Development of a Virtual Office Model Software for Entrepreneur and e-Management

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Abstract

In this paper we proposed a framework named “Virtual Office Software Model” so that anyone can start a business even with a little amount initial cost using a virtual world as his workplace. Our goal is develop and implement software with network connectivity to setup any business or industry with help of virtual world which is an extension of virtual office to virtual industry. We arranged a structure of all working process of an industry trough internet with others ICT tolls. Total system is operated using online software that is communicate, synchronize among all segment of production process. Thus, entrepreneurs can fulfill their dream by establish an industry in very low cost, less paper works as well as they can make their product more versatile compare to the other traditional industry, because entrepreneurs can rent any possible industry for required product. Despite of some disadvantage like the system requires a sophisticated software and fulltime communication support, but our proposed “Virtual Office Software Model” reduce all of the initial high investment related limitations to setup an industry’s office space and our feasibility study says that software will accumulate the personnel of any business from anywhere in a common place which called virtual workspace. Finally it can be concluded that our proposed model is a new concept in modern industrial sector.

Keywords: Virtual office; E-commerce; ICT; Traditional industry

Introduction

In 21st century everything almost relates and working based on or with help of information and communication technology (ICT). In “Electronic Commerce” or e-commerce [1-5] it is a new and most futuristic term called virtual office [6-8]. The e-commerce industry is one of the most progressive sectors of the economy. Many people have good idea to setup an industry or business but they couldn’t due to lack of sufficient resources such as high initial cost, insufficient information etc. Virtual office software model consist of some modern technology, tools and some new ideas [3-5]. It is an alternate solution for establishing an industry. Our model refers a complete industry without owning a physical industry, workplace, land and other expensive infrastructure. Entrepreneur can fulfill their dream to establishing an industry using this model. Now a day we can see that freelancing, outsourcing is most popular working process in IT field where people can work for any industry situated at far away staying their home. Even outsourcing is on of most spread working method in Bangladesh. This “Virtual Office” will be such kind of industry where people (designers, engineers, manager, and other employee) will be able to perform their task from their residence or any place using some modern technology like computers, mobile etc. So the industry based on our model doesn’t require any big office space. Now the question is where will be the production? We know that there has a production method using rental or contractual industry. This will reduce a big fixed cost of setup an industry and variable cost to maintaining that business’s physical office space. It is also costly to hire an expert fulltime for industrial research and development purpose to design and implement new product ideas. Otherwise we proposed to hire expertise as they can work for our industry from his/her place anytime for less remuneration as part time worker. He needs to logon the system and fulfill his given task what will be explained later. The total system will work using software which will be named “Virtual Office”. The software contains strong database system and other computing method as required for an industry. It is also interesting that using of software the total process will be automated and computerized what is a big deal in industrial process. We can see that many social media website replaced the necessity of physical meeting of friend circle, but people can get update or share moment using social media web site. Like that respective people or employee can use our software as their workplace and meet remotely, many tasks and assign job to other.

Virtual Office Principal

A business location that exists only in cyberspace. A virtual office setup allows business owners and employees to work from any location by using technology. In our model it is the focal point and backbone to establish a virtual working environment for any business or industry. Virtual office is a business location that exists only in cyberspace. A virtual office setup allows business owners and employees to work from any location by using technology such as laptop computers, cell phones and internet access. A virtual office can provide significant savings and flexibility compared to renting a traditional office space. Meetings can be conducted via teleconferencing and video conferencing, and documents can be transmitted electronically. Some companies even provide virtual office services to give virtual offices the prestige associated with physical offices, such as an important-sounding address, a professional phone-anwering service and even occasional rental of office space and conference rooms. Everybody in this model are free to work from any place but they have to complete their tasks as per given time and deadline. So we will ensure our goal and outputs from the human resource. The figure showing that all the
Our virtual office

In Figure 1 we can see the model which has different types of user account, strong network connectivity and database. In our software model, there are several account types as required for organizational admin, employee account and client/buyer account. Internet will fulfill the communicational purpose. All type of user will get a user name and password to access their office. When any employee does login into system he will be able send message and share file to other co-worker. User can assign task with necessary file to other that will be shown in a task queue. Personal task schedule reminder, work process and performance evaluation report will be generating automatically after processing inputted data. Where all of these options need to done with physical contact with employees but our software will allow entrepreneur to perform all of this into a virtual world.

Tools and technology for implementation

As it is a package of software and network working environment, we used web programming language and online database that's why it doesn't requires any extra networking related hardware. Only internet connection is enough to access the software from around the world. The software will be hosted at an online space that it could be useable any time.

The database structure of virtual industry system software is shown in Figure 2. This software is an online application what is able to perform a complete official and industrial working process through it. It takes some inputs from its users and processing that it gives desired outputs. The system is flexible that multiple entrepreneurs can use the system. The Entity relationship diagram is shown in Figure 2. Actually this model is a package of software and communication tools that will make an environment of an industry like traditional industry in virtual/cyber world. Our developed database based software where all types of processing and input will be taken. Using technical tools like wireless or wired internet, IP camera, computers, laptop, and modem in this software we will make the environment that we are calling “Virtual Office software Model”. So our main goal to develop a software system named “Virtual Office”. We are using very familiar tools and technology that people can use the system frankly. And it will be a user-friendly feasible model. All user will use a graphical user interface and user login option for perform their task, the system will count how long they are working, what is the status of all tasks, progress of production, production status and statistics. This software has some sophisticated and expandable feature like we can sell, show our products via online marketing or e-commerce system. It will be a whole solution to operate the operation of an industry. Once it will be able to replace the typical industrial working system that the current era needs.

Required network connectivity

Network connectivity means physical (wired or wireless) and logical (protocol) connection of a computer network or an individual device to a network, such as the Internet or a LAN. In web hosting this can be referring to how the company receives its bandwidth and how it is connected to the provider. In our proposed model it is first needs to have a fast network connectivity to connect all the functional blocks. We can use internet, mobile networks and other fast internet service for connecting remote human resources to login our software and work. To communicate with rental industry we can use internet, if the industry locate near our virtual office network area we can use LAN. Because it needs very high speed fulltime network to observe, communicate and monitor that industry's working progress due to virtual industry’s order. In Figure 1 we can see the functional blocks are connected through various network and network tools, technologies which are very important in our model.

Inputs of software

There could be several users to input data but the types of input will be production plan, market analysis data, research and development data, product order, statistical data of production or anything in any file format like “.xls,.doc,.pdf”. As it requires employee information to make an user account that it will be able to calculate wages of employees, monitoring and evaluating them the software needs employee information and his log data of working hours, performance statistics and frequency to complete task successfully. As it is a computerized system, so it will be able to calculate and evaluate them. Sometime it may needs to input some video from IP cam to observe from remote place the rental factory if it satisfies the contracting policy. Then the manager or owner of industry will be able to watch product status, progress and also will be able to show that to his buyers/clients.

Database

It is an important part of this online software system. All inputs will be accumulated and stored in this online database for further needs and processing. Every single working process, single change will be stored in this database. This database is able to make a paperless office which is applied in some big companies like Google [9] or Amazon.com [10]. As our target to reduce industry setup cost and operation cost that makes it affordable for all entrepreneur to touch their dream. Thus, this tool will help us robustly. In Figure 2 we can see
the data structure and entity relationship model. This database has table to store data of company managers, employees, client as user account. Also the task queue, task status, company meeting, personal organizer and supporting table exist in our developed database model.

Outputs of software

Output of this software not the desired product but the status of production, operation status, several job done by employee and lots of report which are customizable. It will provide a transparent view of the employs in a single click which is impossible at a traditional industry. It will produce all type of report, analytical data, and payments of employees, company revenue, production order, and production queue status. From the production plan of and industry, production process, marketing, delivery status. As a results manger or administration will able to control easily everything which is tough in typical industry due to various limitation like CBA association, political hazard etc.

Role of Different User Account in Management

Mangers are key person for an industry to manage the man, machine material in an industry. As our model skipped physical industry but also manager will play key role in our model. He will organize and synchronized among all part. We made it very easy for manger as he is going to perform any task, monitor the progress using software and other tools. In this model we proposed part time such expertise who will perform research and development, making new product ideas anytime that could be shared with others. And due to part time work our industry will pay less than a fulltime such employee. As it will reduce cost also gives chance to hire several experts as entrepreneur wish. Employee An industry needs different employees for different purpose as example accounts, marketing, advertising etc. All of such employee will also work through a network accessing the virtual industry software system and complete their job as they given. Interesting fact is that in this system, there has no opportunity to claiming wages without working exactly because of the software system.

Key Difference than Traditional e-Management Software

Now a day, we can find a lot of e-business, e-marketing and many more electronics based business [1-3]. Most common and known system is freelancing. A person who works as a writer, designer, performer, or the like, selling work or services by the hour, day, job, etc., rather than working on a regular salary basis for one employer is called freelancer. In IT based industry it is most used employment method all over the world. In fact various industries now hiring people basis on freelancing. It is one of most progressive way where IT professional earning in Bangladesh. All of this has its own small customized management system but not a common model. We are developing a common model for all of this e-business, e-markets, IT based freelancing. Our model proposes that any business can be performed using a common model. This model will be an integrated system where a single freelancer to a complete manufacturing system could be implemented, usable for any types of business operation or any entrepreneur. By connecting several part of a manufacturing system from various remote places we can structure any business even a heavy industry, for what we are calling our model “Virtual Office Software Model”. Where the existing systems have no ideal model and one is not applicable for another. Rather our “Virtual Office Software Model” is ideal model that will be applicable for any electronics based business system.

Conclusions

In this paper we proposed a framework named “Virtual Office Software Model” so that one can start an industrial business even with a little amount initial cost. We developed a structure of all working process of an industry trough internet and others ICT tolls in where total system is operated using online software that is communicate, synchronize among all segment of production process. Thus, entrepreneurs can fulfill their dream by establish an industry in very low cost, less paper works as well as they can make their product more versatile compare to the other traditional industry. Additionally, those industries which have less production and marketing opportunity, they can be profited when they will conduct production and operation related task in virtual world with this “Virtual Office Software Model”. Despite of some disadvantage like the system requires a sophisticated software and fulltime communication support, but our proposed “Virtual Office Software Model” model reduce all of the initial high investment related limitations to setup an industry and our feasibility study says that the conceptual industry will perform better than traditional industry. Finally it can be concluded that our proposed model is a new concept in modern industrial sector.

References


Figure 2: Entity relationship diagram.