

The gap between e-learning managers and users on satisfaction of e-learning in the accounting industry

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ABSTRACT

This paper conducted questionnaire survey at two international accounting firms in Taiwan to find out the gap between e-learning managers and users on satisfaction of e-learning in the accounting industry. The findings suggested that “satisfaction” with e-learning has positive effects on perceptions of its “behavioral effects” and “output effects”. Users who are more satisfied with e-learning will be more influenced by e-learning in their behavior and output performance. In other words, if accounting offices can offer satisfactory e-learning courses to their employees, their employees will show improved performance in “behavior” and “output”.

Keywords: e-learning, accounting, accounting industry

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INTRODUCTION

The advancement of information technology has induced many changes in the corporate environment, and these changes have in turn increased the complexity of accounting. Kau & Rans (1993) mentioned that the roles and knowledge that accounting practitioners need to play and possess should be different in modern times. However, accounting education has not been adequately adjusted to meet changes of the external environment. According to Zhuang (2005), most of the accounting teachers and practitioners agree that the current accounting education should be reformed. Hsiao, Chou & Duh (2006) and Cheng (2007) suggested that accounting education should be changed from supply driven to demand driven. It should meet the needs of customers (such as accounting offices). Only when customer needs are satisfied can education and training be cost-effective and the goal of accounting education be achieved. Based on the Dictionary of Occupational Titles in Taiwan, there are 18 accounting-related occupations, including CPA, bookkeeper, clerk, auditor, cashier, system analyst, internal auditor, assistant accountant, financial auditor, financial planner, sales assistant, assistant auditor, software operator, financial accounting information specialist, computer auditor, accounting manager, financial manager, and financial analyst. A 2008 report released by PricewaterhouseCoopers (PwC), one of the world's largest accounting firms, showed that despite the global economic slowdown, PwC generated revenue exceeding US \$28.2 billion in 2008, a 14% growth from last year (Wu, 2008). These statistics indicated that auditing services are an important part in the accounting industry.

The 21st century is an era of knowledge economy (Drucker, 1993). Speed, flexibility, and innovativeness are determinants of corporate competitiveness. With the advancement of information and communication technology, many firms have migrated their existing training courses to e-learning platforms. In this trend of knowledge-based competition, e-learning has become an essential and critical learning tool. According to Alavi and Leidner (2001), e-learning is a virtual learning environment in which a learner's interactions with materials, peers and instructors are mediated through information and communication technologies. Simply put, e-learning is to use electronic devices and media, such as computers, video tapes, compact discs, and network, to learn online or offline (Wen & Cheng, 2006).

Bersin & Associates (2006) stated that the corporate e-learning market in the US is at the maturity stage. The year of 2005 saw a 40% growth of enterprises using e-learning to provide employee training. In Taiwan, the proportion of enterprises adopting e-learning is also on the increase. According to Institute for Information Technology (III) (2006), the e-learning adoption rate among domestic large-scale enterprises soared from 14% in 2003 to 35% in 2005, suggesting a large increase in acceptance of e-learning among domestic enterprises. However, many enterprises still have insufficient understanding of e-learning. Their knowledge of e-learning is limited to construction of a learning platform, acquisition and production of learning materials. As a result, even if they have invested a huge amount of funds into building an e-learning environment, they still cannot obtain immediate results and thus left the established environment unused. Successful introduction of e-learning requires not only construction of software and hardware facilities but also support from multiple aspects, including executives' support and commitment, internal marketing and promotion, design of proper instructions, introduction of teaching strategies, assessment of external experts, and technical support of e-learning system providers. Introducing e-learning without sufficient understanding of its full look will certainly result in poor effectiveness of the investment (Office of Taiwan e-Learning and Digital Archives Program, 2004). Providing the full look of e-learning is a task that can be accomplished by the academia.

Learning Circuits and E-learning News (2008) polled their readers on how they are

using e-learning in their organizations and found that 73.2% e-learners are business employees. They use e-learning for improving general business skills, task-specific skills, and customer service training. The survey results indicated that development of e-learning strategies should be focused on training of business employees first. Employees' general business skills and task-specific skills mainly come from education and training, which are also the most important approaches to creating human capital and economic values. Compared with conventional corporate training, e-learning enables businesses to reduce their investment in employee training and improve the overall competitiveness of the enterprise (Chou, 2001). Because e-learning can be accessed at any time and from any location, it is characterized by a shorter learning curve and higher learner autonomy (Wu, 2002). Hence, assisting businesses in developing cost-effective e-learning courses for higher employee competency and firm competitiveness has become a goal of the academia.

To sum up, many enterprises have invested in e-learning in pursuit of higher competitiveness. Without taking necessary actions in advance, including conducting a survey of employee needs and adopting appropriate teaching strategies, instructional designs, and evaluation models, they may not obtain expected outcomes of their investment. To explore the current conditions and difficulties of implementing e-learning in the accounting industry, this study will survey accounting practitioners in two international accounting offices in Taiwan.

METHODOLOGY

Thanks to the assistance of two international accounting offices in Taiwan, questionnaire survey was adopted in this study. The two international accounting offices which offered assistance in this study are among the top four accounting offices in Taiwan. They have branches in northern, central, and southern Taiwan. Based on the evaluation models proposed by Kirkpatrick (1959, 1996), Phillips (1997, 1998), and Chung & Yang (2006), a tentative questionnaire for each type of subjects, namely e-learning managers (leaders and directors of human resource and training development), and users (auditors) was developed. Later, three accounting experts and two e-learning experts were invited to review and finalize the questionnaire for improving questions' content validity. A three-point likert scale was assessed to each question. The three-point likert scale included 1 as "It is not necessary to ask the question", 2 as "It is useful, but not essential to ask the question", and 3 as "It is essential to ask the question". Essentially, the questions that got a one-point score were deleted, the questions that got a two-point score were revised, and the questions that got a three-point score were kept. Five undergraduate accounting students were invited to examine which items were unclear. Each item was assessed by a three-point likert scale. The three-point likert scale included A as "Unclear question", B as "Needed modification", and C as "Clear question". Usually, the items that had an A-point were deleted, the items that had a B-point were revised, and the items that had a C-point were kept for the questionnaire.

RESULTS

Basic Data of the Participants

The demographic variables of the participants are shown in Table 1(Appendix). As shown in this table, the sample comprised female and male participants in almost equal proportions. Most of them were in the age group of 30~39 (65%). In terms of length of service, those having 10 year (55%) and 3-5 year (30%) experience constitute the majority. The proportions of participants having a BA degree and a MA degree as the highest degree

are equal. Besides, more than half of them (55%) hold a professional certificate(s) in accounting.

Questionnaire Survey Results

1. Responses of managers and users

In this study, CPAs and directors of human resource and training development were viewed as e-learning managers and auditors as users. It was investigated the extent to which they were satisfied with e-learning courses and how they perceived the behavioral effects and output effects of the courses. Moreover, this study also explored their perception of the cost-effectiveness of the courses. As shown in Table 2 (Appendix), e-learning managers gave higher ratings to “satisfaction”, “behavioral effects”, and “output effects” than users did. As shown in Table 3, the difference in their “satisfaction” reached the significance level ($p < .05$, Cohen's $d=1.028$), suggesting that e-learning managers and users have incongruent views as to whether e-learning can improve users' auditing skills, efficiency, quality, and goal accomplishment abilities. In terms of “cost-effectiveness”, despite absence of an objective evaluation mechanism for e-learning effectiveness, most of the managers held a positive attitude toward the effectiveness of e-learning and agreed that e-learning could help the firm reduce the employee training cost.

2. Differences between genders

As shown in Table 4 (Appendix), a significant difference in “behavioral effects” and “output effects” of e-learning courses existed between male and female respondents. Through comparison of means, it was found that female respondents agreed more than male ones that e-learning can improve behavioral performance and output. However, their differences in “satisfaction” and perception of “cost-effectiveness” were not significant.

3. Differences between respondents at different education levels

The analysis results suggested that the difference between respondents at different education levels did not reach the significant level in any dimension ($t_s=.263$, $p > .05$; $t_b=.735$, $p > .05$; $t_o=.782$, $p > .05$; $t_c=1.257$, $p > .05$). However, respondents with a bachelor's degree gave higher ratings to “satisfaction”, “behavioral effects”, “output effects” ($M=3.08$), and “cost-effectiveness” than those with a master's degree.

4. Difference between respondents with and without a professional certificate(s)

The analysis results suggested that the difference between respondents with and without a professional certificate(s) did not reach the significant level in any dimension ($t_s=-.469$, $p > .05$; $t_b=-.049$, $p > .05$; $t_o=-.056$, $p > .05$; $t_c=-1.622$, $p > .05$). However, respondents with a professional certificate(s) gave higher ratings to all the four dimensions than those without a professional certificate(s).

5. Difference between respondents in different age groups

The difference between age groups did not reach the significant level in any

dimension ($F_s=1.341, p > .05$; $F_b=.698, p > .05$; $F_o=.126, p > .05$; $t_c=.150, p > .05$). However, older respondents (over 40 years old) gave higher ratings to all the four dimensions than younger respondents. A plausible explanation is that most of these older respondents were in managerial positions and thus could more agree with the firms' e-learning policies.

6. Difference between respondents with different lengths of service

The difference between respondents with different lengths of service did not reach the significant level in any dimension ($F_s=.757, p > .05$; $F_b=1.130, p > .05$; $F_o=.126, p > .05$; $t_c=.002, p > .05$). However, respondents who have a longer length of service (more than 10 years) gave higher ratings to "satisfaction", "behavioral effects", and "output effects" than those with a shorter length of service.

7. Regression analysis of behavioral effects and output effects on satisfaction

This study further conducted a regression analysis to find the correlation between "satisfaction" with e-learning and "behavioral effects" and "output effects" of e-learning. As shown in Table 5 (Appendix), user satisfaction with e-learning has positive effects on "behavioral effects" and "output effects", with coefficients reaching 0.680 and 0.713 and predicting power (R^2) reaching 46.2% and 50.8% respectively. These figures suggest that users who are more satisfied with e-learning will be more influenced by e-learning in their behavior and output performance.

CONCLUSIONS

With the advancement of computer technology and multimedia technology, all industries have gradually increased their investment in e-learning. However, development of e-learning courses requires considerations in multiple aspects. Introduction of e-learning involves learning theories, curriculum development, effectiveness evaluation, human resource development strategies, organizational culture and management, and even integration of knowledge management and human resource education, all of which should be investigated and planned in advance. Through in-depth investigation into current situation of e-learning in two international accounting offices, it's found that despite extensive implementation of e-learning in these two accounting offices, their users sometimes felt unsatisfied and discouraged in e-learning because the courses which have been developed mainly by their overseas headquarters are mostly in English and inconsistencies exist between the courses and local regulations or standards. In the present, although the two international accounting offices' adoption of e-learning conforms to the trend of globalization, their e-learning courses are not entirely compatible with local regulations or standards and also lack local features. They should manage to solve this weakness so as to offer more meaningful learning experiences to their employees and allow them to cope with daily tasks in a more efficient manner. Besides, although effectiveness of e-learning is widely recognized, it cannot be properly measured. This is also a problem that the accounting offices are faced with.

Some phenomena are worth mentioning. For instance, e-learning managers and users had significantly different opinions as to whether e-learning could help improve auditing skills, efficiency, quality, and goal achievement abilities. Managers perceived significantly higher effectiveness of e-learning than users. A plausible explanation is that managers were under pressure to improve overall performance of their office and thus expected to save the costs of employee training by adopting e-learning. Besides, female users perceived higher

effectiveness of e-learning than male ones. In general, the findings suggested that “satisfaction” with e-learning has positive effects on perceptions of its “behavioral effects” and “output effects”. In other words, if accounting offices can offer satisfactory e-learning courses to their employees, their employees will show improved performance in “behavior” and “output”.

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APPENDIX

Table 1 Demographic variables of the respondents

Item	Group	N	%
Sex	Male	9	45
	Female	11	55
Age	20~29 years old	5	25
	30~39 years old	13	65
	40~49 years old	2	10
Length of service	1~2 years	2	10
	3~5 years	6	30
	6~9 years	1	5
	10 years or more	11	55
Education	Bachelor's degree	10	50
	Master's degree	10	50
Position	Users	10	50
	Managers	10	50
Possession of professional certificate	No	9	45
	Yes	11	55

Table 2 A summary of responses of e-learning managers and users

Construct	Number			Mean			Standard Deviation (S.D.)		
	Managers	Users	Total	Managers	Users	Total	Managers	Users	Total
Satisfaction	10	10	20	3.50	3.04	3.27	.374	.515	.497
Behavioral Effects	10	10	20	3.15	2.72	2.93	.601	.545	.601
Output Effects	10	10	20	3.16	2.81	2.98	.466	.53	.519
Cost-Effectiveness	10	—	10	3.23	—	3.23	.583	—	.583

Table 3 Analysis of differences between managers' and users' responses

Construct	Classification	Number	Mean	t-value	p-value
Satisfaction	Managers	10	3.50	2.286	.035*
	Users	10	3.04		
Behavioral Effects	Managers	10	3.15	1.69	.108
	Users	10	2.72		
Output Effects	Managers	10	3.16	1.564	.135
	Users	10	2.81		

Table 4 Analysis of differences between genders

Construct	Classification	Number	Mean	t-value	p-value
Satisfaction	Male	9	3.11	-1.317	.204
	Female	11	3.40		
Behavioral Effects	Male	9	2.63	-2.254	.037*
	Female	11	3.18		
Output Effects	Male	9	2.70	-2.449	.025*
	Female	11	3.21		
Cost-Effectiveness	Male	4	3.00	-.997	.348
	Female	6	3.38		

Table 5 Regression analysis of behavioral effects and output effects over satisfaction

Construct	Standardized regression coefficient (β)	Coefficient of determination (R^2)	F-test	Significance
Behavioral effects	.680	.462	15.471	.001***
Output effects	.713	.508	18.616	.000***

PS: *** $p < .001$

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