovation. If management perceives DWA adoption as being useful for long-term organizational success, executives would have positive attitudes towards purposive innovation. Therefore, we should understand how the alternative work environment differs from and accepts variants in distributed work as compatible with organizational goals and future success. For instance, creating a central culture that have a customer orientation with, as its central philosophy, a desire to meet and exceed the needs of customer effectively, is the long-term success.

Extra-organizational perspective

Extra-organizational factors in form of institutional forces such as isomorphism and institutional promotion may influence DWA adoption as well. According to Tan and Fichman (2002), adoption behavior is "in part a social process driven by institutional factors". For adoption to occur, innovation information must be available to potential adopters (organizations). Although organizations can differentially select utility-maximization positions and strategies, they have to conform to socially accepted practices due to institutional pressures. To gain isomorphism, organizations focuses on innovative legitimation (alternative work practice) comparing to current design and structure, which the designs and new working practices within organizational fields tend towards greater homogeneity over time (DiMaggio et al. 1983). It explains how adoption may occur through social contagion between organizations and the influence of prior adopters. Isomorphism could be studied from those organization's competitors who have adopted DWA, and from these competitors who have achieved success by adopting distributed work. When alternative work practices become socially accepted within a field, relevant organizations that have not adopted the innovation would appear illegitimate to their stockholders, customers and regulators. Thus, when organizations perceive their competitors have better performance since adopting a new work structure, they are more likely to follow the suit. Likewise, when organizations perceive that significant institutions are promoting DWA through institutional support, endorsements and encouragement, they are more likely to adopt distributed work so as to gain greater legitimacy. In short, legitimation could be attained when key institutions, such as government, professional bodies, industry or the business community, widely support, endorse and encourage the idea of DWA adoption.

4. Conclusion

This paper aims to provide an integrative framework for studying the adoption and acceptance of innovative work styles such as DWA from an organizational assessment level. Increasingly, both public and private sector organizations are venturing into distributed work practices and seeking ways to improve their performance and productivity. We believe that various factors all serve important influence on adopting DWA by organizations. To promote the practice of working like DWA at remote location via mobile communications and computing technologies, we suggest:

- To demonstrate the economical advantages. Organizations should identify potential benefits of DWA such as resources are being acquired and utilized more cost effectively, flexibility and adaptability for unforeseen problems, and increased productivity.
- To create interpersonal challenges. Organizational leaders and supervisors should adjust the work style of management, from control/supervise to empowered. It is advised to regularly gather employees who work from remote sites in cyberspace to review work progress and solicit feedback. Regularly acknowledging each other for contributions (added values) could motivate online sharing and discussions.
- Be innovative and heighten organization expectation. DWA allows a wider range of people to bring their ideas and share with others in online workspace. Greater flexibility in time and space of work might breed fresher and sharper ideas.
- Given the importance of institutional force as a predictor of DWA adoption, core organizations within industries could be forward looking and playing a leading role to consider adopting the innovative practice of working, thereby pathing the way for the entire field to fully realize its potential benefits.

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