



The Factors Influencing the Improvement of Individual Capability in Knowledge Transfer: The Case of the Airports of Thailand Public Company Limited (AOT)
ปัจจัยที่มีอิทธิพลต่อการพัฒนาความสามารถในการถ่ายทอดความรู้ของแต่ละบุคคล:
กรณีศึกษาของบริษัท ท่าอากาศยานไทย จำกัด (มหาชน)

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Abstract

It is the essence of globalization that the world has indeed become a much smaller place. As such, quiescent stasis is no longer an option and incessant transformation is the order of the day. And since both private and public sector organizations operate in extremely competitive environments, they must ensure that the skills of their workers are continually upgraded. In this regard, the public sector organization Airports of Thailand Public Company Limited (AOT) is no exception to the rule as it too faces severe competition in the marketplace. Thus, in bearing the brunt of severe competition, it is of paramount importance that AOT take steps to ensure that there is proper knowledge management within its organization. In this research study, the most salient objective is to identify the factors involved in enhancing individual capability pertaining to knowledge transfer. Accordingly, this paper explores the key factors relating to mechanistic structure, organic structure, training, incentives, and information technology as significant influences in this area. A self-administered survey questionnaire was distributed to

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informants for the purpose of identifying the critical factors directly impinging upon the issue of enhancing individual capability with regard to knowledge transfer. The findings revealed that five variables bear positive effects and should be recognized as significantly instrumental in enhancing individual capability as it pertains to knowledge transfer.

Keywords: Knowledge transfer, knowledge sharing, significant factors

บทคัดย่อ

ปัจจุบันสังคมอยู่ในยุคโลกาภิวัตน์ ที่ดูเหมือนทำให้โลกเล็กลง คนร่วมสมัยต่างตระหนักถึงการตอบสนองต่อการเปลี่ยนแปลงที่เกิดขึ้น องค์กรหลายแห่งทั้งองค์กรมหาชนและองค์กรเอกชนต้องเผชิญหน้ากับความท้าทายและสิ่งแวดล้อมที่มีการแข่งขัน รวมทั้งพนักงานก็จำเป็นต้องได้รับการฝึกฝนทักษะในการทำงาน สำหรับบทความนี้ บริษัท ท่าอากาศยานไทย จำกัด (มหาชน) ซึ่งเป็นหนึ่งในองค์กรมหาชน ต้องพยายามปรับตัวเพื่อรับมือกับสิ่งแวดล้อมที่มีการแข่งขันเช่นนี้ โดยเฉพาะอย่างยิ่งในเรื่องของความรู้ซึ่งจำเป็นต่อการก้าวไปสู่ความเปลี่ยนแปลง เนื่องจากความรู้ถือเป็นปัจจัยสำคัญในการบรรลุความสำเร็จและการอยู่เหนือคู่แข่งรายอื่น โดยศึกษาจากหลายปัจจัย ได้แก่ โครงสร้างแบบจักรกล โครงสร้างแบบมีชีวิต การฝึกฝน สิ่งกระตุ้น และเทคโนโลยีสารสนเทศ แบบสอบถามได้รับการจัดทำขึ้นเพื่อปัจจัยที่มีผลอย่างมีนัยสำคัญต่อการพัฒนาความสามารถในการถ่ายทอดความรู้ของแต่ละบุคคล ซึ่งมีผลในเชิงบวกและมีอิทธิพลต่อการพัฒนาความสามารถในการถ่ายทอดความรู้ของแต่ละบุคคลอย่างชัดเจน

คำสำคัญ: การถ่ายทอดความรู้ การแบ่งปันความรู้ ปัจจัย มีความสำคัญ



Introduction

At present, even the most obscure corners of the globe are drastically affected by the process of globalization. According to Lentner (2004, p. 98), globalization entails ever-increasing intercalation across the entire world. This unprecedented development necessitates the proactive management of transformative change instead of a passive, docile acceptance of a “runaway world.” In this connection, the researcher is compelled to address a number of salient issues involving technology, diversity, ethics and human resources, among others. As workers are any firm’s greatest asset, it is imperative nowadays that organizations take steps to ensure that their workers possess the requisite knowledge and command the proper skill sets on pain of not being able to contribute effectively under contemporary economic conditions, or being able to measure up to new challenges.

In order to cope with the changes

taking place in terms of an increasingly competitive world and to develop its system of governance, the Thai government has announced its vision in its publication of the Tenth Economic and Social Development Plan (2007–2011). In this plan, development strategies are projected for a number of domains, including biodiversity, the economy, and fostering the development of citizens of a higher quality than was hitherto the case. With respect to the main strategy of promoting the development of citizens of a higher quality, the concern is to produce exemplars of moral integrity and who are knowledgeable and capable of continual learning. Moreover, it is emphasized that citizens should be prepared to deal with demanding work environments by virtue of having the proper psychological attributes, life skills, basic quotidian knowledge, overall competence, in addition to possessing the skills required for full participation in the labor market.



Later, the Eleventh National and Economic Social Development Plan (2012-2016) was launched, with the paradigmatic Tenth Economic and Social Development Plan being overhauled in such a way as to address changes at both the international and domestic level. Improvements are envisaged regarding the citizenry, society, economy, environmental conditions and the political system in a holistic manner, with the ultimate objective of augmenting Thailand's capability for resilience and adaptation at the familial, community and national levels. The principal goal is to assist citizens in adapting to changes and affording them opportunities to access resources and obtain their fair share of the benefits to be derived from the development process (Office of the National Economic and Social Development Board, 2013).

Faced with a highly competitive environment, every workplace requires its employees to acquire more knowledge in order to perform increasingly complex

tasks. This has resulted in an increasing demand for organizations to augment the knowledge possessed by their employees so as to bring these organizations into line with the new era of a knowledge-based economy. Consequently, raising the productivity level of knowledge workers is critical to organizational development (Lentner, 2004, pp. 114-115).

With respect to today's knowledge-based economy, Kumar and Garnesh (2009) view knowledge transfer as essential to a wide array of activities, whether the knowledge exchanged is explicit or implicit in nature. In terms of the meaning of knowledge transfer, it has variously been described as "knowledge sharing," "knowledge flows," "knowledge acquisition," and "knowledge mobilization" (Carmel & Nicholson, 2005; Gosain, 2007; Renzl, 2008; Van Wijk et al., 2008).

As has already been mentioned, the results of this inquiry should prove beneficial to any number of interested parties.



Of particular importance is that this research study sheds light on one public organization in particular, namely “Airports of Thailand Public Company Limited (AOT), which is the leading organization for air transport in the Kingdom of Thailand. Airports under its responsibility include Suvarnabhumi Airport, Don Muang International Airport, Chiang Mai International Airport, Hat Yai International Airport, Phuket International Airport and Mae Fah Luang - Chiang Rai International Airport (Airports of Thailand Public Company Limited, 2013). With regard to the size of its workforce, AOT started with 1,713 employees, although this number has now tripled to 4,224. Commencing with only 15 departments, AOT has rapidly expanded so as to encompass 54 departments (AOT Annual Report, 2012, p. 109).

In view of the specific character of AOT’s operations, the members of its expanded workforce must possess greater and greater knowledge in order to perform their given tasks. Furthermore, AOT shifts

staff members to new positions every six months, whether within the same business unit or not, in the course of restructuring divisions or departments. Accordingly, changes in working tasks have generated incompatibility in terms of knowledge structures and work systems for new partners working together, with the upshot that difficulties and conflicts often ensue.

Presently, AOT is making an effort to encourage the transference of knowledge and to increase the capability of AOT employees in this regard in several ways. For example, more advanced technology has been introduced into the workplace, with the requisite orientation being provided for new employees, and a series of training courses for employees. All of these programs assist in enhancing the basic skills of employees (AOT Annual Report, 2011, p. 117).

Nevertheless, some scholars hold that other factors impinge upon attempts to improve the knowledge base of employees. In this regard, for example, Lee and Grover



(1999) consider that the extent to which knowledge can be improved depends on organizational structure, inasmuch as the latter clearly exerts an influence on knowledge-related activities. Moreover, giving incentives to employees will facilitate and motivate knowledge transfers within an organization. Both monetary rewards and recognition can prompt people to be more open with information, in addition to showing that the sharing of information is value by the organization (Levine & Gilbert, 1998). In short, there is an array of factors that may affect the capability of AOT to transfer knowledge. Therefore, this paper offers a framework for examining those factors influencing the extent to which knowledge transfer takes place within the AOT as an organization, while stressing the role of such major determinants.

The objectives of this study of AOT are fourfold as 1) to assess the improvement of individual capability in AOT's knowledge

transfer; (2) to identify the factors that impact the improvement of the individual's capability to achieve knowledge transfer at AOT; (3) to explain the relationship levels of the factors for the improvement of individual capability in AOT's knowledge transfer; and (4) to recommend appropriate management alternatives for utilizing key lessons for the improvement of the individual's to transfer knowledge at AOT.

Review of Literature and a Proposed Model for Conducting Analysis

In order to provide theoretical support for the current study, it is necessary to undertake a review of the relevant literature. Davenport and Prusak (2000, p. 9) have defined knowledge as "[an] awareness of familiarity gained by experience of fact or situation". Knowledge is difficult to replicate and thus constitutes a key factor in competition between firms (Lubit, 2001). According to Martensen (2000), in order to remain at the



forefront and to maintain a competitive advantage, organizations must be able to retain, develop, organize and utilize the competencies of their employees. Therefore, it is important to view knowledge as an extremely critical factor for an organization's future survival in a commercial sector that is becoming increasingly fierce and competitive. In terms of acquiring knowledge, Mason and Pauleen (2003) indicate that sharing is the single most important factor that leads to learning. Recently, therefore, "knowledge sharing" or "knowledge transfer" has begun to receive greater emphasis within the service industry.

Because the basis resource available to firms in this sector is knowledge, it follows that the company's individual and organizational capability are reflected in its ability to effectively manage the resources at its disposal. Effectively, therefore, capabilities must constitute the key to managing knowledge. In this regard, Leonard-Barton (1995, p. 4) proposes the concept of "core capabilities",

defined as capabilities that constitute a comparative advantage for a firm that have been built up over time and cannot be easily imitated. In this study, the main focus is on individual capabilities. In terms of improving AOT employee's capabilities, for example by updating their knowledge of aeronautics and human resource procedures, this is expected to lead a higher level of knowledge and skills among employees, thereby enabling them to operate more effectively within their respective sub-units and perform in a more professional manner. Hence, in terms of knowledge improvement, the main project goal of AOT is the enhancement of individual capability.

In studying the individual capabilities involved in knowledge transfer, there are many factors that are of relevance in this respect. First of all, as Lee and Grover (1999) point out, organizational structure indeed influences knowledge-related activities. Burns and Stalker (1961, p. 121) divide organizational structure into two types: mechanistic and organic.



Walczak (2005) explains that the term 'mechanistic structure' is used to describe an organizational structure that is designed to induce employees to behave in predictable and accountable ways. All employees working within a mechanistic structure have been assigned specific duties that they must perform and are prohibited from taking on additional duties when they are told to do so. With regard to organic structure, on the other hand, the latter is designed to promote flexibility so that employees can initiate change and adapt quickly to changing conditions. This flexible structure is more like a team environment in which all employees are able to handle any of the tasks at hand. Besides organizational structure, people themselves are another essential element that needs to be considered in managing knowledge within an organization (Sveiby, 2001). Zaharias et al. (2001) argue that knowledge gained by employees through learning or training will enable them to translate that knowledge into an

organization's routine, competencies, job descriptions, business processes, plans and strategies. In contrast, Smith (2001) argues that employees with a lack of adequate training fail to keep up their work. Apart from training, Davenport and Prusak (2000, p. 115) mention that a number of indispensable incentives, as well as the necessary IT support, are needed to build an effective external knowledge transfer. Employees are able to take part in the success of the company and feel like they are an integral part of the company and the work which takes place within it. When the proper incentives are put into place, the results are easily noticeable and business will run much more smoothly. If they are not in place, the possibility arises that money will be lost by investing in unsuccessful and damaging incentives (Churchill, 2012). Finally, Gold et al. (2001) state that information technology serves as an essential element in organizational structure, particularly with regard to the creation of knowledge, and allows for

collaboration between separate parts of the organization in question. In an increasingly globalized world, ICT plays an important role in people's lives and in economics. ICT

is a vital component for the entry of various countries into the so-called "new economy", sometimes referred to as the "knowledge-based society" or information society (Daniels, 2004).

From the review of literature, the following proposed model analysis was derived:

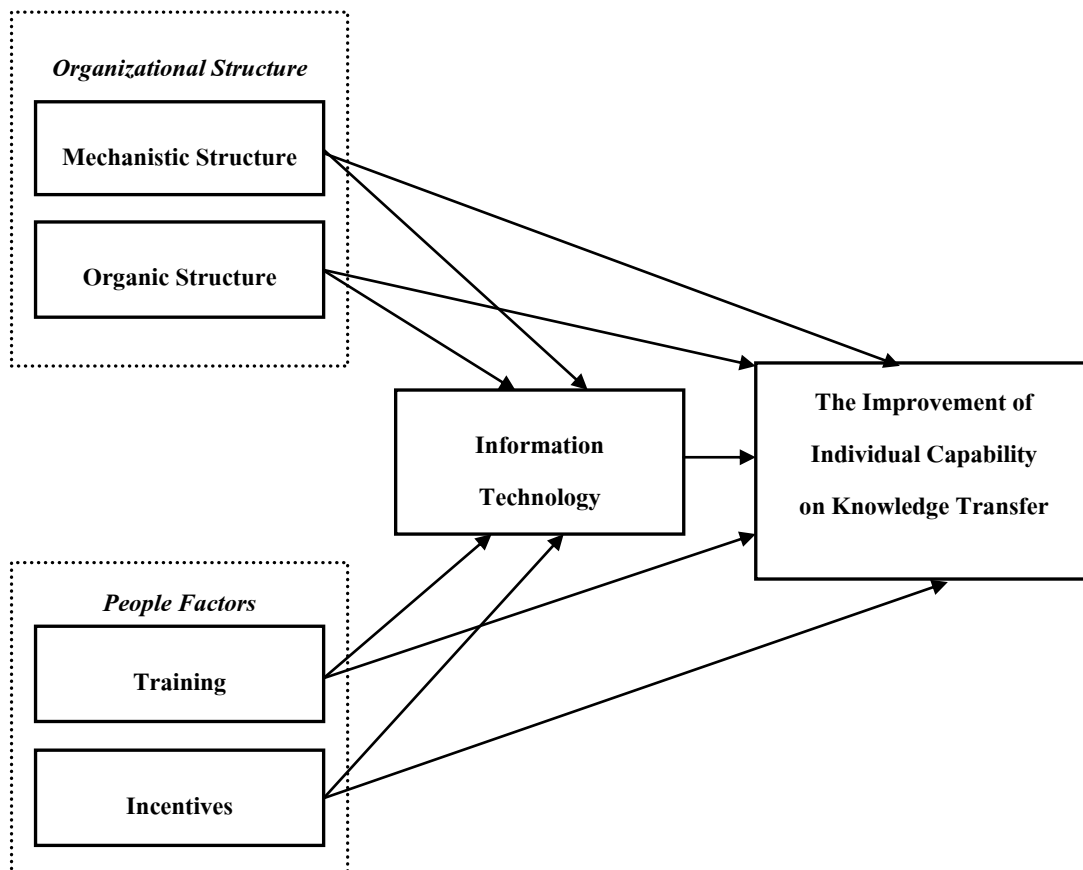


Figure 1: An integrative framework of the factors influencing the improvement of individual capability pertaining to knowledge transfer



In this study, the dependent variable is the improvement of individual capability pertaining to knowledge transfer. The independent variables are organizational structure (mechanistic structure and organic structure), people factors (training and incentives) and information technology. From the proposed model for analysis two hypotheses can be derived, as follows

H1: Mechanistic structure, organic structure, training, and incentives are more likely to have positive effects on information technology.

H2: Mechanistic structure, organic structure, training, incentives, and information technology are more likely to have positive effects on the improvement of individual capability regarding knowledge transfer.

Airports of Thailand Public Company Limited

The Airports of Thailand Public Company Limited (AOT) was incorporated from a state enterprise, namely the Airports

Authority of Thailand (AAT), to become a public limited company on September 30, 2002. AOT is Thailand's leading airport business operator, its main spheres of business being the management, operation and development of the country's airports. Currently, AOT is responsible for 6 international airports under responsibility: Don Mueang, Phuket, Chiang Mai, Hat Yai, Mae Fah Luang - Chiang Rai and Suvarnabhumi airports, all of which accommodate both domestic and international flights (AOT Annual Report, 2012, p. 34).

With regard to AOT's structure, the organization is managed by a Board of Directors, with the president of AOT possessing the authority to make decisions relating to AOT's managerial processes. Within the organization itself, there are 54 departments in all, each of which is assigned its own duties and job descriptions to work in accordance with AOT's managerial processes. (AOT Annual Report, 2012, pp. 22-23).



Besides AOT's structure, human resources are considered invaluable assets, being viewed as the driving force behind the organization's ability to attain a sustainable level of success, especially during a time of rapid change and increasing complexity. Therefore, AOT stresses "Human Resource Development" as an essential tool for the management of the nation's airports, for coping with changes that arise, and for creating value for the organization as a whole. In terms of human resources, operational skills must be developed in line with international standards of air transportation, thereby enabling the company to position itself as Asia's leading commercial airport hub. In this regard, the organization has drawn up plans to enhance the capability of employees at all levels on an ongoing basis throughout the year. One of the main measures it has taken under its Annual Human Resource Development plan is to provide effective training, for example through a succession of training courses

(airport courses, operations courses, business and general management training courses, courses for the Board of Directors and overseas training programs) as well as additional projects each year (AOT Annual Report, 2012, pp. 109-111).

Furthermore, AOT provides incentives to employees in order to increase their capability with regard to knowledge transfer. AOT makes an effort by using incentive systems that make use of extrinsic or intrinsic motivation in order to encourage employees engaged in the sharing of knowledge to obtain the requisite goals and gain personal satisfaction from doing the job assigned to them. Examples of extrinsic motivation, for instance, are increased salaries, bonuses and promotions, while examples of intrinsic motivation are applied more on "soft" instruments, such as acknowledgements or personal development (Airports of Thailand Public Company Limited, 2013).



In terms of information technology, AOT is engaged in an ongoing attempt to increase the level of high technology at the employees' disposal by providing them with IT facilities that will satisfy their needs and make their work more agreeable. Currently, AOT provides computers for almost all its workforce, especially those employees working in the office who are required to use computers in the performance of their duties. AOT has made a continual effort to develop its information technology system to ensure that it supports all manner of electronic platforms, such as the internet, intranet, e-mail, e-documents, e-conferencing, a drawing storage management system, medical registration, information technology for executives and so on. Moreover, AOT has developed a system in order to support connectability with state agencies and private institutions in accordance with government policy (AOT Information Technology Master Plan, 2012, p. 15).

Methodology

Data was gathered by means of a survey questionnaire, which consisted of questions focusing on demographics and scales for measuring the variables in the research model. As for the sample, although AOT is in actuality responsible for six different units, the respondents in the study were drawn from AOT employees at Don Muang and Suvarnabhumi airports only. The reason for this was because the proportion of employees in Chiang Mai, Mae Fah Luang - Chiang Rai, Hat Yai and Phuket is relatively small compared to Don Muang and Suvarnabhumi. It follows, therefore, that there should be no difference in terms of results if the majority of respondents are culled from in Don Muang and Suvarnabhumi airports alone. With a sampling error of 5% at 95% according to Yamane (1973, p. 37), the total sample size of 4,224 employees should yield 367 respondents in all. In the research, the



researcher distributed 500 questionnaires to AOT employees working at Don Muang (Main office) and Suvarnabhumi in April, 2013, 460 of which were returned. Even though some of the questionnaires had a few missing values, they could still be used in terms of statistical analysis. Therefore, these 460 questionnaires represented 92.0 percent of the population.

For the purposes of the survey, a self-administered questionnaire consisting of a total of 42 items was developed that was designed to measure six constructs, namely mechanistic structure, organic structure, training, incentives, information technology, and the improvement of individual capability pertaining to knowledge transfer. Factor analysis was conducted to test the measurement model. The factor loadings of the individual items in the six constructs are all above 0.50. Respondents were asked to indicate the items on a five-point Likert scale ranging from strongly disagree (1), disagree (2), neutral (3), strongly agree (4), to strongly agree

(5). These items were adapted from many published sources and were found to be reliable and valid (Gold et al., 2001; Davenport & Prusak, 2000; Daniels, 2004; Levine & Gilbert, 1998; Amiri et al., 2010; Burns & Stalker, 1961). With regard to reliability, all of the scales (improvement of individual capability pertaining to knowledge transfer, mechanistic structure, organic structure, training, incentives, and information technology) had reliability coefficients with an alpha value ranging from 0.834–0.868. In addition, it should be noted that all items were presented in English.

As for the process of data collection, primary data was collected by hand and via mail using an open-ended questionnaire at different survey sites. Open-ended questions were employed for the purposes of this research in order to deeply explore the respondents' point of view, feelings and perspective, in addition to which such an approach can provide the requisite insight and useful data for further analysis. Furthermore,



documentary analysis was used as secondary data in order to evaluate historical and contemporary documentation and public records, government reports and opinions. Also, relevant information was gleaned and analyzed from several sources, such as newspapers, journals, books, official reports, magazines, and electronic references.

In terms of quantitative analysis, descriptive statistics were utilized in order to determine frequency, percentages, and means, as well as minimum, maximum, and standard deviations of the variables. To investigate a multi-co-linearity problem, Pearson's correlations coefficient and co-linearity diagnostics, such as variance inflation factors (VIF), and tolerance values, were used in order to present the relationships among the respective variables. In addition, path analysis was used to test the hypotheses pertaining to the direct and indirect effects of a set of independent variables (namely mechanistic structure, organic structure, training, incentives, and information

technology) on the dependent variable (namely improvement of individual capability relating to knowledge transfer). Lastly, stepwise regression analysis was used to investigate significant factors influencing the improvement of individual capability pertaining to knowledge transfer within AOT.

Findings

For the purposes of this study, the researcher distributed 500 questionnaires to a total of respondents, 460 of which were returned. All of returned questionnaires were found to be usable even though some of questionnaires had a few missing values. In order to investigate the multi-co-linearity problem, Pearson Coefficients were the tools selected to determine the relationships among the following elements: mechanistic structure (MECHA), organic structure (ORGAN), training (TRAIN), incentives (INCEN), and information technology (INFOR).

Table 1: Correlations coefficients between independent variables (N = 460)

Variable	MECHA	ORGAN	TRAIN	INCEN	INFOR
MECHA	1	.737**	.444**	.560**	.547**
ORGAN	.737**	1	.488**	.637**	.568**
TRAIN	.444**	.488**	1	.464**	.459**
INCEN	.560**	.637**	.464**	1	.513**
INFOR	.547**	.568**	.459**	.513**	1
Minimum	6	11	14	8	7
Maximum	25	40	35	40	35
Mean	17.38	27.01	27.22	26.75	25.35
SD	3.500	5.460	3.610	5.870	4.613

Note: ** Correlation is significant at the .01 level (2-tailed).

From the Pearson correlation analysis, the researcher found that the correlation between independent variables ranged from 0.444–0.737, the highest correlation (0.737) being between mechanistic structure (MECHA) and organic structure (ORGAN). All of the coefficients were nevertheless lower than the acceptable level of correlation value proposed

by Kumari (2008), which was 0.80. With regard to the independent variables, it was concluded that there was no multi-co-linearity problem in terms of this research study.

Tolerance and variance inflation factor (VIF) tests further confirmed that there was no multi-collinearity problem among the independent variables in this particular study

(namely mechanistic structure, organic structure, training, incentives, and information technology). The tolerance of the independent variables ranged from 0.357–0.679, which was not less than 0.10 as suggested by Kumari (2008).

It showed that the variables did not yield a problem with regard to multi-co-linearity. Moreover, the VIF values confirmed the results since none of the values proved to be higher than 10 (Kumari, 2008).

Hypotheses Testing

The application of path analysis was proposed to test the hypotheses underlying this research study. The path diagram in figure 2 demonstrates the results corresponding to the initial hypotheses.

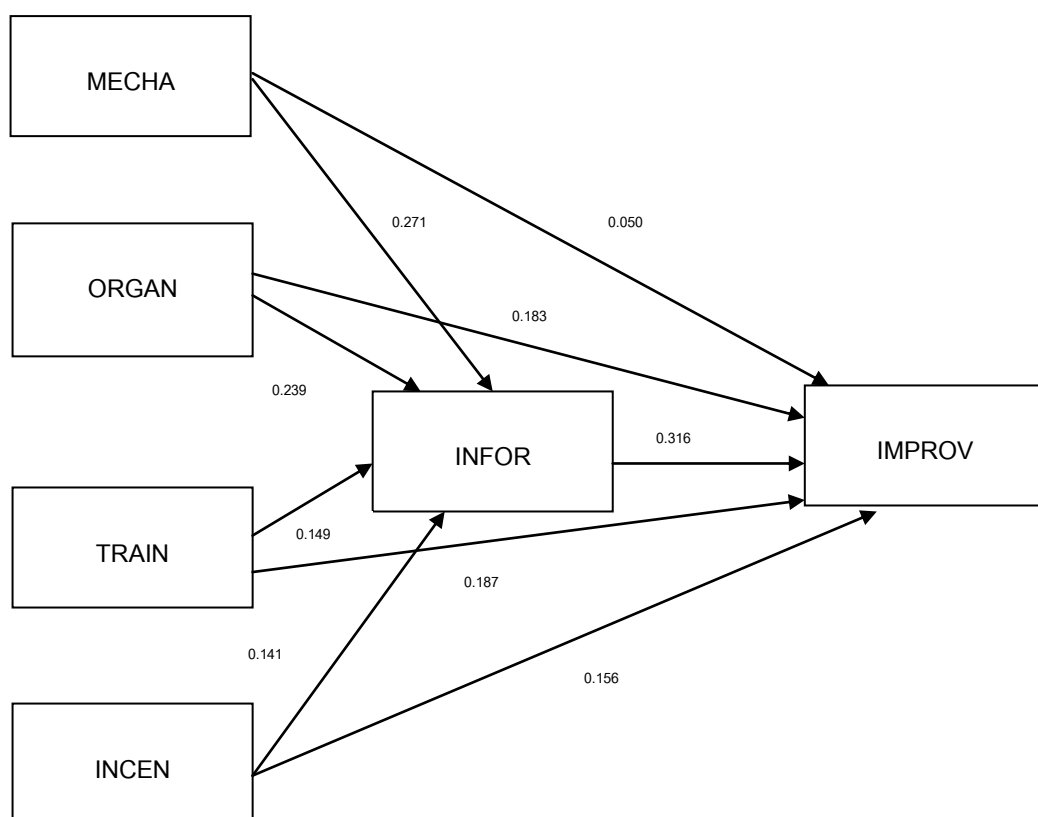




Figure 2: Path model demonstrating the relationship among mechanistic structure, organic structure, training, incentives, and information technology pertaining to the improvement of the individual capability of AOT's employees (N = 460) regarding knowledge transfer

The figure demonstrates that mechanistic structure, organic structure, training, and incentives bore a positive relationship with information technology. Significantly, mechanistic structure, organic structure, training, and incentives -- including information

technology -- could serve as key factors that impact upon the improvement of individual capability with regard to knowledge transfer.

As for the results relating to the impacts of the factors towards the improvement of individual capability pertaining to knowledge transfer, all of the identified variables (mechanistic structure, organic structure, training, incentives, and information technology) were shown to have a powerful impact on the improvement of individual capability regarding knowledge transfer.

Table 2: Summary of the Results of the Hypothesis Testing

No.	Hypothesis	Result
H1	Mechanistic structure, organic structure, training, and incentives are more likely to have a positive effects on the information technology.	Fail to reject
H2	Mechanistic structure, organic structure, training, incentives, and information technology are more likely to have positive effects on the improvement of individual capability in knowledge transfer	Fail to reject



Because mechanistic structure, organic structure, training, and incentives bore a positive relationship to information technology, hypothesis 1 was supported. Moreover, hypothesis 2 was supported because all of the variables (mechanistic structure, organic structure, training, incentives, and information technology) demonstrated the power to predict improvement in individual capability in terms of knowledge transfer.

For scrupulous analyses, there was a positive relationship on mechanistic structure, organic structure, training, and incentives on the information technology. In another meaning, the information technology performs better and more extent when the mechanistic structure, organic structure, training, and incentive increase.

In addition, all of the variables were confirmed to have positive effects on the improvement of individual capability regarding knowledge transfer. In this regard, mechanistic structure, organic structure,

training, and incentives were stated to have direct and indirect positive effects on the improvement of individual capability regarding knowledge transfer, while information technology only had a direct effect on the improvement of individual capability with regard to knowledge transfer.

Discussion

The overall aim of this study was to assess the improvement of individual capability regarding the transfer of knowledge at AOT, to explore the major factors that impact upon the improvement of individual capability pertaining to knowledge transfer, to explain the relationship levels of the factors and to recommend appropriate management alternatives. Beyond this, the aim was to utilize the key lessons learned for future policy making in order to improve individual capability to engage in knowledge transfer. To achieve these 4 objectives, an analytical model was proposed based on the dimensions of knowledge transfer and

management information systems discussed in the literature review. The analytical model proposed five critical factors that influenced the improvement of individual capability regarding knowledge transfer. Path analysis was employed to fulfill the research

objectives and to test the proposed model. In addition, open-ended questions were employed to support the statistical results and provide insightful information regarding the existence or non-existence of relationships among the variables.

Table 3: Direct, Indirect and Total Causal Effect of Mechanistic Structure, Organic Structure, Training, Incentives, and Information Technology on the Improvement of Individual Capability Regarding Knowledge Transfer

Independent Variable	Sources of Causation		
	Direct	Indirect	Total
Mechanistic Structure	.050	.086	.136
Organic Structure	.183	.076	.259
Training	.187	.047	.234
Incentives	.156	.045	.201
Information Technology	.316	-	.316



According to the results pertaining to direct and indirect effects as presented above in Table 5.13, even though information technology showed only a direct effect on the improvement of individual capability in knowledge transfer, it yielded the highest effect among all the other variables (Beta = 0.316). The current era of globalization has signaled the increasing use of computer facilities by employees to reduce their workload and search for additional data. As a result, modern technology has steadily become an integral part of the daily lives of each and every member of the workforce. Information technology in the form of computers, printers, the intranet or the Internet, has proved of great benefit to them in sharing knowledge or in communicating with colleagues, managers, executives or other partners. Specifically, linkages provided by the internet and attendant websites have become essential channels for the sharing of knowledge. Consequently, information technology was in itself the most significant factor pertaining to

the improvement of the individual capability of AOT's employees regarding knowledge transfer.

Organic structure was considered the second most influential factor in the improvement of individual capability regarding knowledge transfer, evincing both direct (Beta = 0.183) and indirect effects (Beta = 0.076). If the organization encouraged employees to work in a cooperative fashion and to share ideas or attitudes that in turn would have a more productive effect on the work at hand, knowledge sharing would be improved within the organization as a whole. Also, information technology provides a support platform capable of achieving the requisite cooperation and communication among employees.

Among all the various factors, training and incentives were considered as people factors that produced a similar impact on the improvement of individual capability in knowledge transfer. Also, these two variables exhibited both direct and indirect effects.



Employees gained knowledge from training with supplementary information technology, such as computers, printers or new software. After training, employees would bring the knowledge that they had obtained to share with other employees, either through conversations or implementation on the job. Regarding incentives, it can be said that when monetary rewards or recognition were offered to the employees by way of the intranet and websites, knowledge transfer or knowledge sharing among employees would improve or increase.

Among all the variables, the lowest result regarding the improvement of individual capability for knowledge transfer involved mechanistic structure. Essentially, a mechanistic structure exerted a very small influence on the improvement of individual capability regarding knowledge transfer both indirect ($\text{Beta} = 0.050$) and total terms ($\text{Beta} = 0.086$). Compared to that of other variables, the effect of mechanistic structure produced less than twice the effect of

information technology. On the other hand, mechanistic structure exhibited the highest indirect effect; the results indicate that information technology plays an essential role as a moderating variable compared with the effect of mechanistic structure regarding the improvement of knowledge-sharing among employees. Whenever the latter use computers or other forms of information technology to ease their normal workload, they might have more time to spare and thus be able to communicate or share ideas with others more than was the case in the past.

Recommendations

Because the final objective of this study was to put forward recommendations for the improvement of individual capability regarding knowledge transfer, all the recommendations given below are a combination of the analysis of the empirical results and open-ended questions from the survey. First of all, the analysis of the empirical results and open-ended questions



indicate that organizational structure exerted positive effects on the improvement on individual capability pertaining to knowledge transfer. Nonaka (1994) states that reducing hierarchies in organizations would increase knowledge transfer between employees. In this sense, an organization should allow its employees to work together in order to reduce hierarchies and to participate more in the working process within that organization. As one female operative at level 5-6 in AOT said “If AOT allows more cooperation in any kind of work, I will have more chances to work with other people”. Moreover, fluid job descriptions and job rotation must be clearly defined, thereby enabling employees to exchange jobs or substitute for one another in an easy and productive manner. As a result, greater opportunities would be created among employees with regard to the sharing of knowledge. In terms of mechanistic structure, the researcher would like to recommend that executives and policy makers pay attention in this respect. The

reason is that employees proved more likely to share their experiences with their colleagues when they felt confident that they knew the work assigned to them thoroughly.

Secondly, a number of respondents mentioned that information technology was a crucial factor that enabled users to implement the knowledge shared within the organization. Gold et al., (2001) state that the linkage between information and communication systems could eliminate the barriers to communication that naturally existed between different parts of the organization. From the open-ended questions, one woman, whose educational qualifications were higher than that of a bachelor degree, mentioned that “technology is the best channel for sharing knowledge among employees. The organization must pay attention to it”. Thirdly, the empirical analysis revealed that a significant relationship exists between incentives and the improvement of individual capability pertaining to knowledge transfer. When the organization offered more



monetary rewards or other forms of recognition, employees were willing to share knowledge with others. Conversely, Kohn (1993) states that employees' level of satisfaction could be undermined through unattractive incentive programs. This remark is in line with the open-ended survey, in which a male employee at Suvarnabhumi airport indicated that "when AOT grants employees some kind of reward, it will encourage them to take further action rather than simply do nothing". Fourthly, both the empirical results and the data gleaned from the open-ended questions confirmed that training has a significant relationship in terms of improving individual capability with regard to knowledge transfer. Zaharias et al., (2001) indicate that knowledge gained through training would enable employees to translate that knowledge in order to accommodate the organizations' plans, competencies, business, and strategies. In the

survey, one female employee who had worked for AOT for more than 5 years made the following remark in this respect: "I need to take more courses in order to be multi-skilled in my work, so that I can teach my friends what I have learned." Furthermore, respondents provided a number of other recommendations as well, stating for example that they required more communication within the AOT, good leadership, support from senior management and external participation. One man who worked at Suvarnabhumi airport recommended that "executives must communicate with lower level employees as much as possible in order to share information and to enable them to know what they really need". Last but not least, one female employee whose educational qualification was lower than that of a bachelor degree stated that "AOT must have good leadership that acts as a role model for other employees within the organization".



Implications for Further Research

During the initial stage of the above research, the researcher focused on investigating those factors that influence individual capability pertaining to knowledge transfer, which constitutes something of a limitation as far as this study is concerned. For future research, there are other factors apart from the determinants that were proposed in the model, which may play significant roles in leading to an improvement in individual capability regarding to knowledge transfer. Variables such as leadership, communication, and a knowledge-sharing environment should also be investigated in order to determine their potential effects vis-à-vis the improvement of individual capability pertaining to knowledge transfer.

Therefore, more practical implications need to be identified with regard to knowledge sharing or further studies conducted within the private sector in that this may well produce different results. In addition, because information technology was found to be the most critical factor involved in the improvement of individual capability regarding knowledge transfer, it is necessary to explore further what the major determinants are in terms of implementing information technology towards this end. Lastly, although the improvement of individual capability regarding knowledge transfer is an interesting variable in the study, different dimensions of knowledge transfer should prove a bountiful source of further study as well.



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