BP Evaluation and Re-engineering: Case Study Acquiring Travel Plan Quotations

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Abstract: *The technology revolution considered a turning point in commercial operations, as its development has greatly affected on improving the Traditional Travel Agencies services, as well as to created strong competition between commercial agencies, principally travel agencies which worked to develop their electronic websites formake the operations provided by agencies more flexible and productive. This development leads to Business Processes Re-engineering (BPR) to improving business vision and process objectives. In this paper, an implementation of a business process reengineering using Bizagi platform is presented, to improve the TravelPlan Quotations business process in Fursan, The reengineering Travel Agency. However, contributed at the development of Fursan Travel Agency, the improvement of their general performance and quality of their outputs in light of the changes the accelerating globalization at all levels. Moreover, BPR contributed to reducing costs incurred in conducting operations, Reducing the time spent agency in customer service to achieve customers satisfaction for what the agency offers.*

Keywords: Travel Plan Quotations, Travel Agency, Business Processes Re-engineering, Business Processes, Business Process Management

1. Introduction

The growing economic environment has led to an increasing interest in enhancing business to improve performance. Business process management (BPM) is a field dealing with these challenges. Where BPM projects established to improve and radically change business process performance and contribute to reaching the strategic objectives of an organization as well as creating sustainable competitive advantage. The highly competitive business environment has faced several challenges due to prompt technological advances. Where the enterprises seek to promote their activities effectively by replacing the old information systems by a single Enterprise Resource Planning (ERP) that allow tasks automation and reduce the costs, the production and share of data in the organizations improve their performance. The Business Process Reengineering (BPR) one of several factors that influence the effectiveness of ERP systems [1]. In the complicated information technology, in order to the benefit of the practices given by a new ERP system, have to aligned processes and activities of enterprises with ERP by re-engineering and redesigning the processes to meet the specifications of the new system and therefore, increase business performance. Furthermore, the success of an ERP system relates to the level of BPR [1]. BPR refers to "the analysis and design workflows and processes within and between organizations"[2], and become a standard tool for managing the business process for dealing with prompt business change in a competitive environment. BPR includes how to automate the re-engineered business processes using new information systems and computer devices.

On this paper, the business process of travel plan quotation in Saudi's travel business enterprise Fursan Travel Agency is reviewed. The Fursan Travel Agency is one of Saudi's leading corporate travel providers, founded in 1980, and it provides travelling air deals and booking services, for individual travelers, companies, government institutions locally and internationally. Further, the agency is focusing on delivering the best value for the customers through continues adaptation of the new and latest technologies in order to offer the customers flexible, cost-effective and high-quality travelling deals. Essentially the agency serves as a digital player in the market, and they provided their services through web-based application and website called (Ejazah.com) with an extensive network of associated partners [3].

Using BPM concepts, we modelled the current travel plan quotation business process to be "As-Is" model, simulate and examined using Bizagi modeler. Bizagi is known as a leading BPM solution that enables design, automation, implementation and enhancement of business processes by a visual graphical environment and popular standard graphical notation [4]. Once The current model set in place, further enhancement and re-engineering are performed using BPR and modelled as a "To-Be" model.

2. Theoretical Background

This section aims to present detailed concepts for the development of this paper based on specific and scientific articles with this paper topic.

2.1 Business Process Management (BPM)

Over the last decade, in order to achieve the best practices on different business processes, a combination of successful information technology, industrial engineering and management sciences supported with several types of

practice and tools became as well-known method or approach identified now as business process management (BPM)[5]. The BPM provides the run-time environment for the execution, analyze of the behavior and measuring the performance of the organization business processes and implements development and optimization on all main processes and sub process [6]. BPM concluded in how to control and manage the capabilities of the cross-functional organization processes and enable the most effective usage and implementation of the business process life cycle. Moreover, BPM is a way to model the current business process in the organization or what known for "As-Is" model, once this is in place, further enhancement and redesign will be performed using BPR and modeled as "To-Be" model [7].

2.2 Business Process Re-engineering (BPR)

There is no doubt that the revolution of change and improvement included travel agencies with all their systems, especially what we are witnessing today of strong competition between Travel agencies where become require for continuous development and re-engineering it operations in effective manner for brings good results [8]. Business Process Re-engineering (BPR) is one of the basic trends that lead the process of improving in the organization. As well as BPR works to deliver the product to the customer with high quality [9]. Where re-engineering business processes contributed to the motivating of organizations to keep pace with changes in technology and reducing failures and delivery time, increasing the sense of responsibility, as well as ensuring the success of the product in the purpose for which it was made[10]. Re-engineering is radically redesigning processes to achieve drastic improvements in critical performance metrics such as cost, quality, speed and service. Where it contributed to the creation of value and creating a competitive advantage in the organization the proper implementation of BPR, inspired by strategic planning and support of the top management, leads to the successful implementation of ERP, as ERP enterprise resource planning systems improve the efficiency and effectiveness of organizations by providing an insight into the organization, Allows the company to remain more aligned. Provides improved analytics, can provide better business intelligence in all aspects of the company, helps automate and simplify many processes in agencies[11]. Business Process Reengineering (BPR) describes the process of rethinking and performing substantial changes in the business process to achieve improvement in quality, service and cost, more time effective for process and overall flexible innovation, the organizations who adopt the BPR are performing radical changes in the process not incremental changes.[12]

2.3 Steps of Business Process Re-engineering (BPR)

BPR develops in five steps. The first step, defining the vision. Identify the objective of using BPR for the business process such as enhancing service quality by decreasing cycle time, eliminate the resource exhaustion, withdraw any negative results based on customer needs.

The second step identifies the process. A declaration of the process selected to redesign, some organizations select based on cost analysis or revenue model of the processes, and other tend to use the high-impact approach is when the organization select the essential and significant process based on selected criteria. Another approach that could be followed is when all the business process in the organization identified and classified, then redesign based on the priority.

The third step, understanding the process step is when the organization measures the current process and outlines the flow of the queues and process tasks or activity.

The fourth step defines the methodology. The organization should select available and suitable tools and techniques to support the reengineering process.

Final and fourth step, a prototype should be prepared for the future process before implementation.[13].

3. Related Work

The study [14] proved that there are a number of travel agencies that have re-engineered their commercial operations (BPR) based on the World Wide Web (WWW) As it converted all operations that are done in a traditional way in its local headquarters to computerized operations via the Internet. Where it provided online reservation for all their customers 24 hours along a day. In addition, it achieved a tremendous growth in its performance after the beneficiaries' demand for it as an easy-to-deal platform. As Travel companies have recently moved to revitalize their websites by presenting attractive offers to beneficiaries inside and outside the Kingdom, after the great demand for them such as: hotel reservations, preparing vacation programs, and services accompanying the trip with the easiest sums of money.

The study [15] a stochastic programming model was developed, Which helped on understand behavior and desires, In addition to assist customers in choosing their favorite hotels and completing reservation matters in an optimal manner, the results of the study indicated about online travel agencies (OTA) that applied of this model and re-engineering their operations to making valuable improvements such as offer an integrated package of hotels desired by their clients, taking into account the following: price, hotel star rating and review rating to make a strong competition between hotels as well as to make the hotel more attractive relative to other hotels. In addition, matching the hotel with the customer's desire which is a difficult challenge especially when the customer has multiple preferences. This led to an increase in competition between agencies and hotels, as well as to a shortening of time for customers during choose hotels and complete other reservation procedures with high quality.

The study[16],Turkish tourism focused on the needs of customers (persons with disabilities) during their travel and that through cooperation with travel agencies, where it made a questionnaire in which 168 travel agencies and 252 hotels,

These questionnaires are filled out by hotel managers and travel agencies, then analyzed the results of these questionnaires and reached through it to a number of recommendations for travel agencies. Restructure the systems that do not serve people with disabilities in an integrated and effective manner, Travel agencies must effectively submit travel information through their Webpages. The information should include (Where will the traveler's destination be? how will he arrive? where will his stay be?). Travel agencies must also provide cars for travelers with special needs for a meet and farewell service from airport. Finally, the resulted applied of these improvements by travel agencies to Smooth evolution in this field.

4. BPR in The Context of Travel Plan Quotation

BPR in the Travel Plan Quotation Process means restructuring work systems in travel agencies, BPR is a systematic administrative method based on organizational rebuilding from its roots and relies on restructuring and designing basic operations with the aim of achieving substantial development, ensuring speed of performance, quality of service and cost reduction for customers. Additionally, with technological development and economic competition, that negatively affected the future of physical travel and tourism Agencies and their ability to continue in the midst of this great wave. However, Travel Agencies have the trended to active the so-called "electronic reservation" where is considered electronic reservation in the travel, tourism and aviation sector has one of the most prominent transformations in the sectors concerned with this development. In addition, Travel Agencies have created their own website and developed electronic reservation services to include other services so that all services are booked in one site, such as hotel reservation, airline tickets, car rental, tours and other services. In addition, in order to ensure its presence in light of these fierce competitions.

5. Implementation of Current Model "As-Is"

Following the idea of BPMN, to complete the travel plan quotation in Fursan travel agency, there are four processes which should be performed. The main process general travel plan quotation, sub-process selects booking details, sub-process checking the availability of services and sub-process credit card validity. The main objective of the model is to illustrate the booking process of the agency, booking the services provided by the Fursan travel agency, which included booking a flight, hotel and car rental.

In the main process Travel Plan Quotation Figure1. The customer will initiate the event by request a quote and decided to choose one from the three channels: web site of Ejazah (Ejazah.com), agency office or agency call center. All the channels are eventually using Ejazah.com website to benefit agency booking requests. Then the customer provided by the sub-process to select booking details, either booking flight, hotel or car rental. After the customer completed the selection of booking details, confirmation of

booking details or change and cancel the booking is needed. When the customer confirms the booking, then the customer will fill a form of personal information. Then, the customer chooses the payment method, whether Credit Card or SADAD.

If the customer chooses SADAD, the number of bill receipt used to complete the payment. If the customer chooses the credit card, then a sub-process will be created, to check the validity. After validating and payment, the booking is confirmed, and then the quotation is acquired.
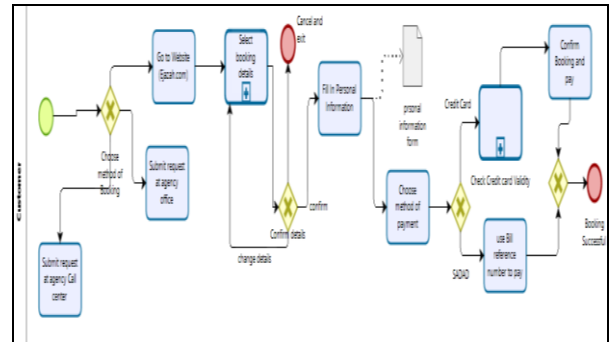

Figure 1: Main Process "As-Is": General Travel Plan Quotation for "AL-Fursan Travel"

Sub-Process Select Booking Details and Sub-Process Checking the availability of services the customer selects one of the provided services by Fursan Travel Agency booking flight, hotel or car rental, as shown in Figure 2. Selecting one of the services will initiate another sub-process which is checking the availability of services sub-process. After choosing booking details, the agency system will check the availability in the agency database. As shown in Figure 3. If it is available, the booking details are requested. If not available, the customer will be informed and recommend choosing another booking detail.
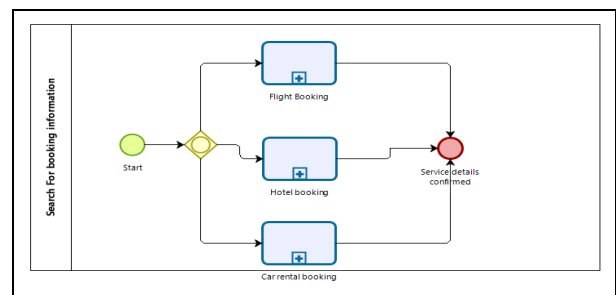

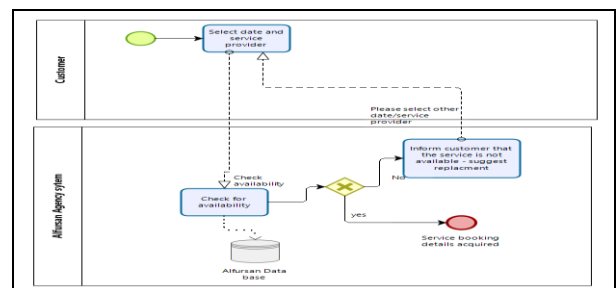**Figure 2:** Sub-Process Select Booking Details

Figure 3: Sub-Process Checking the Availability of The Services

Sub-Process Credit Card Validity Suppose the customer chooses the credit card in this case figure 4. The customer is required to fill the credit card information. Then, the bank checks the information validity. If the credit card is valid, the customer confirms payment. Otherwise, the customer will choose requested to refill the credit card information or change and cancel the payment method.
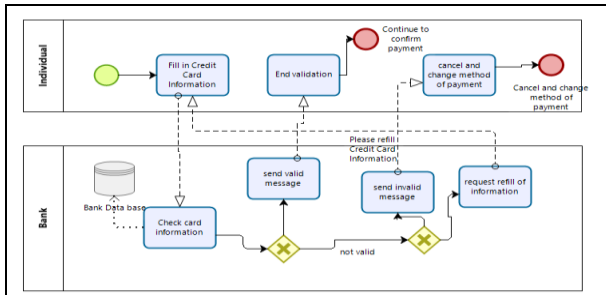

Figure 4: Sub-Process Credit Card Validity

6. Disadvantages/Challenges of The Current Model

Certainly, there were some challenges and imperfections in the current business process, some of them related to the tasks, as the more complex and repetitive tasks resulted in increased time and thus decreased customer satisfaction. As described in the current business process, in the event that the customer decides to book every hotel or flight together, he must re-enter the desired dates from the customer which causes more time which in turn is not desirable, and it would be inefficient, and this was leading to reducing the quality of the provided service.

In addition, the nature of the single booking for each service, deters the customer from compiling a needed quotation consisting of multiple flight and/or multiple hotel booking.

To add to the list of disadvantages, the portal booking is primary in nature, as it lacks the follow up services that might accompany the needed booking. The range of supplementary services could include refund services, service rating, and suggested future booking.

7. Recommendations of Improvements on the Process "To-Be"

The process of improvement is focused on increasing customer satisfaction by eliminating wasteful and redundant steps and possibly maximize the exposure of services provided by the agency. The As-is process of the customer looking up desired booking service dictates that, to choose either the service of booking a flight or hotel, then proceeding to enter the departure and destination locations for flight, alongside the departure and arrival dates desired for flight booking. While entering desired location and check in/out dates for hotel booking. As indicated, the segmentation of choice between flight and hotel booking requires the customer to choose and enter one type of service and if in the best-case scenario, a customer decides to book

both hotel and flight reservations using the agency, the customer is required to repetitively enter the needed dates and location. The To-be process suggests integrating the optional reading of service fields with a result of the customer needing to only fill the date and location fields once for both hotel and flight booking. Where the transformation of flight booking field "Arrival date" to be generalized to produce automatic value for "Check-In" value for the hotel booking and the case of "Round trip" field "Departure date for return" will generalize to include "Check-out date". On the other hand, "destination" field in the flight booking will generalize to include "location" in hotel booking. The produced automatically filled field values are changeable for customer modification after data retrieval. The joining results in a possible half time cut in the process, possibly increasing Customer satisfaction rate and less retrieval time of data. The combination also allows the customer to add multiple services to the one-way advancement to payment track of booking, allowing a pay for all services booked gateway instead of individual payments. The figure 5. demonstrates the proposed re-engineering model representation, indicating the unifying of service under one process alongside the elimination of pre-search choice of type of service.
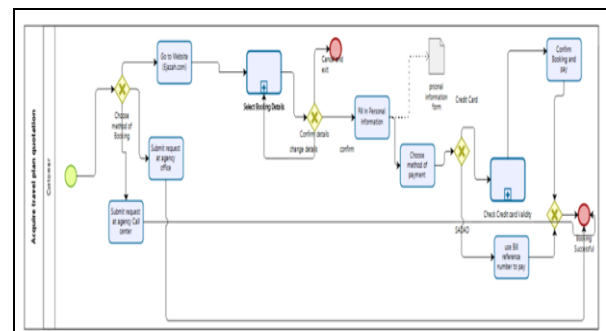

Figure 5: Main Process "To-Be": General Travel Plan Quotation for "AL-Fursan Travel

As the re-engineering process proposed suggests the modification on the main "Acquire travel plan quotation" and the removal of the sub-process "Choose service", the simulation results for the proposition were naturally the same for the Sub-processes "Credit Card Validation" and "Check service Availability". Table1. demonstrates the difference in time concept regarding the main process.

To compare the result of the re-engineering time-oriented enhancement with the As-Is model, the time base unit used will be Minutes. While the As-Is model accomplishes the handling of 1000 units with arrival average time of 2 minutes in total number minutes of 14,132.67, the suggested modification simulation lead to a reduced number of minutes 8,773.03. the numbers indicate a difference of 46.7974% increase in post-reengineering model.

Table 1: Comparing The Result of Simulation

Simulation Analytics	Min. Time	Max. Time	Avg. Time	Total. Time
"As -Is" Model				
The Sub-Process Credit Card Validation	3m 24s	1h 4m 36s	9m 28s	6d 13h 55m 48s
The Sub-Process Check	40s	19m 50s	3m 12s	2d 5h

Service Availability				24m 10s
The Sub-Process Choose Service (Hotel / Flight / Car Rentals)	3m 12s	3m 12s	3m 12s	2d 5h 20m
The Main Process Acquire Travel Plan Quotation	3m 14s	25m 40s	14m 7s	9d 19h 32m 40s
"To-be" Model				
The Main Process Acquire Travel Plan Quotation	3m 14s	19m 16s	8m 46s	6d 2h 13m 2s

8. Conclusion

Business Process Re-Engineering (BPR) is a management approach to rethinking and redesign of an integrated set of the business process to identify the opportunity for empowering the companies and efficiency enhance operation and services performance and quality to the clients. Companies especially travel agencies are mainly focusing on customer satisfaction to earn their competitive advantage in the market and to develop a loyalty relationship between the agency and the customer by providing the best services quality in the optimum performance. This research is aimed to apply the BPR on the Fursan Travel Agency, one of Saudi's leading corporate travel providers, specifically on the travel plan quotation process in exchange for benefits most of the agency resources by eliminating any waste, reduce the length of the procedure and reduce time-consuming. Furthermore, enhancing the quality of the services provided to the customer and brand image, expand the target consumer groups by making it easier for customers to reach the provided services.

Appendix

Appendix 1: Interview with the CEO of Fursan Travel Agency.

Question 1: Give us an overview of Fursan Travel Agency?
We are Saudi Arabia's travel agency offers travel services such as air ticketing, hotel booking, car rentals. Also, we provide travel arrangements for a variety of travel packages. As a company of 36 years built on market knowledge and experience, we are corporation with the government organizations and different companies to arrange travel for their employees.

Question 2: How can the individual traveler benefits of the services have provided?
Individual traveler can have one of our services through multiple methods. The customer can access immediately to the websites, choose and confirm the reserved services, the second methods from the physical stores. The customer can visit the stores and an employee of the agency will serve and help to choose and complete the booking. Furthermore, the stores located in the government or offices or businesses we cooperated with. Those types of arrangements usually originated with great prices and discounted for that organization employees. The third and last method we provided is the call center to serve our customers in their booking process.

Question 3: What the internal process from the company for managing the travel quotation process?
Fursan Travel adopts the latest technologies and invests in agency development. Therefore, controlling the provided services is automatically managed. We provided to our customer website and mobile application with all the fundamental functions and customer requirements to obtain the best experience in the selection and booking process.

Question 4: Tell us about the agency website?
Our customer can choose what suitable for them from varieties of different traveling choices. After accessing the website and choosing the destination and date, the customer able to filter what they search for by the search features based on different criteria such as the airline company, time of the trip and seated type: economy, business or first-class tickets. Following the customer chooses, they automatically transfer to the form page to fulfill the personal information and make the payment and receive confirmation.

In the implementation of our website, we focused on developing the website to be user friendly, easy to use and avoid any complex in the graphical interface. We also, provided suppliers from all around the world for the hotel and car rental services and air tickets, the customer will have numerous options to chooses from, and the booking process for the hotel and car rental will follow the same as explained before for the airline booking.

Question 5: In how many ways the customer can pay?
The customer can complete the payment process by paying online via credit card or visa, the well-known payment in Saudi Arabia SADAD or physically at the stores.

Question 6: What is the company vision?
The vision we follow is "To be the market leader for best-in-class travel services across the Middle East and North Africa" The agency founded in 1980, from then until now and to the future the agency continuously improving the internal agency process and the provided services, we are planning to be the leaders of the traveling market in Saudi Arabia. Our customer is a priority for us, and as mentioned before we serve not only individuals but also companies and governments, therefore, we are always professionals and intend to provide to the best service quality in traveling.

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