# Electronic Enterprise Integration Homework

# Ian's camping equipment rental shop

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## ■ Setting up behavior model－As-Is

The Fig.1 is the As-Is model. We take the flow "Ian's camping equipment rental shop" as our example.
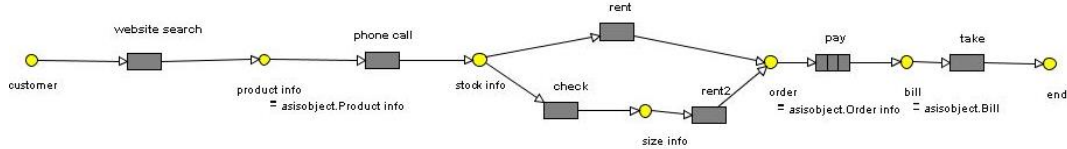


Fig.1 As-Is model

We assume there are 100 customer who want to rent the camping equipment go to the "Ian's camping equipment rental shop". First, they search the website, and get the product information. To find the camping products they want to rent. Next, they contact to rental shop asking for whether the store have the camping equipment they want or not. And then customers can go to the rental shop to check for the camping equipment's features (colors, size, quality…etc.), or they can rent in the phone call directly. After renting customers can use three ways to pay, including credit card, cash and ATM. Finally, customers should take the camping equipment themselves in the rental shop.

On the other hand, we suppose only **20%** customers will rent the camping equipment directly after they get the phone call to the rental shop. And about **80%** customers will go to the rental shop to check the camping equipment's state before payment.

1. **pay** drill down

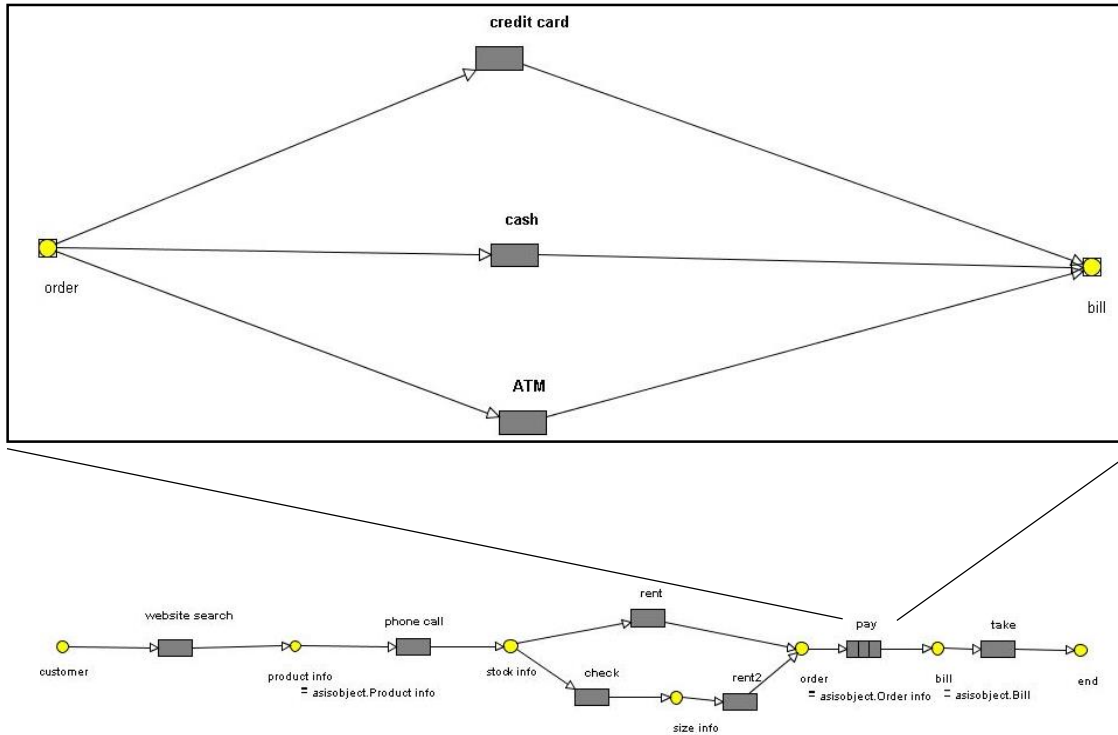Including **credit card**, **cash** and **ATM** which are shown in Fig.2

Fig.2 Drill down to **pay**
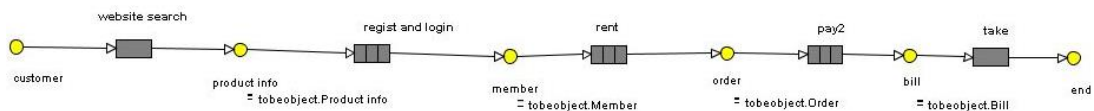
■ **Setting up behavior model－To-Be**



Fig.3 **To-Be model**

The Fig.3 is the To-Be model. The biggest difference between the As-Is and To-Be is **using the website to rent the camping equipment**. We build a website to let customers search for what they need, and also can check for the features online, we display all the details on the website, after that, customers can rent the equipment on the website immediately. Reduce times for going to the store checking the features. Customer can rent the equipment more easily.

1. **regist and login** drill down

Include login and add member which are shown in Fig.4. We assume 40% customers have been used the service, so they don't register the member. And 60% customers use the service first, before renting the camping equipment, they have to register the member.
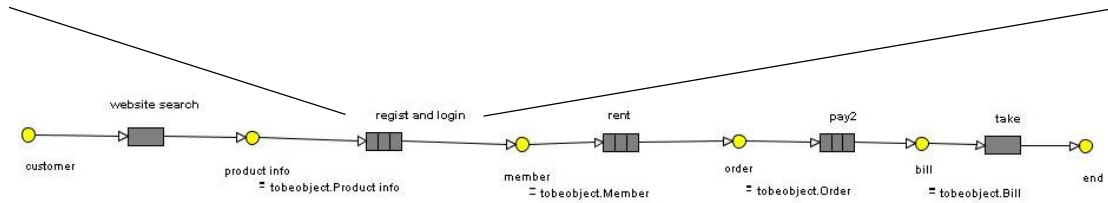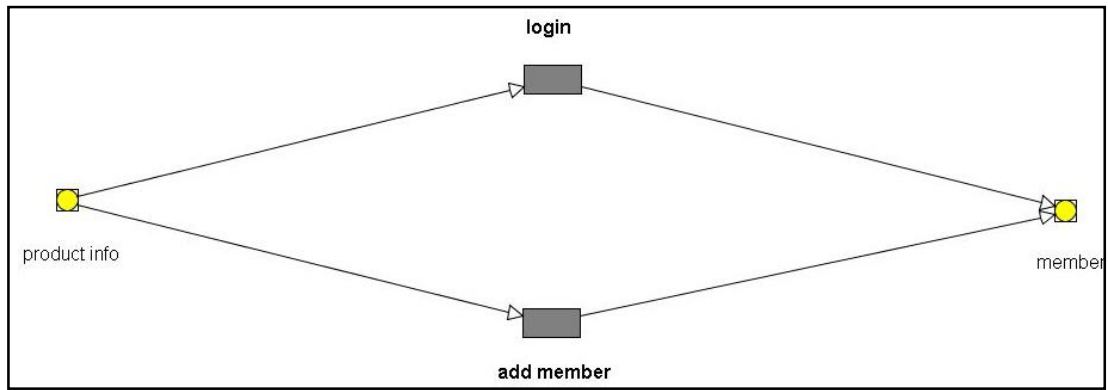
Fig.4 Drill down to **regist and login**

2. **rent** drill down

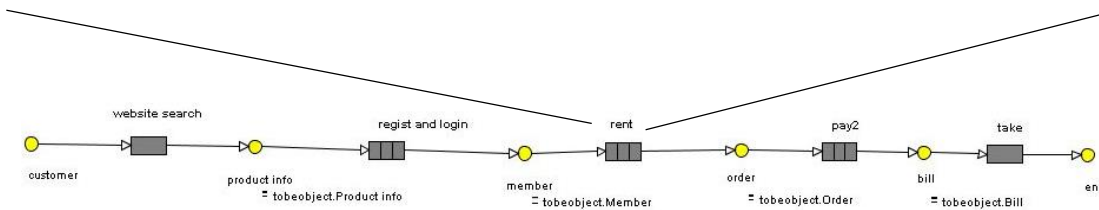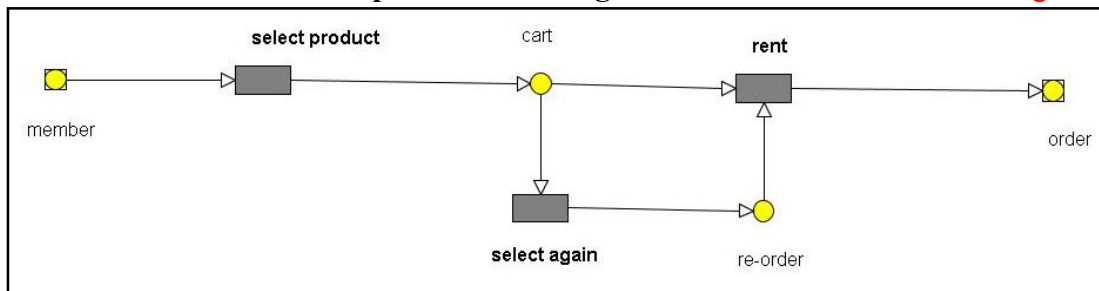The "**rent**" include **select product**, **select again** and **rent** which are shown Fig.5.



Fig5. Drill down to **rent**

3. **pay2** drill down

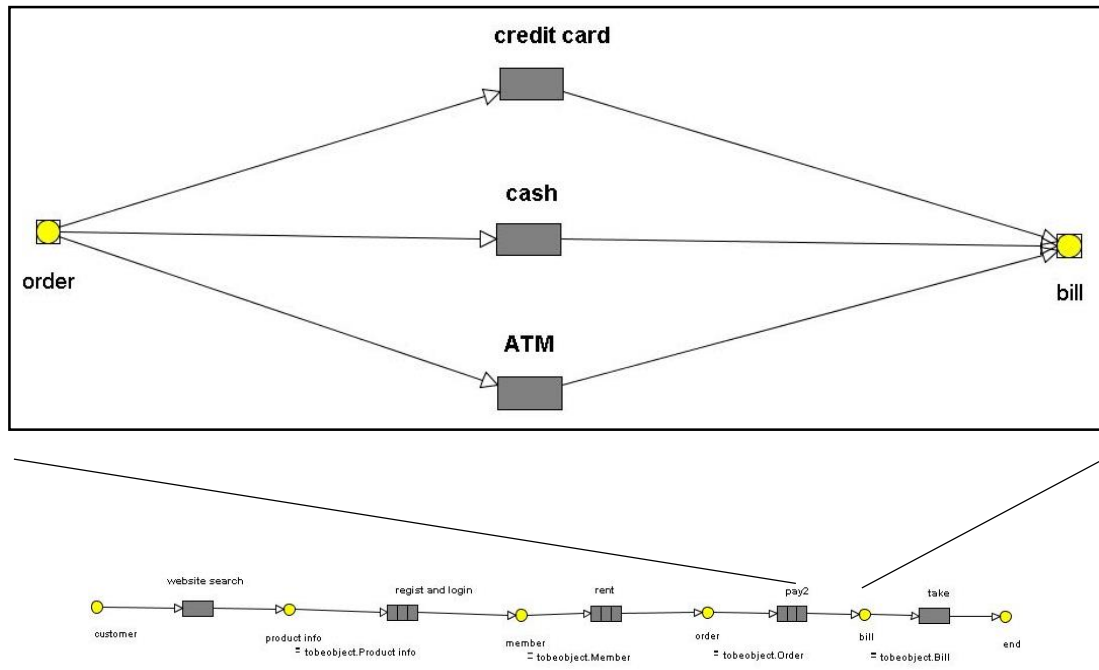Include **credit card**, **cash**, **ATM** which are shown Fig.6

Fig6. Drill down to **pay2**

## ■ Time, Cost and Value added Data

Table 1 shows the average time, cost and value added we set in each activity of As-Is model. Table 2 shows the same parameters with different values in To-Be model.

Table 1 Parameters of As-Is model

| As-Is model | | | |
|---|---|---|---|
| Behavior | Avg. Time | Cost | Value added |
| Website search | 10.0(min) | - | - |
| Phone call | 10.0(min) | - | - |
| Rent | 5.0(min) | - | - |
| Check | 5.0(min) | - | - |
| Pay<br>→ Credit card<br>→ Cash<br>→ ATM | 5.0(min)<br>2.0(min)<br>10.0(min) | - | - |
| Take | 30.0(min) | - | - |

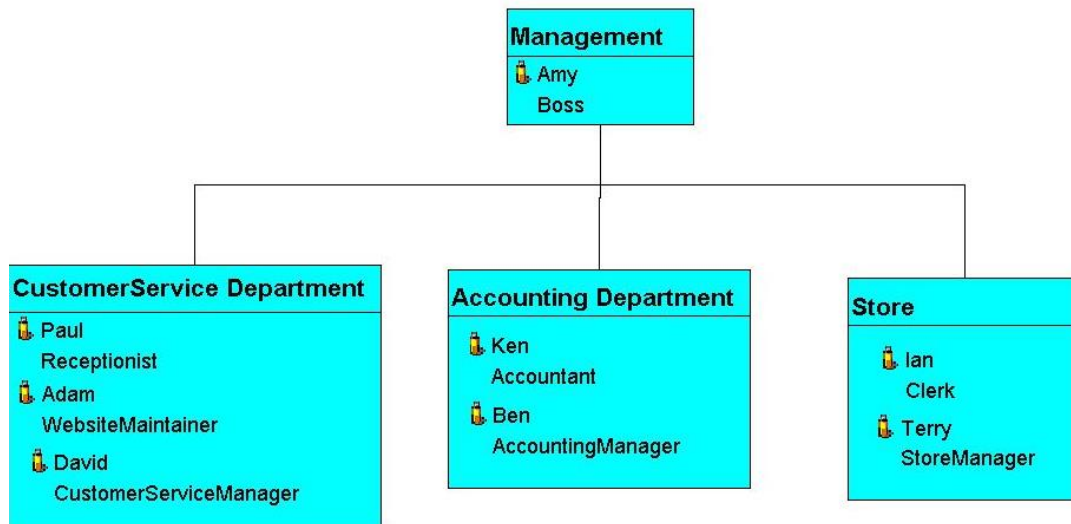| To-Be model | | | |
|---|---|---|---|
| Behavior | Avg. Time | Cost | Value added |
| Website search | 10.0(min) | - | - |
| Regist and login | | | - |
| → Log in | 1.0(min) | | |
| → Add member | 10.0(min) | - | |
| Rent | | - | - |
| → Select product | 10.0(min) | | |
| → Select again | 5.0(min) | | |
| → Rent | 1.0(min) | | |
| Pay | | - | - |
| → Credit card | 5.0(min) | | |
| → Cash | 2.0(min) | | |
| → ATM | 10.0(min) | | |
| Take | 30.0(min) | - | - |

# ■ Setting up Organization model－As-Is
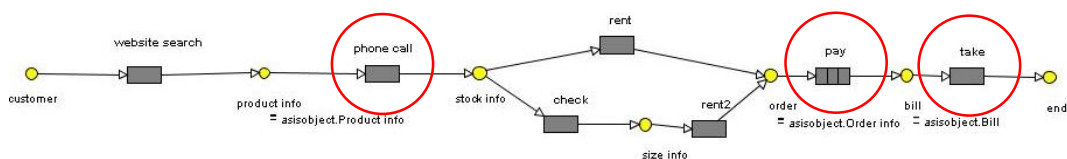


Fig.7 Organization model－As-Is



Fig.8 Organization model Connect the Ian's camping equipment rental shop (As-Is)
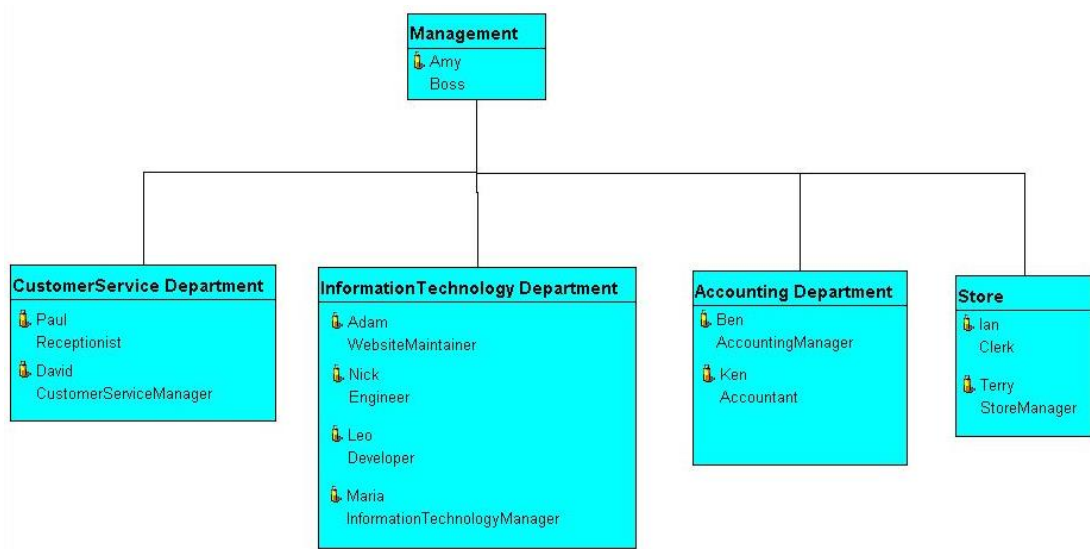
## ■ Setting up Organization model－To-Be
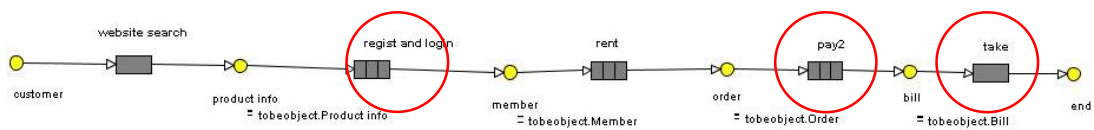


Fig.9 Organization model－To-Be



Fig.10 Organization model Connect the Ian's camping equipment rental shop (To-Be)
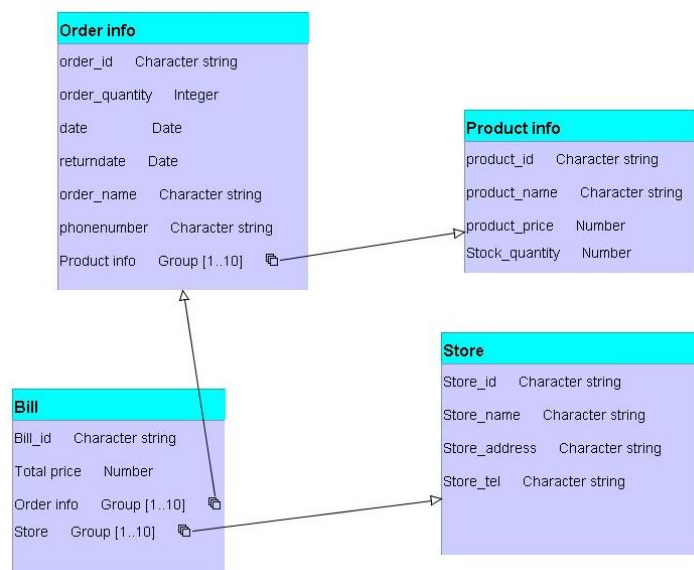
## ■ Setting up Object model－As-Is



Fig.11 Objet model (As-Is)

There are four tables in the As-Is model, include **Order info**, **Product info**, **Bill**, **Store**. We can connect **Order info** and **Product info** by "Product info". Connect **Bill** and **Order info** by "Order info". Connect **Bill** and **Store** by "Store". Shown in Fig.11.

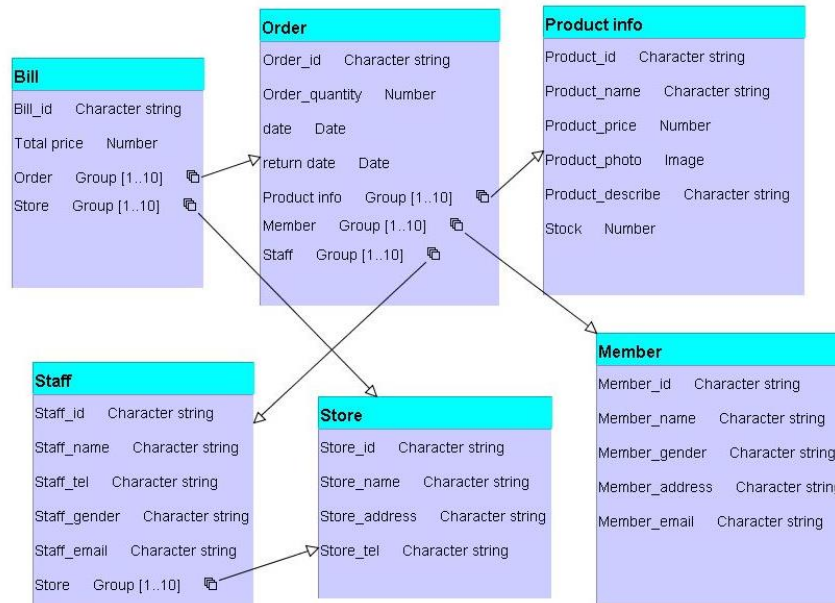■ **Setting up Object model－To-Be**



Fig.12 Objet model (To-Be)

There are six tables in To-Be model, include **Order**, **Product info**, **Bill**, **Staff**, **Store**, **Member**. We can connect **Order** and **Product info** by "Product info". Connect **Order** and **Member** by "Member". Connect **Order** and **Staff** by "Staff". Connect **Bill** and **Order** by "Order". Connect **Bill** and **Store** by "Store". Connect **Staff** and **Store** by "Store". Shown in Fig.12.

■ **Simulation (As-Is)**

We use the time that we set up in each activity in the As-Is model, then run the simulation. The result is shown in Fig.13.



| Activities | Count | Execution Costs (1) | Resource Costs (1) | Value Added (1) | Times (Hours) |
|---|---|---|---|---|---|
| phone call | 100 | 0 | 0 | 0 | 16.667 |
| rent | 12 | 0 | 0 | 0 | 1 |
| website search | 100 | 0 | 0 | 0 | 16.667 |
| check | 88 | 0 | 0 | 0 | 440 |
| pay | 100 | 0 | 0 | 0 | 100 |
| take | 100 | 0 | 0 | 0 | 50 |
| rent2 | 88 | 0 | 0 | 0 | 7.333 |
| **Sum** | 588 | 0 | 0 | 0 | 631.667 |

Fig.13 As-Is model overview

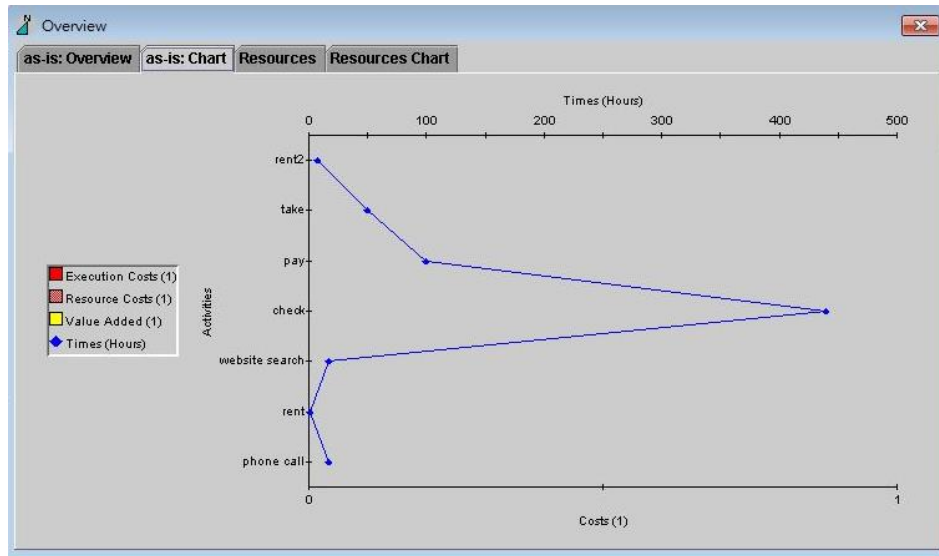We found that the total process time is 631.667(hr).



Fig.14 As-Is model chart

The Fig.14 shows As-Is model chart, as a result, it takes most of times for checking features of the equipment.

■ **Simulation (To-Be)**

We use the time that we set up in each activity in the To-Be model, then run the simulation. The result is shown as Fig.15.



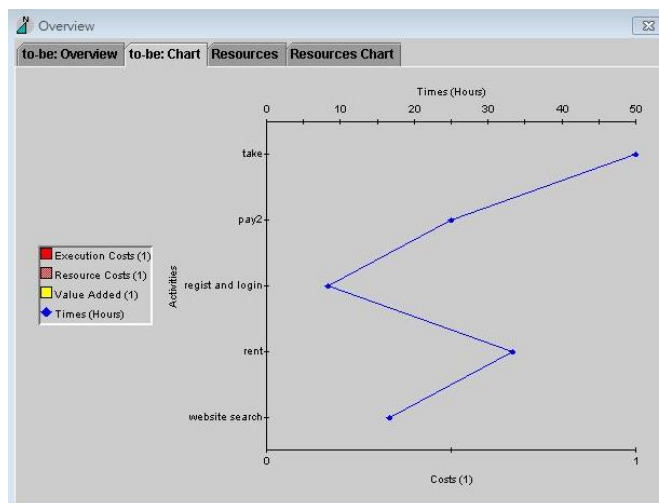| Activities | Count | Execution Costs (1) | Resource Costs (1) | Value Added (1) | Times (Hours) |
|---|---|---|---|---|---|
| website search | 100 | 0 | 0 | 0 | 16.667 |
| rent | 100 | 0 | 0 | 0 | 33.333 |
| regist and login | 100 | 0 | 0 | 0 | 8.333 |
| pay2 | 100 | 0 | 0 | 0 | 25 |
| take | 100 | 0 | 0 | 0 | 50 |
| **Sum** | **500** | **0** | **0** | **0** | **133.333** |

Fig.15 As-Is model overview



Fig.16 As-Is model chart

We assume that through promoting online renting system, customers will be able to choose a more fast and convenient service. The To-Be chart also shows that if more customers choose to rent online, in this way, customers can reduce wasting time on the phone call and checking features of equipment. Fig.16 shows the chart of To-Be model.

■ **Website function**

Both customers and managers enter the website will see the homepage, as shown in Fig.17. And when the percentage from 0 to 100, the page will show the news as the following figure Fig.18.



Fig.17 Website homepage



Fig.18 Website homepage show the news

And there are login button and register button on the right upper corner, both customers and managers can login. But only new customers can register. We can see the register page as Fig.19.

Fig.19 New customers registered in this Webpage

After new customers have their account, they will go to login page first. We can see the login page as Fig.20.



Fig.20 The member login page

After members login to their account, they will see their username on the top, and product catalogues are on the left side, members can use this to search for products conveniently, and they also can click the news, beginner's guide, store map and relevant information in the website to get more information about "Ian's camping equipment rental shop". We can see all function as Fig.20, Fig.21, Fig.22, Fig.23.

Fig.20 After member login can see the news in this page



Fig.21 The beginner's guide in this page



Fig.22 The store map in this page

Fig.23 The relevant information in this page

Members can click the product catalogue on the left side, they can browse all product types in this page. Then members can choose the products they want. Shown as Fig.24, Fig.25.



Fig.24 Members can choose the products they want in this page



Fig.25 product's detail and choose the rent date and return date

If member see the product they liked, they can choose rent date and return date, and select the quantity in this page. After selecting the rent information, members can add this information in shopping cart. Website will tell members "You add this product into shopping cart successfully!". Shown as Fig.26.



Fig.26 Members can choose the products they want in this page

Member can keep choosing another product in product catalogue, or members can go to view their shopping cart. Shown as Fig.27,. Fig.28



Fig.27 Shopping cart's detail in this page



Fig.28 Add another product in Shopping cart

Member can modify their quantity in this page, they also can modify product's quantity to 0. Then this product will be deleted in this shopping cart. Or click "return all the products" to delete all the products in the cart. Shown as Fig.29.

Fig.29 Clean all products in the Shopping cart

If shopping cart's detail are checked, Members can click the "check to buy" button to rent all the products in the cart, and then the details of order will be present on the page. Cause we have a discount activity. If your total price is more than $1000, then you can get 10% off. If your total price is more than $2000, then you get 20% off. Shown as Fig.30, Fig.31.



Fig.30 Order detail taken 10% off in Shopping cart



Fig.31 Order detail taken 20% off in Shopping cart

After login with the manager account, Manager can go to manger's homepage to upload products and check the order. First, they should go to login page to insert their username and password. Shown as Fig.32.



Fig.32 The manager login in this page

After Manager login to the manger homepage, Manager can choose to "upload products" or "check the order". We can see manager's homepage in this page as Fig.33.



Fig.33 The manager homepage in this page

Manager can upload new product in upload page. Shown as Fig.34.



Fig.34 The manager upload new product in this page

Manager can check the order in this order list page. Shown as Fig.35



Fig.35 The manager check the order list in this page

## ■ Conclusion

Today, the Internet is so common, more and more people use the way to enjoy the service. According to the reasons, we build the website of the rental shop, hoping the process can bring more benefit. After simulation the To-Be model, the total process time is decreased. So, use the technology into the service has lots of benefit.