

Toward an Understanding of the University Students' Behavioral Intention to Building e-Portfolio via Blog Service

Hui-Chun Hung, Chia-Shan Wu, Shelley Shwu-Ching Young

*Institute of Information Systems and Applications, National Tsing Hua University,
Taiwan, R.O.C.*

g9565526@oz.nthu.edu.tw, wuchiashan@gmail.com, scy@mx.nthu.edu.tw

Abstract:

This study attempts to explore Taiwan's higher education students' needs and motivations for building their own E-Portfolio via blog service. To examine university students' behavioral intention, this study employed the Theory of Planned Behavior (TPB) as the research framework. One hundred and ninety-two participants completed a survey questionnaire measuring their responses to four constructs in the TPB. The results show students agree that using blog can promote more the interactions between both teacher and students and peers. To motivate students to building e-portfolio via blog, we need to explore the needs from user's perspectives. Such as the function of priority setting, privacy, self design space, and as an access to get job or school.

Keywords: Blog, E-Portfolio, high education, theory of planned behavior.

1. Introduction

E-Portfolio, also known as an electronic portfolio, is a collection of digital evidence. As a digital evidence to apply jobs or schools, E-Portfolio is a purposeful compilation and reflection of one's work, efforts and progress [1]. E-Portfolio had been adopted for universities for many years in the United States and Europe. Getting more and more attention, the Ministry of Education in Taiwan held workshops and seminars to encourage university students building their own E-Portfolio. However, learning the new tools to create portfolio might reduce students' motivation, more than that, maintaining a platform of E-Portfolio might require lots of financial and management resources. To lighten students' burden, the free Blog service provider equipped with the features of timely record and easy operation might be potential to meet what E-Portfolio needs. This research employed the Theory of Planned Behavior (TPB) as the research framework to understand students' acceptance of E-Portfolio system and find out the more influential factors.

2. Building e-Portfolio via Blog Service

There is the increasing application in using Blog in education, communication and educational technology. The easy to use and free service make it easily for lectors get started and self-maintain [2]. Blogs provide an ideal tool to construct learning journals [3]. Chen [4] argues that using blog in education not only serving as assisted media for teaching to

facilitate teachers' professional but also serving as a tool to improve students' learning. Nevertheless, Blog can be regarded as interactive platform between senior and fresh students. Lien and Li [5] point out that Blog can apply to as e-portfolio, class and course management, information publication, teacher's professional growth and academic research. The features of Blog such as hyperlink publish and immediate feedback assists cooperative learning. Blog as an effective communication media provides a chance for students in knowledge sharing and team work [6].

An E-Portfolio (electronic portfolio) is an electronic collection of learning record that provides actual evidence of achievement [7]. Evidence may include learning process, research projects, observations by mentors and peers, and/or reflective thinking in many media types (audio, video, graphics, and text). The concept of developing e-portfolios is based on the fact that the reflective practice of creating portfolios enables students to document and track their learning and enhance their self-understanding. Becoming more and more common, Portfolio has been found to be a useful learning and professional development tool [8] [9] [10].

3. Theory of Planned Behavior, TPB

Fishbein and Ajzen [11] proposed a theory called Fishbein behavioral intention model. According to this model, one's behavior is determined by one's behavioral intention. Attitude and subjective norm have a positive effect on behavioral intention the intention is conditioned by one's attitude toward the behavior and the subjective norms. Based on Fishbein behavioral intention model, Ajzen [12] introduced the third determinant factor that is perceived behavioral control to modify the previous theory to form the Theory of Planned Behavior, TPB for shorter. According to Ajzen [12], the cause of one's behavioral intention is not mere be affected by one's attitude and subjective norms. It is closely related to the out of behavioral control and situation which is not dominant by one's will. TPB assumes that if individuals hold more positive attitude, perceived greater social pressure around them, the more identified executive capacity, resource and opportunities they own, then the stronger the behavioral intention, more adequate to predict individual's behavior.

There have been numerous empirical studies supported to predict individual's behavioral intentions of adoption of new product or new technology by using TPB [13]. Our research uses TPB to understand students' acceptance of E-Portfolio system and find out the more influential factors.

4. Method

To draft the questionnaire, we conducted focused interviews in students and teachers, separately. The record of focused interview was using to revise questionnaire. And then, we collected questionnaire from classroom and online to understand students' personality and their motivation in using blogs, then find out students' needs and incentive in using E-portfolio system by theory of planned behavior. Finally, we provided recommendation for teachers and students.

The participants of focused interviews were random chosen from one of the college in a national university in Taiwan, divided into two group, students and teachers. The sample were analyzed for understanding acceptance of using E-portfolio using questionnaire, include classroom and online, from students of a national university in Taiwan. After two weeks, number of surveys collected 192, 104 of the participants were male and 88 were

female. They can be further categorized by their education level, 51% being classified as undergraduate students, 45% as graduate students, and 4% as doctoral students. Both qualitative and quantitative data analyses were performed. The analysis of quantitative data used the SPSS 12.0 statistical software package. First descriptive statistics were computer. In order to clarify the relative contribution of these variables, a multiple regression analysis was done.

5. Data analysis

This research use TPB to predict students' behavioral intention of E-portfolio acceptance. The table 1 shows Behavioral beliefs, Outcome evaluations, External incentives and Group influence were identified as independent predictors of students' behavioral intention of E-portfolio acceptance, the Perceived Facilitation factor excepted. Table 1 displays the unstandardized regression coefficients (B), the standardized regression coefficients (beta), and R, R2 and adjusted R2. The coefficient of determination (R2) was 0.586, indicating that the model explained 58.6% of the variance in the students' behavioral intention of E-portfolio acceptance. The result shows a significant effect of Table 2 Multiple regression of Behavioral beliefs, Outcome evaluations, External incentives, Group influence and Perceived Facilitation with students' behavioral intention of E-portfolio acceptance

Table 1 Behavioral beliefs

Model (N=192)	Unstandardized Coefficients		Standardized Coefficients	
	B	S _e	beta	t
(Constant)	-.027	.212		-.129
Behavioral beliefs	.224	.053	.252	4.201***
Outcome evaluations	.290	.071	.270	4.107***
External incentives	.260	.057	.247	4.566***
Group influence	.111	.053	.128	2.082*
Perceived Facilitation	.118	.062	.126	1.906

$$R^2 = .597 \quad \text{adj}R^2 = .586 \quad F_{(5,186)} = 55.162^{***}$$

*p < .05 **p < .01 ***p < .001

Table 2 Items of Behavioral beliefs factor

No.	Items	Means	Sd.
1	The capacity of data storage	3.72	1.09
2	Diverse output formats (CDs, papers and so on.)	3.67	0.99
3	Let me adjust the configuration page or information block	3.56	1.03
4	Variety of templates and graphic designs to choose	3.53	1.05

(Whole tables using a five-point Likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement)

In the Behavioral beliefs factor, the following are the most important service for students when they setup their own E-portfolio, the capacity of data storage, diverse output formats (CDs, papers and so on.) of E-portfolio and adjusting the configuration page or information block by oneself (See Table 2). Table 3 shows the Outcome evaluations factor, students point out the most important functions, such as that the E-portfolio system have to serve as the digital resume, unify all the homework and reports effectively, and provide them with guides for preparing future competition.

The results reflected in Table 4 indicates that if Employer, department and school may use E-portfolio as one of the references for talent searching will affect students' usage of E-portfolio. Additionally, usage might raise when students perceive that students at other schools have their own E-portfolio. Although the Perceived Facilitation factor does not show a significant effect of students' behavioral intention of E-portfolio acceptance, students display high agree on the integration between Moodle or school information system and E-portfolio (See Table 5).

Table 3 Items of Outcome evaluations factor

No.	Items	Means	Sd.
1	Digital resume as the basis for employment or apply for school	3.69	0.98
2	Unify all the homework and reports effectively, and cultivating the ability of knowledge management	3.68	0.97
3	List the key ability to guide me as soon as possible to understand and prepare for future competition in order to be able to have a plan to enhance competitiveness	3.60	0.93
4	Let me be clear thinking and planning during the school how to take part in some activities that enhance my key competencies	3.54	0.98
5	Record of school life, and present self progress	3.40	0.92

(Whole tables using a five-point Likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement)

Table 4 Items of External incentives factor

No.	Items	Means	Sd.
1	Future employer may find employee by a "digital e-portfolio"	3.67	1.08
2	Department may use "digital e-portfolio" as one of the reference for talent recommendation	3.61	1.03
3	School may use "digital e-portfolio" as one of the reference for applying for institute	3.47	1.05
4	School may use "digital e-portfolio" as one of the reference for applying for scholarships	3.41	1.03

(Whole tables using a five-point Likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement)

Table 5 Items of Perceived Facilitation factor

No.	Items	Means	Sd.
1	I can import data easily from school e-learning platform (Moodle) into the "digital e-portfolio"	3.74	1.09
2	"Digital e-portfolio" can be integrated with school information system	3.68	0.89
3	I can import data easily from blog and social website into the "digital e-portfolio"	3.50	1.06
4	"Digital e-portfolio" can link to existing blog, albums, message board and so on.	3.47	1.10

(Whole tables using a five-point Likert scale, with 1 indicating strong disagreement and 5 indicating strong agreement)

6. Discussion and Conclusions

Using TPB to predict students' behavioral intention of E-portfolio acceptance, the result revealed that Behavioral beliefs, Outcome evaluations, External incentives and Group influence were identified as independent predictors of students' behavioral intention of E-portfolio acceptance. In Behavioral beliefs and Outcome evaluations factors, if the E-portfolio system offers variety of templates with high-capacity storage for students to record school life and organize all the homework and reports, students' attitude toward the system may be more positive. Furthermore, adding more outer incentives could raise

students' behavioral intention of E-portfolio acceptance. It is more attractive that the E-portfolio system could integrate with school information system and the blog service that students already used. For these reasons, to meet the needs of the students, we could build e-Portfolio via blog service based on the "Behavioral beliefs", "Effectiveness evaluation", "External factors", and "Group influence."

Acknowledgements

This research project is jointly funded by the National Science Council in Taiwan, NSC 98-2511-S-007 -003 -MY3. The authors would like to thank National Science Council for their support.

References

- [1] Barrett, H. (1997). Collaborative planning for electronic portfolios: Asking strategic questions, Electronic Portfolio Planning Issues. Retrieved from: <http://electronicportfolios.org/portfolios/planning.html>.
- [2] Wang, M., Fix, R. & Bock, L. (2005). The Use of Blogs in Teaching, Knowledge Management, and Performance Improvement. In G. Richards (Ed.), Proceedings of World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education 2005 (pp. 3192-3199). Chesapeake, VA: AACE.
- [3] Crichton, S. and Kopp, G. (2008) The Value of eJournals to Support ePortfolio Development for Assessment in Teacher Education. Paper presented at the Annual Meeting of the American Educational Research Association, New York City, March 24–28, 2008.
- [4] Chen, S. H. (2006). Use of Blog in education. Retrievd from: http://ashaw.typepad.com/editor/2004/10/post_1.html ◦
- [5] Lien, S. C. & Li, S. C. (2006). A study of information systems adoption through behavioral intention – an example of a university. *Commerce & Management Quarterl*, 4(2), 239-259.
- [6] Helen, S. D. & Christian, W. (2005). Learning with Weblogs: An Empirical Investigation. Paper presented at the Proceedings of the 38th Hawaii International Conference on System Sciences, Hawaii.
- [7] Barrett, H. (2000). Create Your Own Electronic Portfolio. *Learning & Leading with Technology*, 27(7), 14-21.
- [8] Shulman, L. (1998), Teacher portfolios: A theoretical activity. In N. Lyons (Ed.), *With portfolio in hand: Validating the new teacher professionalism*, 23-38, New York, NY: Teachers College.
- [9] Smith, K. and Tillema, H. (2003) Clarifying different types of portfolio use. *Assessment & Evaluation in Higher Education*, 26(6), 625-648.
- [10] Wade, R. C. & Yarbrough, D. B. (1996). Portfolio: A tool for reflective thinking in teacher education? *Teaching & Teacher Education*, 12(1), 63-79.
- [11] Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research*. MA: Addison-Wesley.
- [12] Ajzen, I. (1985). *From intentions to actions: a theory of planned behavior, action-control: from cognition to behavior*. Heidelberg: Springer.
- [13] Yi, M. Y., Jackson, J. D., Park, J. S., & Probst, J. C. (2006). Understanding information technology acceptance by individual professionals: Toward an integrative view. *Information & Management*, 43, 350-363.