A Case Study on Web-Based Process Change and Operational Excellence in Tourism Industry

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ABSTRACT

The change in the way a tourism company operates its business is becoming crucial in order to remain relevant in a stiff business competition. One of the approaches is to change the processes of carrying out operations to give value to both company and its stakeholders. The purpose of this paper is to increase an understanding of the process change of the Global Distribution Systems (GDS), a web-based process change implemented in a travel company. A case study of Agadar Travel was conducted in order to understand the business process change embarked in the key processes. Semi-structured interviews were administered to the process owners and employees on the subject being investigated. The mind mapping and table of description were presented in order to understand the results in more in-depth. The analysis indicates after the implementation of the web-based processes change, significant improvements were achieved in terms of quality, flexibility, delivery, productivity, cost reduction, social and environment. Particularly, more customer-centric acumen and inefficiencies elimination were observed in the interrelated processes. The paper provides practical knowledge to the company on the adoption of the web-based processes change. This would assist them to interact effectively and efficiently with customers and to gain excellence in their operations to ensure business sustainability. The study would motivate the top management of a travel company to invest in the web-based processes change in order to increase the operation excellence and to remain competitive in the market.

Keywords: Information technology, process change, operational excellence, global distribution system, tourism industry, case study.

I INTRODUCTION

The ability to meet and satisfy the demands of customers in the tourism industry relies heavily on access to relevant information and its dissemination. This goes alongside with the call to cope with process complexity and the inreasing demand of service innovation and creativity for tourism industry. The challenge has brought new requirements for technology and this trend continues (Dabas and Manaktola, 2007; Wu, Ho, Lam, Ip, Choy and Tse, 2016). The web-based process change is becoming an enabler to knowledge-based activities which ensure operation excellence in the globalised competition and has contributed to the knowledge managament paradigm and information revolution in knowledge sciences (Kracht and Wang, 2009; Tsiotsou and Ratten, 2010; Nakamori, 2011). This competition has changed how tourism and travel are commercialized. Moreover, there are certainly more advanced to be expected (Wu et al., 2016) which would enable to cater the niche market. It is supported that business process change, continuous innovations through high-end technologies and the implementation of information technology (IT) improve business operation (Goksoy, Ozsoy and Vayyay, 2012). As the benefits are mutual, the airlines and travel companies are both able to generate more revenues with fewer efforts and overheads, thus provide better service to customers (Das and Canel, 2006). The internet and web-based applications facilitate the roles of intermediaries in the distribution chain in the tourism industry. Business process change on web-based applications and on-line ticketing options enable the customers to access the systems and manage their requests, for example, bookings, payments etc. over the web. These types of systems have grown in popularity, adding value and becoming an attractive way in which airlines and hotels can market their products and services visibility (Dabas and Manaktola, 2007; Gazzoli, Kim and Palakurthi, 2007), hence, increasing the operational excellence (Oon and Ahmad, 2014a). Vora (2013) highlighted the important of the application of knowledge-based activities, skills, tools, and techniques, and to manage the resources in order to achieve excellent results.

Operational excellence reflects the performance of internal operations of a company in terms of quality, flexibility, delivery, and productivity improvements, and a reduction in cost and waste. More specific, operational excellence operationalised by quality, flexibility, speed, cost, social and environment (Oon and Ahmad 2014a,b; Samuel, 2013; Sudarmo, 2013; Yilmaz, Ozgen and Akyel, 2013). Hence, the latest development in the change management and operational excellence has evolved, which enhance

the customer value and ensures the sustainability (for example, Al-Ghamdi, 2013; Hurn, 2012). Many organisations in the tourism industry have turned to business process change as a means to radically change the way they conduct business. However, in most of the cases, radical improvements have failed to materialise (Davenport, 1993; Hammer and Champy, 1993; Kotter, 2007).

This paper aims to investigate how web-based processes change impacted on the operational excellence in a travel company. Discussing how the new process reengineered affects the way employees manage their tasks to achieve desirable outcomes. The paper also provides practical knowledge to the company on the adoption of the web-based processes change in order to interact effectively and efficiently with customers and with the respective stakeholders who involved in the processes. More importantly, it assists decision making pertaining to investment for top management facilitated by its streamlined business process change.

II   LITERATURE REVIEW

A series of interrelated activities, crossing functional boundaries with input and outputs is termed as a business process. According to Davenport and Short (1990), a business process is the logical organisation of people, energy, equipment, materials, and procedures into work activities designed to produce a specified end result. The process involves two important characteristics as stated by Davenport and Short (1990) which is customers and its cross organisational boundaries which are generally independent of formal organisational structure. Similarly, Hickman (1993) defines a business process as "a logical series of dependent activities which use the resources of the organisation to create, or result in, an observable or measurable outcome, such as a product or service".

The business process has been highlighted in many prominent studies as fall under the business process orientation (Davenport, 1993; Davenport and Short, 1990; Drucker, 1988; Fowler, 1998; Hammer and Champy, 1993; Porter, 1985). Companies highly focused on the business process view to do business unusual, new way of doing things based on the drastic change in the environment, advancement of the technology, and sophisticated customers (Davenport, 1993; Davenport and Short, 1990), including the need for integration because the systems become complex and complicated (Hammer,1996). Business Process Reengineering (BPR), one of the business process change initiatives, was first introduced by Hammer (1990), and Davenport and Short (1990).

Evidence show that business process change implemented successfully by engaging the employees in the current tasks to understand the necessity for change and to let them feel the sense of urgency (Movahedi, Miri-Lavassani and Kumar, 2016; Niehaves, Plattfaut, Budde and Becker, 2011). Therefore, the organisation needs to work as a team and all the functional areas of the organisation need to be properly integrated, with understanding the importance of cross-functional processes. Recent studies emphasize on the relationship between process goal and its contextual elements, which plays a fundamental link to flexible and excellent business processes (Anastassiu, Santoro, Recker and Rosemann, 2016; Movahedi et al., 2016).

Where the business processes have been carried out on the web, it needs to be streamlined to get better results and stay competitive. The internet as new forms of e-commerce and IT in general, continue to have a significant influence, which started to gather momentum during the last decade. IT can influence a business in a variety of ways, including its marketing and advertising, sales and distribution, customer management, and operational efficiency (Brocke et al., 2016; Lin, 2010). As the industry acknowledged increasing dynamic and complexities environment, tourism and travel companies accordingly have been best served by proactively looking at longer-term business sustainability. In such a way, little knowledge on how the business process change could be implemented in the web-based applications particularly the Global Distribution Systems (GDS). This is because GDS has remained a major and comprehensive management tool, despite growth in the use of the internet and the availability of new sources offering travel-related content. GDS is the portal that travel agents use to make reservations for flights, hotels, vehicle rental, and other travel service bookings. In addition, GDS can provide access to information about pricing and availability to on-line travel companies, and extend the reservation functionality on-line (Dabas et al., 2007). However, there is a lack of research on the business process change directly implemented to GDS to gain an operational excellence.

GDS enables automated transactions to be conducted over a corporate network, and in the tourism industry, this involves vendors and booking agents who provide travel-related services to consumers (Wang, 2010). In the industry, travel agents have to eliminate caution and adopt modern systems, and small travel companies often need to introduce highly skilled staff, in order to accelerate access to potential revenue streams (Hua and Li, 2010; Wang, 2010). There are a number of challenges that impact on the central role of the

GDS in coordinating travels, for example of the increase in direct booking suppliers or airlines offering services directly. Therefore, there is room for business process change to take place in GDS, so that systems can be replaced, adapted or modified to meet the changing needs of travel suppliers, distributors, and customers (Hua and Li, 2010; Ruiz, Gil and Moliner, 2010).

Before the internet was developed and travel providers were active on-line, airlines, hotels, and tour operators practiced disintermediation and operated via direct sales to customers and retail outlets (Anckar and Walden, 2000, 2002; McCubbrey, 1999). Toll-free call centres were also introduced, to facilitate the disintermediation (McCubbrey, 1999; Palmer and McCole, 1999).

Changes in the operating parameters of players in the tourism and travel industry have had far-reaching effects. This is because there is a lack of integration on the process-orientation and customer-focused (Ahmad, Francis and Zairi, 2007; Oon and Ahmad, 2014 a,b). On the operation's side, the developments, apart from payment processes have included the generation, collection, processing, application, and communication of information that is essential to day-to-day activities. Rapid growth in both supply and demand for products and services has added additional importance to the roles of marketing, distribution, promotion, and coordination in the tourism industry.

GDS leads the standardisation of the processes as well as controlling a considerable market share as it connects most of the tourism companies with intermediaries around the globe. As a result of this global communication standard and the new tourism electronic distribution channel, GDS is seen as the circulation system or backbone of the industry (Groznik and Maslaric, 2012; Truitt, Teye and Farris, 1991). Evidently, GDS became businesses in its own right, as its changed its nature from tools for vendor airlines and accommodation corporations, to "electronic travel supermarkets" and strategic business units for its corporation (Banalieva and Dhanaraj, 2013; Buhalis, 1994, 1998; Das and Canel, 2006). Through the web-based process change, it enables GDS to increase the satisfaction of its stakeholders, (i.e. consumers, principals, travel companies and shareholders), offer superior products and services, and enable companies to maximise their profitability through the achievement of business operations (Brocke et al., 2016; Rosemann et al., 2016).

III RESEARCH METHOD

The study embarked on a case study to explore one company's experiences with web-based processes change for the purpose of accessing and reporting how it achieved operational excellence. The case study method is used in order to get a deep and broad understanding and insightful analysis and make a valid contribution to the development of a theory (Yin, 1994). For this current research, a single case was chosen, Agadar Travel that facing stiff competitions in the industry. In particular, the study is a 2-year longitudinal case study where observation conducted before (i.e. current operation capabilities) and after the process change (i.e. web-based process change) was implemented in the company. Hence, the chosen case is useful to demonstrate a situation and to understand the experiences of the company that implemented process change. It provides researchers with an opportunity to make observations in an environment that would not normally be available for scientific investigation. When the research examines the emphasis on a particular focus in a real-life context, the case study method is appropriate (Yin, 1994). This is because it is an effective research tool for an exploratory and descriptive study, and this is the reason why it was selected for this particular study.

In this case study, the semi-structured interviews were the primary data collection instrument. Additional data was collected from documents, archives, secondary data, analysis of the company's website, and direct observation during the site visit on the new processes changed. Interviews were done formally and informally to obtain information from the participants.

The interviews were carried out with 6 process-owners which are the employees of the company. The profile of the participants for the interviews are shown in Table 1:

Table 1. Participants' Profiles

Position	Frequency	Gender	Age (year)	Tenureship (year)
IT staff	1	Male	30	4
Sales person	1	Female	23	2
Runner	1	Male	20	2
Marketing operator	1	Female	36	5
Finance staff	1	Female	32	2
Operations staff	1	Male	29	3
Total	**6**	-	-	-

The study involved different aspects and perspectives of the company's divisions, including IT, sales, marketing, finance, and operations. The mixed of participants from various functions provided data triangulation and strengthened the contexts of the different functions of process change and operational excellence being studied. In order to assess the current processes and benchmark them with the industry players, we observed the processes implemented in daily operations and further asked

questions for elaborations from the process owners as the participants. Benchmarking of the existing processes took place at this stage and other metric data on the existing processes were gathered to assist later evaluation of the processes changed.

The interviews conducted were held face-to-face and one-on-one and usually lasted between one to two hours. Notes were taken at each interview and each site visit, and a detailed set of field notes compiled at the end of the day. The data then were keyed into the NVivo for the data analyses.

This paper, in precise, presented the findings using the table of descriptions as one of the tools proposed by Huberman and Miles (1994), and the mind mapping of the concepts. The results provide new insight and information on the web-based processes change impact on the operational excellence in the travel company.

IV   RESULTS & DISCUSSIONS

This case study reports changes in the key processes implemented in one of the travel companies in Malaysia, Agadar Travel which implementing the web-based applications for their business operations. The web-based process change implemented was as a result of the need to support increasing demands from various customers of different backgrounds and preferences. Thus, the business process change was to reengineer the key processes in the GDS as the company observed that the key processes were falling short of meeting the customer expectations. Previously, the key processes and the sub-processes are organised in a sequential fashion and less integrated, thus, the old processes need to be changed to a betterment. This case reports the need to ensure that the processes are effective and fit the overall company's mission, vision, values, and mandates. As the company vision is to be responsive to the customers' demands and to provide valuable experiences to them, improved operational excellence need to be achieved, and consequently increased profitability. Other than that, there is also a need for the processes simplification and integration to keep pace with the market needs. The case declares that there is a need to provide better and more expedient products and services which benefit the customers.

The web-based processes change is to reengineer the key processes i.e. Flight Ticket Request Process, Tour Request Process, Visa Request Process and Marketing Process, and sub-processes such as Accommodation and Transportation, and other support processes IT, Sales, Finance and Operation were also involved. The new process changed GDS is targeted to give impact on the operational excellence of the company, such as to enhance capabilities and efficiencies within the company.

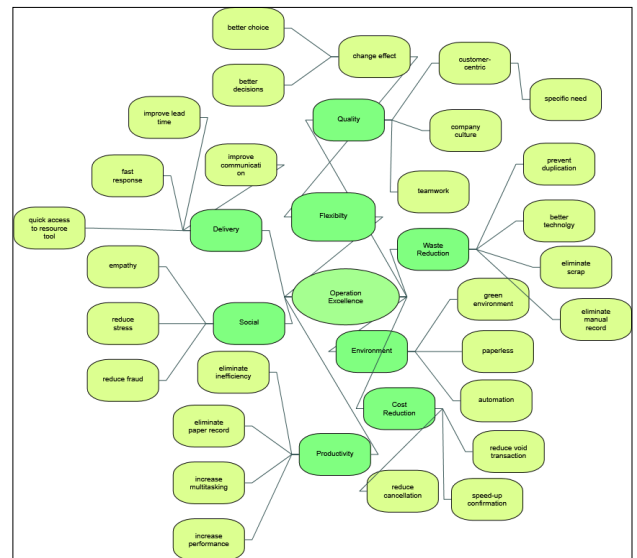The mind mapping of the operation excellence aspects is shown in Figure 1 below:

Figure 1. Operation Excellence's Mind Mapping For Agadar Travel

The study discovers that there is need to eliminate redundant and inefficient processes so as to increase productivity and cost savings priority. This is because of the immediate savings achieved by lower transactions costs, management fees or service fee changes. The analysis produced a table of description on the consequences and the web-based process change impacts on the operational excellence of the company, as shown in Table 2:

Table 2. Web-Based Process Change Impacts On Operational Excellence

Current Operation Capabilities	Enhance Operation Excellence
	Quality Improvements
Lack of technology, system, and interfaces to keep pace with the current industry trend	• Focus more on customer-centric and teamwork, which make a positive shift in the company culture. • Create team-based approach coupled with better processes reducing deficiency and increasing consistency • Eliminate current silos and encourage customer-centred for service delivery
	Flexibility Improvements
Rigid applications and most processes are not integrated	• Change in one process effect the change in other related processes that guide the choices and decisions • Improve decision making to cater specific needs
	Delivery Improvements
Late response to the customer special requirements and needs	• Ensure fast response due to all in one applications advantages • Improve communication throughout the company • Increase team knowledge and

	• better response to the specific needs of the customers
	• Reduce lead times to resolve the issues and special needs
	• Quick access to resource tools incorporated into the training and transition of the new system
Productivity Improvements	
Slow completion of complicated and complex tasks	• Eliminate inefficiencies within the processes
	• Eliminate the need for manual processes and paper records
	• Provide stable tools for employees to perform duties and tasks
	• Define job descriptions, scope, duties and responsibilities clearly (increased performance)
	• Increase multi-tasking abilities
Waste Reduction	
Inefficient in managing customers and business processes	• Eliminate scrap and reduce reworks
	• Apply better technology to effectively implement systems, address problems, evaluate progress, and improve efficiencies
	• Prevent duplications of processes and tasks performed
Cost Reduction	
Errors in human and machine	• Reduce costs of void transactions
	• Reduce costs of withdrawal customers (cancellation)
	• Speed up the confirmations and closed deal
Social	
Slow systems response and low security	• Reduce stress on systems offline, slow and hang
	• Reduce fraud activity
	• Raise empathy on individual requests
Environment	
Depend on manual and paper-based processes	• Implement paperless systems
	• Move towards green environment
	• Redesign of workspaces to accommodate automation processes

In the course of conducting the research, it is recognised that Agadar Travel has the variety of issues in relation to the previous processes. This issues including lack of integration among the processes, longer lead time in processing customer requirements, and continuous customer complaints are among other challenges. The ticketing process owner who was among those interviewed believed that current processes that Agadar Travel are lacking behind in terms of competitive advantage as the system are not keeping pace with the current market trend, thus the need to reengineer the processes. Our observation reveals that there was a strong evidence that the previous set of processes did not fully appreciate the overall business process.

The discussions on the key results suggest a more systematic and interrelated approach to the current processes which lead to fewer customer complaints. Before the implementation of the process change, the ticketing process as an exemplary had longer lead time compared to that of the competitors. This increase the costs of operations that led to some losses in revenue. To worsen the condition, Agadar Travel relies heavily on individual agents and airline website in ticketing process. This resulted in systems inefficiency, which occurs regularly in the existing process. In some other cases, when the agents or airline website are temporary out of service, it will halt the whole processes at Agadar Travel which usually resulted in customer dissatisfaction. This is further supported by the marketing process owner that the reengineering process requires detailed top-down and bottom-up analysis of the current system to contribute to further marketing effectiveness.

Additionally, corrective action reports, which gave customers feedback on the status of refund payment, were not being given adequate priority and with little inter-departmental co-operation. One staff collect these request from the customers mostly due to last minute cancellation among others. The staff was experiencing major difficulties as individuals' agents and airlines did not devote adequate priority to this task.

Furthermore, most of the operations in the tour process are done either through ground agent arrangement or booking through the company website, for example in the case of hotel booking among others. A proper process change management focusing on the integrated system i.e. GDS enable Agadar Travel to become more efficient in satisfying customer needs and keeping pace with the change in the market environment. This particularly improves Agadar Travels competitive advantage in terms of customer specialisation or customised requirements and technological advancements. This is crucial decision making for the manager because resources are finite, managers must consider what to invest in and how much to invest. In doing so, managers need to consider whether investments are additive or compensatory in nature (Wu, Melnyk and Swink, 2012).

These capabilities issues were present in virtually every individual work processes (Ahmad et al., 2007; Hambrick, 1984). The enhancement of operational excellence is based on the investment

injected to the operational capabilities of the company, which it appears to be consistently compensatory in nature (Wu et al., 2012), which are subject to "equifinality" (Hambrick, 1984; Oon and Ahmad, 2014a). Furthermore, one process owner would frequently report duplicating the work of the previous process owner because of lack of supervisory oversight. To facilitate the process to meet the targeted operational excellence, a GDS system developed has integrated and linked all the airlines' processes together in one holistic system.

Figure 2 below shows the key processes that have been integrated into the web-based processes changed implemented in the company:
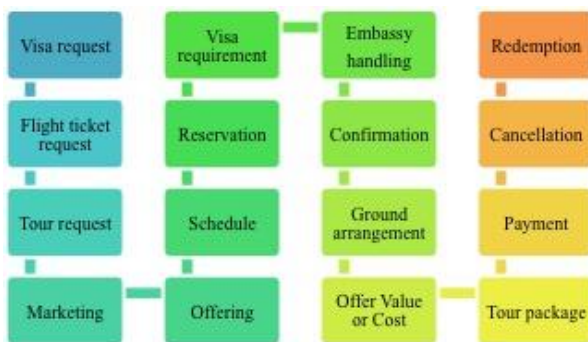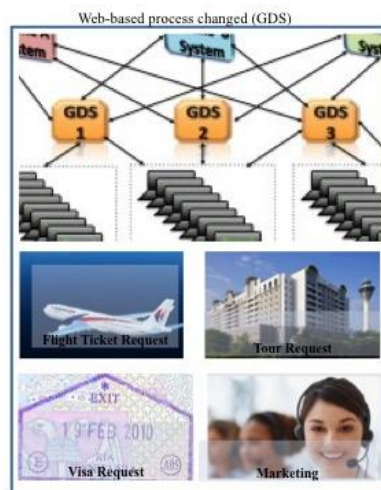

Figure 2. Web-Based Process Change (GDS): Key Processes Integration

In the newly reengineered processes, a number of basic flaws had been identified in the key processes and rectified accordingly. For example, some problems emerged in relation to the ticketing services. Firstly, the current process did not operate to provide a large platform of airline tickets simultaneously as compare to the competitors used as the benchmark. In addition, the investigation of the ticketing process revealed a basic flaw in how the company dealt with refund request due to a cancellation of the booking. Typically, when a customer cancels ticket and requests for a refund, Agadar Travel will make all the necessary

documentation and submit to the agent (if ticket purchase is through agent or direct to the airline). However, the time taken for the customer to receive the refund is usual about 3-4 months but when compare to the competitors, it's within a month the customer receives the refund. Consequently, the business process change carried out on the key processes implemented into the GDS system affected the customer's patronage and revenue.

Automation and streamlined of both reservation of ticket, hotel, car and even visa processes enable Agadar Travel to mine date more effectively and eliminate the need for manual processes and paper records. Average time spent per customer before the process reengineered is also an issue. The processes are not efficient enough to meet up with the current market demand. The new process offers integration and linkages that enable Agadar Travel to serve customer faster and efficiently. This is in line with Movahedi et al (2016). They stressed that increase customer satisfaction would benefit the business by having better management of business processes at intra-organizational level (indirect effect) as well as inter-organizational level (direct effect).

With the GDS business process changed in place, Agadar Travel was able to redefine their current key processes significantly and holistically. Process owner agreed that implementation of the systematic initiatives and integrated system for the current processes tremendously improve operation excellence. The reengineering of the processes has a major impact on Agadar Travel as the general manager estimated that the overall revenue of the company increased approximately by 30 to 60 per cent per annum. Also, at this stage, it was considered important to set audacious goals or "stretch targets" (to use Davenport and Short's (1990) terminology).

The on-going changes have resulted in a paradigm shift, which continues to have a dramatic effect on the travel and tourism industry. It also meant that players have been forced to rethink on how business processes are organised. The purpose is to enable experienced travel agents to use their expertise when making every travel booking so as to increase the speed of how the activities are conducted and to increase the outreach for travel content. Once the choice is keyed into the newly reengineered processes, the agents would be able to choose various combinations, which show any price differentials that arise due to specific combinations. This type of capability would be designed in direct response to user-friendliness, and allow agents to simultaneously research and access other fares that were not offered by the original search results. This would subsequently improve on their expertise and

knowledge to further options and route advantages (Study, 2011).

V   CONCLUSION

The aim of this paper is to investigate business process change implemented on the key processes of Agadar Travel from GDS to newly designed processes on the web and the internet. It reveals the implications of the new business processes change introduced to the operation excellence focusing on the consequences to the travel agency capabilities. The results show how the business process change positively affects the employee's efficiency in executing their daily task. Business process change on GDS allows the point-and-click interfaces which have revolutionised the on-line business. The paper revealed that there were weaknesses in Agadar's current business process which were successfully mitigated or resolved by the introduced business process change.

The paper proves that the web-based process change is mutually supportive of each other's key and sub-processes, consequently influencing the operational excellence of the company. The integration of the key processes and sub-processes enables the company to achieve tremendous improvement in the era of technology advancement. The key findings showed that after the processes are reengineered using the web-based application, the processes become more systematic and integrated. A properly integrated system like the GDS helps the company to become more efficient in satisfying their customers need and keeping pace with the change in the market environment.

A number of basic flaws had been identified in the core operations related to the processes which have been resolved through the implementation of the web-based process change. The current process lacks the integration and linkages that will enable the company to serve its customer faster and as a result, the company was losing out on customers and eventually affects its profitability. With the GDS web-based process change, the company is able to redefine the current processes especially in the tour where most of the activities are done manually or through an agent. Web-based process change enables the company to reduce management cost substantially and increase revenue in the whole processes.

Thus, the company had significantly achieved operational excellence. This could be accessed in terms of reducing the customers' complaints, shortening the waiting and processing times, increasing the speed in fulfilling the customers' various demands and various segments, producing a better quality of decisions to the customers among others. The achievements in the operational excellence through the newly reengineered processes compared to the old processes have attracted increase patronage of Agadar Travel's products and services.

The lessons learnt from the case study on the web-based processes changed including the hard factors (i.e. process and technology) and the soft factor (people). The implementation of the newly reengineered processes could reduce the reworks, redundancies, and overlaps of the processes, duplicating tasks, inconsistencies in data collection and assessment, and the inefficiencies of the systems. Furthermore, the case experiences allowed us to understand in-depth about the employees and managers who involved in the process change. As highlighted, business processes are complex. Process mapping offers a comprehensive blueprint for the existing state, which enables systematic identification of opportunities for improvement. The process teams who are working hand in hand would experience great lessons learnt on the teamwork perspectives and allowing individuals to question the way things are done is imperative to change. Teamwork is well understood in the sense of belonging that they "own" a project, they tend to want to make it work. It becomes ``their'' project (web based process change project). This makes the process change become more successful and achieving the desired targets. In conclusion, the business process change enables the company to sustainably meet the current market demand and to be able to survive and retain its customers in a long run. In fact, to stay competitive in the market, the investment in the web-based process change is a wise decision for the long-term strategy. Thus, the systematic initiatives and integrated system for the current processes would improve the opportunities for the company to leapfrog the competitors in the marketplace. The following recommendations are presented based on the aforementioned findings.

- Adopt and implement web-based process change, GDS for integrated functional business processes in order to achieve continued process improvements.
- Promote the active involvement of customers and other key stakeholders during the change of the processes.
- Adopt and implement a business model to align with, and support, the new business processes.
- Recruit, develop, and retain quality employees who shared the vision of the company.
- Promote mutual responsibilities between employee and company for completion of the training and retraining plan of the new processes change.

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