

B2E Benefit System Architecture

Thepmongkol Keawken, Suchai Thanawastien and Prinya Tantaswadi

School of Science and Technology, Shinawatra University, Pathum Thani 12160, Thailand

Email: thepmongkol2512@gmail.com, suchai.th@gmail.com, prinya@siu.ac.th

Abstract - The Benefits to Employee System or B2E is basically the application of e-commerce to integrate and harmonize all the benefits that can be provided to employees. In this paper the B2E architecture model was developed for the Royal Thai Police (RTP) to include the benefits from the government, the RTP, other agencies, self when deceased, and 3rd party benefits. A web portal that can be accessed by all the employees with functions include: Access & Rights Verification, Notifications, Inquiry, Benefits Claims and Analytics. The architecture is designed to support workflow and self-services.

Keywords - B2E Architecture, Workflows, Claim Processing, Right Verification, Notification.

I. INTRODUCTION

A. Benefit System

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.

For the benefits system of the Royal Thai Police, there are 4 existing major types of a benefit category and in this research a new benefit category is proposed and shown as the category 5 below:

1. Category-1: Welfares and benefits provided by the government
2. Category-2: Welfare and Benefits provided by the Royal Thai Police
3. Category-3: Welfare and benefits received from other agencies
4. Category-4: Welfare and financial benefits in the event of a death of a police officer
5. Goods and services provided by external 3rd party according to the police & family welfare program.

II. BENEFIT SYSTEM PORTAL

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 [4], on the other hand, goes several steps further, allowing employees to access, communicate, and collaborate with colleagues, access training services, travel services, industry news, stock quotes, eCommerce interfaces, and importantly employee benefits. Plus, a B2E portal allows for more customization and personalization to better meet the needs of each individual employee. In conclusion the B2E portal will have the following characteristics:

- One point of entry: a single URL for all employees in the organization.
- A combination of organization and employee specific components.
- The potential to be individually tailored and customized to meet the requirements of an individual employee.

According to the B2E approach and within the research scope of the B2E Benefit Model for Police HR Development [1], 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.

In Fig.1 on next page, the B2E Benefit System Portal Model shows the 5 core functionalities as follows:

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

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.

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 decide to use their right to use or claim such benefits they must go to the next function of benefits claim.

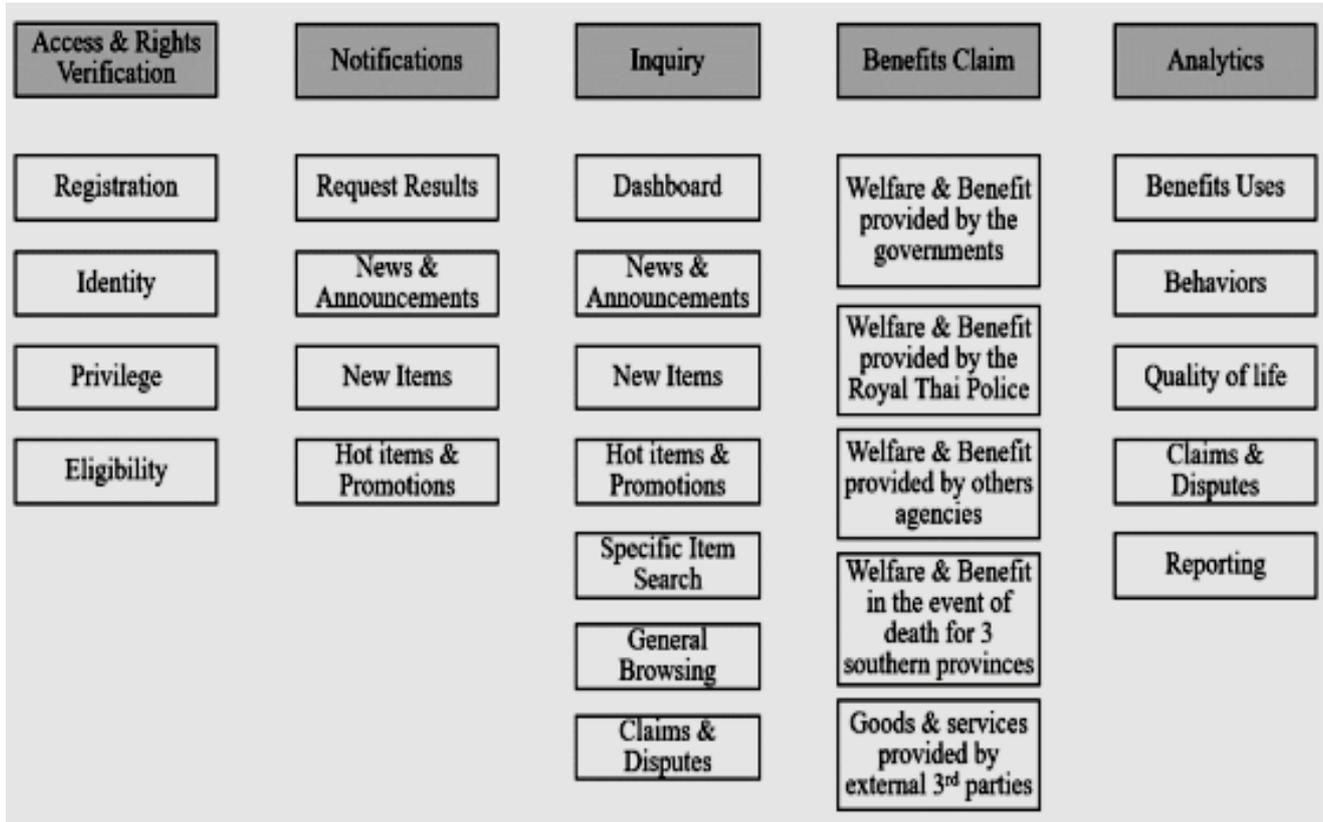


Figure 1 B2E Benefit System Portal Model

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.

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

III. B2E BENEFIT SYSTEM ARCHITECTURE

The Benefit System was designed and built on the B2E under the B2E framework having the architecture as illustrated in high level diagram in Fig. 2 as follows:

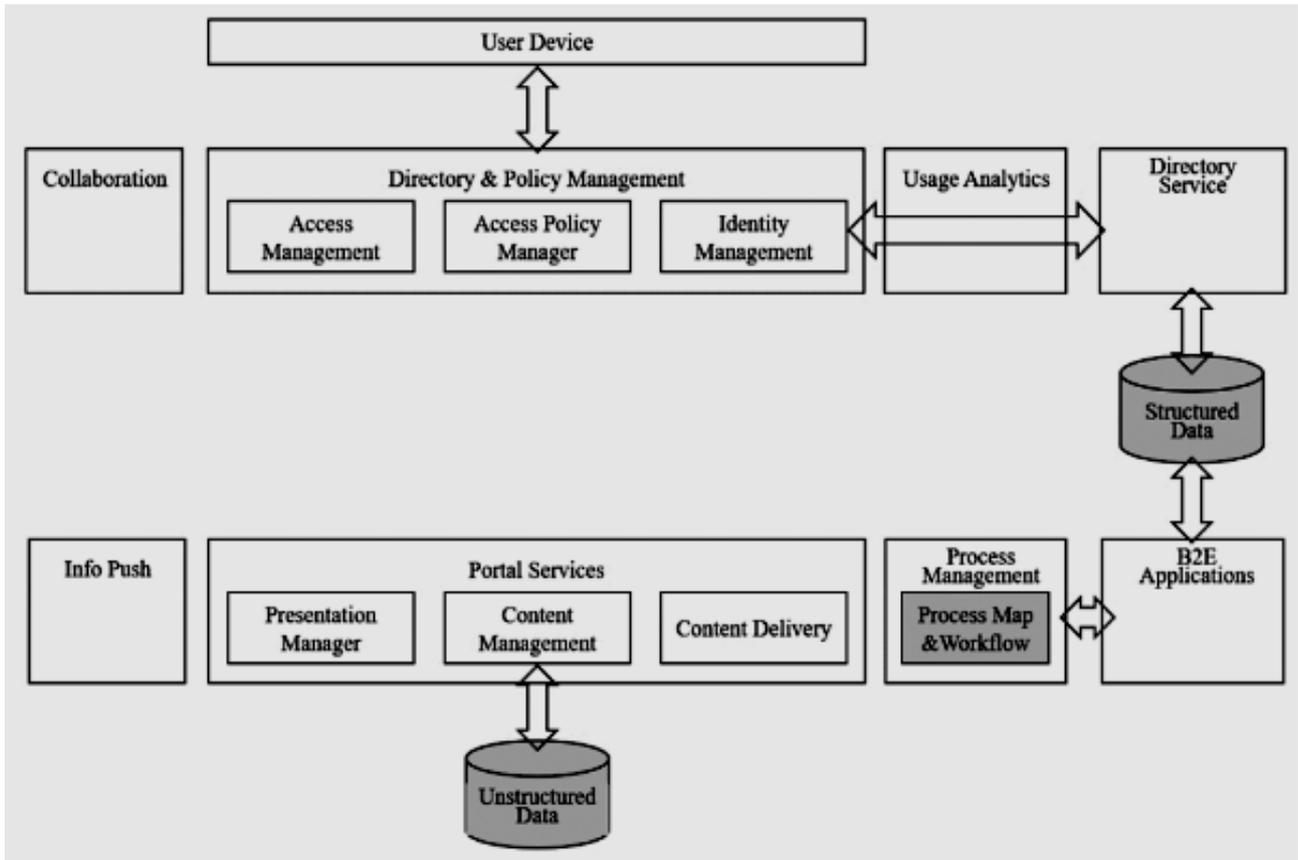


Figure 2 B2E Benefit System Architecture

From the following high-level architecture which is referenced to as the B2E Portal Integration Conceptual Architecture Framework by YANG Hongbin and CAO Jingjing [10].

IV. B2E BENEFIT SYSTEM WORKFLOW

A. B2E Benefit System Workflow

The following workflow is mapped out the B2E benefit system user’s processes. It exhibits the entire end-to-end of user processes interact with the B2E benefit system for the use of their entitle benefits.

The processes according to the above B2E Benefit system workflow shows the end-to-end processes of the Benefits system in view of the user when they would like to use the system starting from logging in through the end of benefits shopping, that is to select and claim for benefits. The processes sequences are as follows:

Step-1: Logging in to the system.

Step-2: Inquiry or browsing to see the required topic by clicking on the menus and/or navigation buttons toward the target screen. The main types of targets are:

- (1) Notifications
- (2) Dashboard

(3) News, announcements, hot items and items on promotion

(4) Specific items search

(5) Search around to see interesting item

Step-3: In case user cannot find their required target they can choose to continue using the system for other purposes or leave the system.

Step-4: In case the user found their target, the system then check for their eligible whether the user can make use or claim for such items or not. If it is eligible the system will do further checking.

Step-5: The system check whether the items selected by the user still available for selection or not. If it is eligible the system will lead the user to further step.

Step-6: In case the user needs more advice than what provided in the system, the system will provide a link to other sources of information and also provides chat windows for the user to consult with the supporting personnel of the service provider. This would be very helpful for the benefit categories that need the purchase order, agreement / contract, or specific accompany documents. If such a consultation made cannot obtain an immediate resolution the user can leave the system and wait for the notification from the system to get back to the consultation resolution later.

Step-7: In case the benefit item that user select needs kind of reservation, the user needs to supply the detail of reservation according to the form automatically pop-up together with the accompanying form to be attached. If the user needs to book such item then go further to the next step otherwise go browsing other items or leaving the system.

Step-8: In case the benefit item that user select needs kind of payment, the user needs to follow the instruction to

make a payment or otherwise canceling the select item and go browsing other items or leaving the system.

Step-9: At this step, the benefit claim processes are all done the user can do browsing for other items or leaving the system and wait for the system notification of the claim result accordingly. Refer to Fig3.

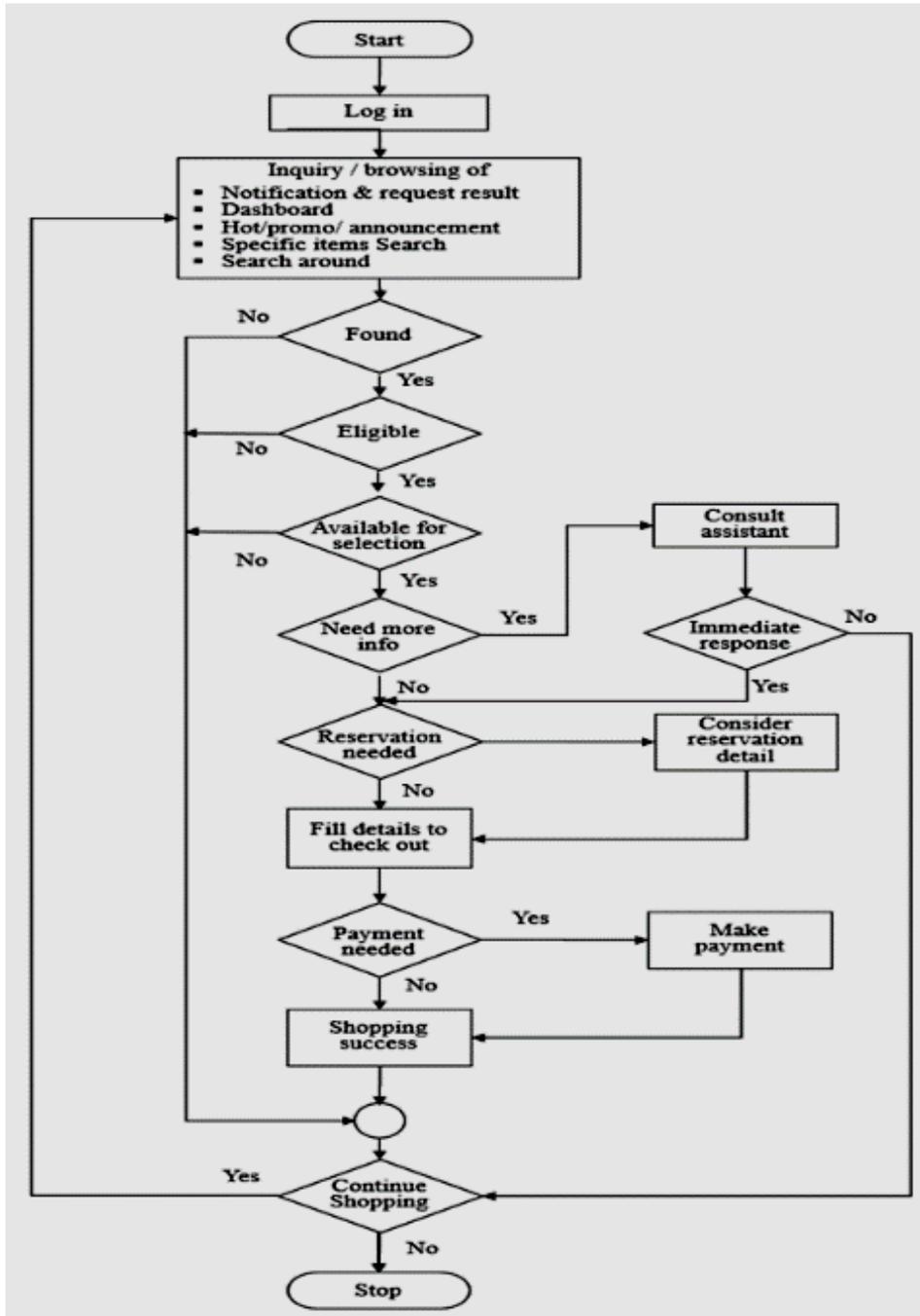


Figure 3 B2E Benefit system workflow

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The processes sequences are as:

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Step-9: At this step, the benefit claim processes are all done the user can do browsing for other items or leaving the system and wait for the system notification of the claim result accordingly. The following process exhibits high-level processes according to the B2E benefit system portal which has 5 main processes which are (1) Access & right verification, (2) Notifications, (3) Inquiry, (4) Benefits claim, and (5) Analytics, exhibited as shown in Fig.4.

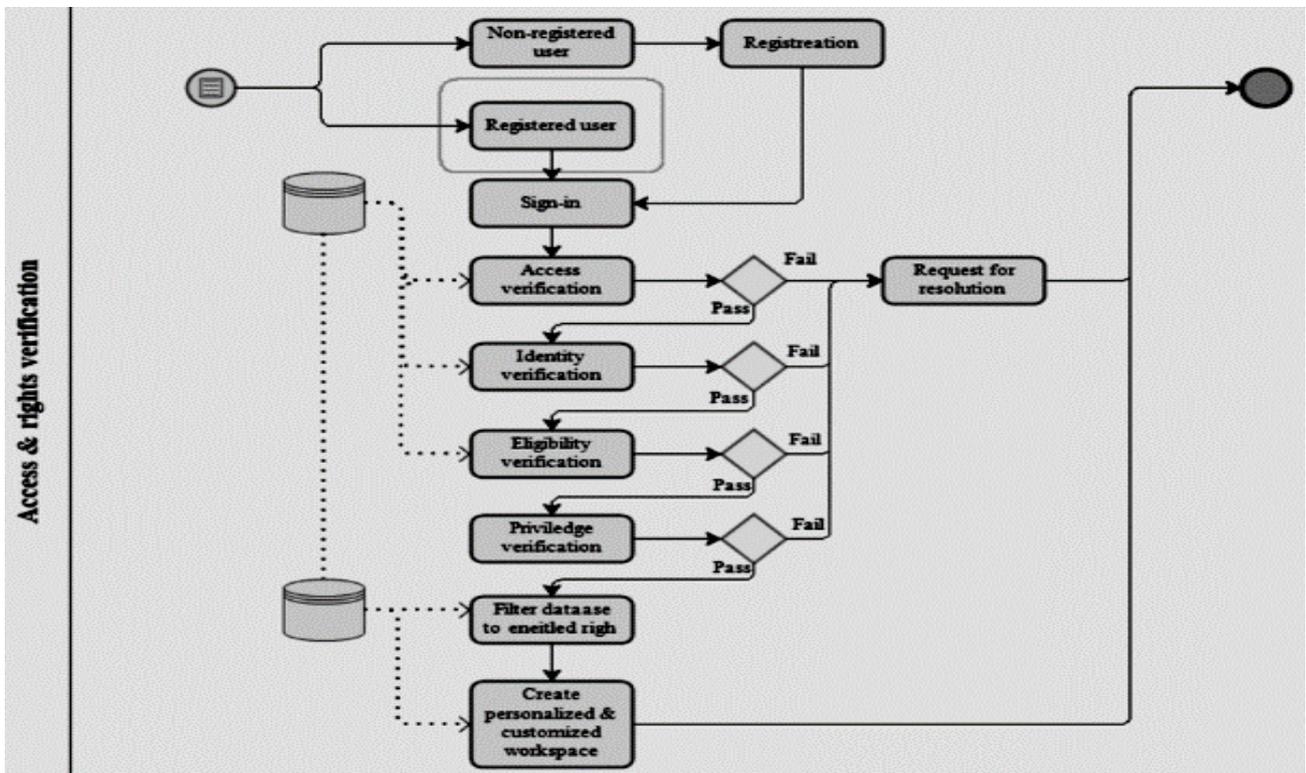


Figure 4 B2E Benefit system – Access & Rights Verification Process Map.

V. ACCESS & RIGHT VERIFICATION PROCESS MAP AND ALGORITHM

Refer to Fig.4 above. In order for the users to start using the B2E benefit system portal, they need to register as the user, normally the registration will be made during the enrolment of a new employee employed and update for changes every time the employee status changes. Therefore, the user typically has access right existed in the B2E benefit system portal.

Algorithm

Step-1: Start
 Step-2: The system gets user account and password through the log-in page
 Case: If the user was not register to the B2E Benefit System portal Go to Step-3
 Else go to Step-4
 Step-3: The system registers user to the system
 Open registration screen
 Follow instruction
 Fill-in the required data
 Step-4: The system checks if the user identification is valid and do verification against access & right database
 Case: If the user access is fail to verified go to Step-4
 Else go to Step-5
 Case: If the user identity is fail to verified go to Step-4 Else go to Step-5
 Case: If the user eligibility is failed to verified goto Step-4
 Else go to Step-5
 Case: If the user privilege is failed to verified go to Step-4
 Else Step-6
 Step 5: The user inputs he issues & resolution requirement go to Step-8
 Step 6: The system filters the access & right database according to the right verified
 Step 7: The system creates personalized & customized workspace
 Step 8: Stop

Once the user signs in the system, it will trigger the process of access verification, identity verification, eligibility verification, and privilege verification accordingly. If the verification failed, the user has to request for resolution as per the system instructed. The other systems function in similar ways: Benefit notifications process, Benefit claim process map.

Development of B2E Benefit System Prototype

From the B2E Benefit system portal architecture, the B2E Benefit system program was designed and developed as the prototype for the user for trial. The users' trial will be arranged in order to capture their satisfaction with using the B2E Benefit system portal which will be expressed through the questionnaires that the research designed in response to the research questions.

VI. CONCLUSION

The B2E architecture was proposed using the aspect model for the benefits system, providing the B2E system with personalization and self-service capabilities, to support the 5 core B2E services. Category-1: Welfares and benefits provided by the government, Category-2: Welfare and Benefits provided by the Royal Thai Police, Category-3: Welfare and benefits received from other agencies, Category-4: Welfare and financial benefits in the event of a death of a police officer, Goods and services provided by external 3rd party according to the police & family welfare program. This work is an attempt to modernize the B2E system to expand the functions beyond simple e-commerce as in the past.

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