B2E Benefits Model for Police HR Development

Thepmongkol Keawken [1], Suchai Thanawastien [2], Suwannee Thoobjeen[3] and Sukpak Pansomboon[4]

[1,2] Faculty of Information Technology
Shinawatra University
Bangkok, Thailand
suchai.th@gmail.com
[3,4] Faculty of Science and Technology
Rajamangala University of Technology Suvarnabhumi
Ayutthaya, Thailand
Suwannee.t@rmutsb.com

Abstract— Benefits are a key part of the compensation employees receive from employers. E-commerce has become a huge part of the world that we live in today. It is then natural to join the two, benefits and e-commerce, together to be able to administer benefit programs more effectively and efficiently. This study surveyed employees and police officers in the Royal Thai Police Office. One hundred individuals were selected using the Purposive Sampling method with all of them anticipated being users of the B2E Benefits System in the actual work environment. One of the most important dimensions within the B2E perspective is that of internal communication systems such as the company intranet which offers employees access to internal materials, company guidelines, policies and other resources to support employees in their work. The implementation is to design the architecture and develop the B2E Benefits System program prototype for a trial use of the B2E Benefit System end-users. The participants had favorable opinions regarding the B2S Benefit System.

Keywords- E-commerce; B2E Benefits Model; Police HR

I. INTRODUCTION

The allocation of benefits to employees is important because it is an incentive to work. However, to accomplish this there must be an allocation of the budget and type of benefits for each employee or level. E-commerce business has expanded greatly and has enabled the provisioning of benefits through the internet which has diminished various existing hindrances. However, to create efficiency services and employees' satisfaction, e-commerce businesses must have an integration of technology in place in order to support a new paradigm that will create innovations that respond to employees better than before.

The three major e-business models are Business to Consumer (B2C), Business to Business (B2B) and business to employees (B2E). The first two models have been widely studied and they have attracted business interest whist the business to employees (B2E) has obtained minimal research to date. The Business to Employee (B2E) is a business model in which organizations deliver services, information, or products to employees. This model allows provisioning of benefits to employees by access via electronics mean which improves time and labor-intensive operations of organizations. The complete B2E system is comprised of three components which are - online business processes, online people management, and online services to the workplace community. Hansen and Deimler [4] also implement their B2E systems on intranets that mimic the internet.

II. B2E SYSTEM

B2E's e-business model increases the efficiency of employees by imitating B2C and B2B e-business models in that employees are treated as customers. This creates great implications for various organizations regarding employees' satisfaction with electronic access being provided ease of use.

Therefore, B2E e-business is a service for employees provided by organization management. This research is about the B2E's business model, innovation, and business processes in terms of employee benefits with a case study showing the deployment in large organization.

Large organizations are managing their employees electronically using an intranet. A critical element of the three forms of B2E e-business according to Hansen, Deimler [4] are online business processes, online people management, and online services to workplace communities. [8] on the other hand, describes the business model of B2E as an e-commerce business within an organization that offers products or services to employees. The electronic business model aims to use and enhance the unique qualities of the Internet and the World Wide Web to conduct business [6]. An e-business model for employees (B2E) helps companies meet the needs of employees while streamlining business processes. The use of intranets of organizations also helps to reduce the organization's hierarchy which allows employees to interact more in line with the work than on the command

line (Singh). It is an e-business, a model that creates value for the organization by engineering processes to provide services to employees through intranets and related technologies.

From the above literature discussion indicates that the B term of B2E is an organization and E is the staff, whereby the new design of business process management for employees [8] includes:

- ▢ Communication with remote employees electronically.
- ▢ Provide training and education through the intranet.
- ▢ Allows employees to order desktop devices from electronic catalogs.
  Using corporate intranets to buy insurance, discounted travel packages and event tickets.

Business services to employees (B2E) therefore includes electronic communication, online education, electronic procurement, data access, easier collaboration, purchasing of company products and products that are supported by the company such as an insurance for holidays and travel.

III. TECHNOLOGY FOR THE E-BUSINESS MODEL OF B2E

Technological advances are the foundation of an electronic business that has been developed. The B2E's e-business model has been developed on intranets [6]. Intranets are information technology networks within organizations that support communication and dissemination of information within the organization [2]. They enhance the effectiveness of the organization by facilitating internal electronic communication, collaborative processing and authorization, group communication, and information transparency [4] Intranets are also used for internal marketing communications and may include employee phones with directories, operational procedures or quality information such as products, competitor specifications, factory schedule, stock keeping, staff bulletin board or newsletter and training course [2] Authors and Affiliations

The template is designed so that author affiliations are not repeated each time for multiple authors of the same affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization). This template was designed for two affiliations.

The main function of the intranet as specified by [3] include the dissemination of information within the organization and facilitating communication and collaboration between employees, suppliers, customers and business partners. The intranet supports the use of e-business of B2E, but typically includes enterprise portals for businesses to communicate and interact with employees of the enterprise portal as described by [5] as an entry point to personal privacy through a web browser to critical business information both internally and externally.

A. Benefits of B2E E-Business Model

The widespread acceptance of B2E e-business by the organization is because of the benefits obtained from the benefits application of B2E. Employees can make intelligent decisions with up-to-date information and can better respond to organizational problems. Time saved from searching for relevant information helps employees spend that time with other activities that help increase productivity. Team project management are improved with easy access to research data.

In this 2020 century, company employees must work with greater efficiency. Salary is not the main attraction for employees, but the work environment and other benefits that will make employees happier with their work are valued also. At present, employees are searching for more methods or benefits. Providing benefits to everyone according to individual needs is something that the company strives for so that benefits can be personalized and be made available with a self-service approach.

B. Statement of the Problem

To design a system to support the self-service access to the entitled benefits under the rules, regulations, and conditions specified as the "benefits business rules" by the organization and these are mutually checked and certified by both organization and employees regarding trustworthy, transparency, and auditable. This research focuses on designing innovative systems of information technology that deliver such capabilities.

X. Objectives of the Study

The objectives of this study are:
1. To study the aspect model to apply the B2E system for the benefits system.
2. To study the requirements of the B2E system that comprises personalization and self-service capabilities.
3. To develop the B2E system that comprises personalization and self-service capabilities.
4. To study the satisfaction of employees using the B2E system developed.

Δ. Research Questions

To achieve the objectives, the following research questions are defined:
1. What are the benefits portal models to apply the B2E system for the benefits system?
2. What are the capabilities of the developed B2E system for the benefits system as a proposed prototype?
3. What is the level of satisfaction of the users on the proposed B2E system for the benefits system prototype?

Iς.   LITERATURE REVIEW

B2E (Business-to-Employee) refers to actions between the company and its personnel at the corporate level such as recruiting, onboarding, team building, training, tools for sharing internal resources and employee loyalty. One of the most important dimensions within the B2E perspective is that of internal communication systems such as the company intranet which offers employees access to internal materials, company guidelines, policies and other resources to support employees in their work. The implementation is to design the architecture and develop the B2E Benefits System program prototype for a trial use of the B2E Benefit System end-users.

B2E Benefit Service model is an organizational management approach [4] and it provides services to employees [8] that benefit both organizations and employees (Rahim and Singh, 2006). B2E is also recognized as a better communication tool. The model is a way to improve the efficiency of an organization (Lai, 2001) and to improve business processes (Farhoomand and Lovelock, (2001) and JH Huang (2004). Therefore, B2E e-business model is called an employee service that can lead to improved employees' performance.

Benefit system refer to the whole range of employee benefits that an organization offers. This could take several forms, such as financial types like the base salary, commissions, performance-based bonuses, and stock options, or non-financial types which revolve around general staff welfare. In general, the benefit system of government agency and non-government agency are different. Government employees enjoy excellent benefits, including health insurance, dental insurance, vacation time, sick leave and other income security benefits. Benefits make a position valuable even if the salary offered is lower than a private-sector salary.

The importance of delivering an efficient and user-friendly system for internal employee use frequently gets ignored in organizations of all sizes. Currently, the existing semi-offline based system that organization's employees are stuck with a system that fails to meet their end-to-end and self-services needs.

A B2E portal, on the other hand, go several steps further, allowing employees to access, to communicate, and to collaborate with colleagues, to access services such as training, travel, industry news, stock quotes, and importantly the employee benefits. Plus, a B2E portal allows for more customization and personalization to better meet the needs of each individual employee.

According to the B2E approach and within the research scope of the B2E Benefit Model for Police HR Development, the benefit portal will be on the Royal Thai Police intranet that is customized to the employee's needs. It includes the police benefit system information, as well as related personalized data, and with the standing out characteristics of the end-to-end systems with analytics capability in order to promote the quality of life of the employee.

The above B2E Benefit System Portal Model shows the 5 core functionalities as follows:

1) Function 1: Verification of user access account, identity and their eligible benefits including the right and privilege.

2) Function 2: Issuance of notification that triggered automatically by the system and also that triggered by the admin and authorized user. The notification defined into 4 groups which are request result, news and announcement, new benefit items and the hot & promotion items.

3) Function 3: Inquiry of all welfares / benefits available for the employee of the Royal Thai Police Office and other related information and the individual overview dashboard. The inquiry topics will be organized into 7 groups which are dashboard, news and announcement, new benefit items and the hot & promotion items. This will provide all information welfares / benefits provided and once the user decides to use their right to use or claim such benefits they must go to the next function of benefits claim.

4) Function 4: Use of the employee's right to claim for selected benefit. This will lead the user through the processes of benefits claims according to the flowchart mechanism. The user can simply follow the menu, link, action button to complete the whole process by doing click-through; call for, fill in, endorse, and sign the online form, attachments, accompanying document; and submit the completed claim package.

5) Function 1: Analytics of user historical records, generate personalized reports, visualized highlight topics, and populate the dashboard.
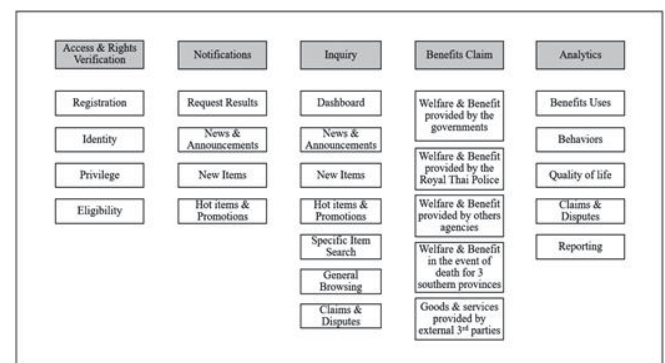

Figure 1 E Benefit System Portal Model

The architecture and workflow of the system is described in Thepmongkol, et.al., (2020).

B. Research scope

This research studied and designed the B2E component and the use of workflow to control the use of benefits and create a prototype system for trial evaluation of the specified task and the assessment by the employee group.

The population used in this research was employees and police officers in the Royal Thai Police Office. One hundred individuals were selected using the Purposive Sampling method which all of them anticipated being users of the B2E Benefits System in the actual work environment.

X. Assessment

To assess the achievement of the research according to the objectives defined, the author organized the trial use of the B2E Benefits System prototype for the 100 selected participants sample size and collected their opinions using the questionnaire.

Δ. Data Collection

The research instrument is a questionnaire created by the researcher with the assistance of expert advisors to certify the correctness and integrity of the questionnaire. Information collected using questionnaires was divided into 2 parts which are the General information, the expectation of the B2E Benefits System capabilities, and the satisfaction in using the B2E Benefits System prototype.

E. Data Analysis

The analysis follows the descriptive statistic methodology to find the basic statistics includes a percentage, average (mean), maximum, and minimum value accordingly; and the summation of general characteristics of the population, independent variable, dependent variable and satisfaction for using the B2E Benefits System program.

Φ. Results of the Study

The research of B2E Benefit Model for Police HR Development shown advantages for organizations and employees regarding the employee benefits.

ς. THE RESULTS OF RESEARCH QUESTIONS

To achieve the objectives, the following are research questions addressed:
1. What are the advantages of the portal model as applied to the B2E system for the benefits system?
2. What are the B2E Benefits System capabilities that should be implemented?

3. What are the users' opinions on their satisfaction of trial use on the B2E Benefits System prototype?

A. Part 1: General information

Respondents as classified by genders were 44% male and 56% female which indicates that there was not much difference in the genders of the respondents.

TABΛE I.   RESPONDENTS AS CLASSIFIED BY AGE

Age	Sample size (N =100)	Percentage (%)
Less than 31 years old	0	0.00%
31-40 years old	45	45.00%
41-50 years old	46	46.00%
More than 50 years old	9	9.00%
TOTAL	100	100.00

Table 1 shows that the ages of the respondents were ranked from the highest to the lowest as follows: 41-50 years old (46%), 31-40 years old (45%), more than 50 years old (9%), and no one less than 31 years old (0%) respectively, which indicated that the majority of the respondents (91%) were between 31 and 50 years old.

TABΛE II.   RESPONDENTS AS CLASSIFIED BY LEVELS OF EDUCATION

Education	Sample size (N =100)	Percentage (%)
Lower than bachelor's degree	24	24.00%
Bachelor's degree or equivalent	50	50.00%
Master's degree and higher	26	26.00%
TOTAL	100	100.00

Table 2 shows that the levels of education of the respondents were ranked from the highest to the lowest as follows: bachelor's degree or equivalent (50%), a Master's degree and higher (26%), and lower than bachelor's degree (24%) respectively, which indicated that the majority of the respondents (76%) were highly educated.

TABΛE III.   RESPONDENTS AS CLASSIFIED BY YEARS OF EXPERIENCE

Year of Experience	Sample size (N =100)	Percentage (%)
Less than 6 years	19	19.00%
6-10 years	26	26.00%
11-15 years	46	46.00%
More than 15 years	9	9.00%
TOTAL	100	100.00

Table 3 shows that the numbers of the respondents' years of experience were ranked from the highest to the lowest as follows: 11-15 years (46%), 6-10 years (26%), less than 6 years (19%), and more than 15 years (9%) respectively, which indicate that the majority of the respondents (72%) were middle to high experience.

ΤΑΒΛΕ Iς. RESPONDENTS AS CLASSIFIED BY ORGANIZATION UNITS

Organization	Sample size (N =100)	Percentage (%)
Command unit	13	13.00%
Suppression unit	20	20.00%
Supporting Unit	20	20.00%
Education unit	30	30.00%
Services unit	17	17.00%
TOTAL	100	100.00

Table 4 shows that the numbers of the respondents' organization units were ranked from the highest to the lowest as follows: education unit (30%), suppression and supporting unit (20% each), services unit (17%), and command unit (13%) respectively.

B. *Part 2: The user opinion on the B2E Benefits System capabilities that should be implemented.*

ΤΑΒΛΕ ς. OPINION OF USER ON THE B2E BENEFITS SYSTEM CAPABILITIES THAT SHOULD BE IMPLEMENTED.

	Capabilities	5	4	3	2	1
1.	Fully electronic that can be accessed from anywhere.	0 0%	51 51%	49 49%	0 0%	0 0%
2.	Single point of entry via the B2E system.	0 0%	47 47%	53 53%	0 0%	0 0%
3.	Single instance (One centralized system for all users)	0 0%	50 50%	50 50%	0 0%	0 0%
4.	Multi-channels (multi-devices)	0 0%	22 22%	43 43%	35 35%	0 0%
5.	Personalized (Configured the way you like)	0 0%	13 13%	61 61%	26 25%	0 0%

6.	End-to-end (No major process need to do outside the system)	8 8%	58 58%	34 34%	0 0%	0 0%
7.	Transparent (Systematic and no human intervention)	0 0%	61 61%	39 39%	0 0%	0 0%
8.	Better speed (no physical movement of people and paper)	8 8%	56 56%	36 36%	0 0%	0 0%
9.	Better retention (Transaction and historical records completely kept)	0 0%	30 30%	49 49%	21 21%	0 0%

Table 5 is the opinion of the "End-user" on the capabilities they expected to see in the B2E Benefits System by choosing the agreement level they rank the importance of those capabilities, the result shows that they strongly agreed that the End-to-end capability the system should deliver is the highest importance by which 66% of respondents agreed at Very high (8%) and High level (58%). The second the highest importance by which 64% of respondents agreed at Very high (8%) and High level (56%) is on the Speed capability of the system. The lowest importance by which 64% of respondents agreed at Low level (35%) is on the multi-channel (multi-device) capability of the system.

X. *Part 3: The user opinion on their satisfaction of trial use on the B2E Benefits System prototype.*

ΤΑΒΛΕ ςI. OPINION OF USER ON THEIR TRIAL USE ON THE B2E BENEFITS SYSTEM PROTOTYPE.

	Capabilities	5	4	3	2	1
1.	End-to-end (Everything finished in the system)	0 0%	51 51%	49 49%	0 0%	0 0%
2.	Better speed (turnaround time)	8 8%	56 56%	36 36%	0 0%	0 0%
3.	Easy and convenience of access	0 0%	51 51%	49 49%	0 0%	0 0%

4.	Completely cover the ROYAL THAI POLICE benefits / welfares provided	0 0%	51 51%	49 51%	0 0%	0 0%
5.	Menus and navigations lead you to your target easily and conveniently	0 0%	20 20%	65 65%	15 15%	0 0%
6.	Process steps and flow are reasonably simplified	0 0%	31 31%	66 66%	3 3%	0 0%
7.	Enough supporting information and guidance	0 0%	31 31%	69 69%	0 0%	0 0%
8.	Work on both computer and smartphone	0 0%	27 27%	54 54%	19 19%	0 0%
9.	Can be personalized (Configured the way you like)	0 0%	35 35%	65 65%	0 0%	0 0%
10.	Proactive advices and predictive information available	0 0%	20 20%	61 61%	19 19%	0 0%

The above Table 6 is the opinion of the "End-user" of B2E Benefits System who participated in the system prototype trial and responded to the questionnaire by choosing the satisfaction level they perceived. The result shows that the most satisfactions is on the Better Speed (Very High 8%, High 56%), the second top rank satisfactions are on the End-to-end, Easy and convenience of access, and Completely cover the ROYAL THAI POLICE benefits/welfares provided at the same score of 51% in High level. The answer that falls into the low satisfaction level are Work on both computer and smartphone, and Proactive advices and predictive in formation available at the same score of 19%.

In brief, the trial user perception is that the system delivers Better Speed, End-to-end, Easy and convenience of access, and Completely covers the Royal Thai Police benefits/welfares provided, but the Work on both computer and smartphone, and Proactive advice and predictive information available were not much perceived.

ςI.   CONCLUSIONS AND RECOMMENDATIONS

The four main objectives of the study were (1) to study the aspect model to apply the B2E system for the benefits system, (2) to study the requirements of the B2E system that comprises personalization and self-service capabilities, (3) to develop the B2E system that comprises personalization and self-service capabilities, and (4) to study the satisfaction of employees using the B2E system

developed. To achieve the objectives, the following research questions were defined: (1) what are the benefits portal model to apply the B2E system for the benefits system, (2) what are the user opinion on the B2E Benefits System capabilities that should be implemented, and (3) what are the user opinion on their satisfaction of trial use on the B2E Benefits System prototype. These three research questions were fundamentally formulated in accordance with the result of the literature review on related theory, concepts, and prior study. The theoretical and conceptual framework of this study was primarily based on a comprehensive B2E System in the area of employee welfares and benefits that mainly focused on the core processes of the B2E benefits model.

The opinion of the "End-user" on the capabilities they expected to see in the B2E Benefits System by choosing the agreement level they rank the importance of those capabilities, the result shows that they strongly agreed that the End-to-end capability the system should deliver is the highest importance by which 66% of respondents agreed at Very high (8%) and High level (58%). The second the highest importance by which 64% of respondents agreed at Very high (8%) and High level (56%) is on the Speed capability of the system. The lowest importance by which 64% of respondents agreed at Low level (35%) is on the multi-channel (multi-device) capability of the system.

The opinion of the "End-user" of B2E Benefits System that participates the system prototype trial and responds to the questionnaire by choosing the satisfaction level they perceived, the result shows that the most satisfactions is on the Better Speed (Very High 8%, High 56%), the second top rank satisfactions are on the End-to-end, Easy and convenience of access, and Completely cover the ROYAL THAI POLICE benefits/welfares provided at the same score of 51% in High level.

In brief, the trial user perception is that the system delivers Better Speed, End-to-end, Easy and convenience of access, and Completely covers the Royal Thai Police benefits/welfares provided, but the Work on both computer and smartphone, and Proactive advice and predictive information available were not much perceived.

REFERENCES

[1] Keawken, T., Thanawastien, S., Jaiboon, K,. and Pansomboon, S., B2E Benefits Model and Architecture for Police HR Development, Ph.D. Dissertation, Shinawatra University, 2020.

[2] Clarke, K. and Preece, D., 2005, Constructing and Using a Company Intranet: 'It's a very cultural thing, New Technology, Work and Employment 20:2 pp 150 to 165.

[3] Farhoomand, A. and Lovelock, P., 2001, Global e-Commerce, Prentice Hall, Singapore.

[4] Hansen, M. T. and Deimler, M. S., 2001, Cutting Costs While Improving Morale with B2E Management, MIT Sloan, Management Review Fall pp 96 – 100.

[5] Kounidis, T., 2000, 'How to Pick the Best Portal', e-Business Advisor, August. Lai, V. S., 2001, 'Intraorganisational Communication with Intranets', Communications of ACM, July, Vol 44 No 7.

[6] Singh, M. 2002, Evolving E-Business Models: A Process of Technology, E-Business in Australia: Concepts and Cases edited by Waddell, D., Pearson Education Australia pp 8 – 22.

[7] Singh, M., 2004, Innovation and Change Management, in E-Business Innovation and Change Management, edited by Singh, M. and Waddell, D., IDEA, Group Publishing, Hershey, USA pp 1– 19.

[8] Turban, K., Viehland, D. and Lee, J., 2006, Electronic Commerce A Managerial Perspective Pearson Prentice Hall, New Jersey, USA.