Knowledge Based System For Profit Making Plan In Selected Banking Sector

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Abstract:
An Expert system is a computer program which uses knowledge and inference technique to solve problems that usually involves human expertise. The system stores a large amount of facts along with rules about how these facts can be used to solve varied problems. The collection of knowledge is called knowledge base. In this research paper, an attempt is made to develop a workable prototype knowledge based system for profit making plan in selected banking sector i.e., Co-operative and private sector. It seems that banks are adopting new technology and due to this new technology we can see there are effective and efficient changes in decision making at management level area. IT plays an important role in banking sector; the research study is associated with the knowledge based system for profit making plan in selected banks from co-operative and private banking sector.

Knowledgebase or expert system is branch of Artificial intelligence (AI). Employees are the central part of any organization. Due to knowledge of employees that organization can achieve highest position in the market. Awareness is created amongst the staff due to innovation. This innovation can bring the new change that is the increased performance. This research study highlights the present IT scenario and a model (prototype) for profit making plan for selected banks. This study covered the area of Satara, Sangli and Kolhapur districts of western Maharashtra.

Key Words: Rural area, Expert system, Innovation, knowledgebase, Information Technology (IT), Artificial intelligence (AI)

Introduction:
An expert system is software that uses a knowledge base of human expertise for problem solving, or to clarify uncertainties where normally one or more human experts would need to be consulted. Expert systems are most common in a specific problem domain, and are a traditional application and/or subfield of artificial intelligence (AI). To simulate the performance of the expert a wide variety of methods can be used, these methods are mentioned below:

1) The creation of a knowledge base which uses some knowledge representation structure to capture the knowledge of the Subject Matter Expert (SME);

2) A process of gathering that knowledge from the SME and codifying it according to the structure, which is called knowledge engineering; and

3) Once the system is developed, it is placed in the same real world problem solving situation as the human SME, typically as an aid to human workers or as a supplement to some information system. Expert systems may or may not have learning components.

Expert systems were introduced by researchers in the Stanford Heuristic Programming Project, including the "father of expert systems" Edward Feigenbaum, with the Dendral and Mycin systems. Expert systems were among the first truly successful forms of AI software. Bank is one type of business and the goal of knowledge based system is to understand the future in order to optimize the future business conditions. Knowledge based system is a process of converting data into knowledge and knowledge into action for business profit.

Few examples of the Expert systems are mentioned below:

1)DENDRAL
In late 1960s the first expert system to be completed was
2) MYCIN
Shortly after DENDRAL was completed, the development of MYCIN began at Stanford University. MYCIN is an expert system which diagnoses infectious blood diseases and determines a recommended list of therapies for the patient. As part of a heuristic programming project at Stanford, several project directly related to MYCIN were also completed including a knowledge acquisition components called THERESIUS, a tutorial component called GUIDON, and a shell component called EMYCIN

3) PROSPECTOR
This system built in 1970s, is used in mineral prospecting (Exploration). A system that assists geologists in the discovery of mineral deposits.

4) XCON
This system was developed to produce configuration of VAX computer system. It takes entire requirement of customers which motherboard user wants? Which component user wants to pick up from store XON knows all these knowledge it join all part and system get assembled. It deals with problem associated with planning rather than diagnosis. A system used by the digital equipments corporation to select and configure components of complex computer systems.

OBJECTIVES OF THE STUDY:

The objectives of the study are as under:
1) To study the present IT scenario of selected banks
2) To suggest a workable prototype for profit making plan in selected banks
3) To provide suggestive measures for successful implementation of knowledge based system for profit making plan in selected banks

SCOPE OF THE STUDY:

Researchers have concerned area of the study as under:
As far as the geographical area is concerned the study is confined to only selected rural banks of Satara, Sangli, and Kolhapur districts of Maharashtra state. Here in selected Samples the study confined with only the selected banks which are: 1) Co-operative banks 2) Private banks

Further data is analyzed using relevant statistical tools

PERIOD COVERED: Researcher have covered the period of four years for the data collection. (i.e., 2006-07 to 2009-10)

RESEARCH METHODOLOGY

Sample Design:- In western Maharashtra the districts namely Satara, Sangli, Kolhapur are housed in the first stage, 50% of samples from total taluka is drawn from these talukas, the villages on the basis of population have been categorised as a stratified group and 20% villages are selected applying random sampling

Sample Size:- There are three districts Satara, Sangli and Kolhapur, in Kolhapur there are 12 taluka places, in Satara there are 11 taluka places, in Sangli there are 10 taluka. Out of 50 % taluka places are taken from selected districts for research study.

1) PRESENT IT SCENARIO OF SELECTED BANKS:

DATA ANALYSIS AND INTERPRETATION:

The banks from Co-operative and Private sectors are from the three districts viz Satara, Sangli, and Kolhapur of western Maharashtra.

Table No: 1: IT implementation:

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Type of banks</th>
<th>Distr icts</th>
<th>Core banking</th>
<th>Branch level banking</th>
<th>Total No. of respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Co-operative banks</td>
<td>Satara</td>
<td>02 (17)</td>
<td>03 (100)</td>
<td>03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sangli</td>
<td>01 (33)</td>
<td>02 (67)</td>
<td>03</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kolhapur</td>
<td>01 (17)</td>
<td>05 (83)</td>
<td>06</td>
</tr>
<tr>
<td></td>
<td>Private banks</td>
<td>Satara</td>
<td>02 (100)</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sangli</td>
<td>02 (100)</td>
<td>-</td>
<td>02</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Kolhapur</td>
<td>03 (100)</td>
<td>-</td>
<td>03</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>07 (100)</td>
<td>-</td>
<td>07 (100)</td>
</tr>
</tbody>
</table>

Table No. 1 shows the information about the IT implementation status regarding core banking and branch level banking under study area.

In co-operative banks it seems that very less banks have been adopted the core banking (i.e. 17%) and maximum number (i.e. 83%) banks use the branch level
computerization.

In private banks it is found that all the banks (i.e. 100%) have been adopted the core banking solutions for their banking transactions.

Through the research it is concluded that the core banking technology adopted by the private banks is more than that of co-operative. It means there is a more scope in the co-operative sector for use of core banking technology for better customer services.

Table No. 2 brings out the information about the additional IT enabled facility provided to customers by the selected banks under study area.

In co-operative banks it is found that very less number of banks (i.e. 30) provides additional IT enabled facility to customers.

In private banks it is noticed that all the banks (i.e. 100%) provide additional IT enabled facilities to the customers.

Additional IT enabled facilities provided to the customers are more in private banks than the co-operative banks. It means that the private banks provide better facilities to customers and this is useful to attract the customers so as to possible to increase number of customer.

**Table No. 2: Additional IT enabled services provided to customers**

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Type of banks</th>
<th>Districts</th>
<th>ATM Services</th>
<th>Mobile Banking</th>
<th>Net Banking</th>
<th>Card Based</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Co-operative</td>
<td>Satara</td>
<td>20</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sangli</td>
<td>20</td>
<td>23</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Kolhapur</td>
<td>18</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>2</td>
<td>Private banks</td>
<td>Satara</td>
<td>20</td>
<td>23</td>
<td>23</td>
<td>23</td>
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<tr>
<td></td>
<td></td>
<td>Sangli</td>
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<tr>
<td></td>
<td></td>
<td>Kolhapur</td>
<td>18</td>
<td>17</td>
<td>17</td>
<td>17</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>12</td>
</tr>
</tbody>
</table>

*figures in the brackets are percentages

1. TO SUGGEST A MODEL FOR PROFIT MAKING PLAN FOR SELECTED BANKS

Here researcher has suggested a model for business expert system for profit making plan which is given as under:

```
Users
(Manager, Chairman etc)

↓

Expert System

↓

New branch of bank
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Fig: Model for profit making plan for selected banks
This model will be useful to the persons from banking sector like manager, chairman and who want to open a new bank or branch at new locations. While developing an expert system for producing the new profit making branch of banks the major questions to be considered are as under:

1) Name of locations/area
2) Name of person
3) Age of that person
4) Occupation of that person
5) Annual income of that persons
6) Total annual income of that persons
7) Average annual income of that persons
8) Total number of industries/business
9) Annual income of that industries/business
10) Total annual income of that industries/business
11) Average annual income of that industries/business
12) Total number banks in that area

After getting the proper location/area and establishment of bank, they should provide the advanced IT enabled services which are mentioned in the figure below:

**New Branch should provide**

(ATM facility, Net banking, Mobile Banking, Card based banking, Maximum IT enabled service)

*Fig: IT enabled facilities*

It is essential to provide the advanced and additional services to the customers like ATM facility, Net banking, Mobile banking, card based banking etc. Due to these services it is possible to attract the customers and it should be resulted into increased number of customers so as to increase profit.

Once bank is established they should give the proper services to customers and maintain the customer relation management (CRM) which is shown in figure below:

**Fig: Model for proper execution of banks transaction**

Along with these IT enabled services bank should adopt the practices of customer relationship management (CRM) for proper and balanced execution of banking transactions.

**III) Conclusion:**

1) Through the research it is concluded that the core banking technology adopted by the private banks is more than that of co-operative. It means there is a more scope in the co-operative sector for use of core banking technology for better customer services.
2) As researcher it is suggested that the better customer service is depends upon so many factors. Out of which the core banking technology is highly accepted alternative. So the use of this technology is a need of coming future, therefore it should be adopted.
3) Additional IT enabled facilities provided to the customers are more in private banks than the co-operative banks. It means that the private banks provide better facilities to customers and this is useful to attract the customers so as to possible to increase number of customer.
4) There is large scope to improve the advanced facilities like ATM, Mobile banking net banking and card based banking in co-operative banking sector. To attract the customers, co-operative banks should provide these facilities to the customers.
5) Bank should take help of expert system before
opening of new branch. After getting the positive response form the Expert system (workable prototype) they should open the branch at the suggested place. Since new bank is located at financially sound area this is a one reason for profit making.

6) All Banks should establish a good relation with customers. They should adopt some practices of customer relationship management (CRM) this is also one solution to attract the customers.

7) Co-operative Bank should provide advanced facilities like ATM, Card based banking, net banking and mobile banking to attract the customers so that it may be one reason to increase the customers hence profit can be increased.

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