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Research paper

Establishing Shipyards' BPR Key CSF'S during Revamping Project Disbursement Process

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Abstract

BPR is a great management tools used to revamp a business process within anorganization. Nowadays, most of the organization have reach its maturity stage and adaptation of BPRCSF's must be scrutinize to ensure that the intended BPR objectives are fulfilled. The Shipyard, whilerevamping its project disbursement process came across with a lot of CSF's, but only a few are thekey CSF's that help to move forward with the BPR change initiative. This research used qualitativemethod with interactive Action Research Cycle to identify and establish Shipyard BPR key CSF's forits BPR project. The finding was made using Force Field Analysis between Shipyard BPR teammembers and the established BPR key CSF's which will help to further understand how to implementBPR project effectively and successfully without incurring further delay in cost and time to theShipyard.

Keywords: *BPR, BPR CSF's, BPR key CSF's, effective top management support, effective communications, effective training, employee's involvement, employee's empowerment.*

1. Introduction

Business Process Engineering (BPR) being introduce to industry since early 90's(Hammer, 1990; Hammer & Champy, 1993). Its application and adoption in industries are worldwide and had gone through high and low of its output and performance in helping organization to become better and more effective(Eftekhari & Akhavan, 2013; Mturi, 2014; Nicholds & Mo, 2015). The success of BPR implementation are varies and different in respective project setting, however it is indirectly share the same success factors that become critical for it implementations, either public or private (Ghatari et al., 2014; Jurisch et al., 2012). Identifying its critical success factors (CSF's) will be great beneficial for any organization before committing to BPR project, especially for the first time, as BPR are very expensive in terms of time, cost, and human values to the organization(Alsudairi, 2013; Guimaraes & Paranjape, 2013).

The Shipyard are one of the local shipyard in Malaysia that heavily support shipbuilding/ship repair industries in achieving its industrial objective (Sulaiman et al., 2017; Zainal et al., 2013; Zainal et al., 2016). Ship repair works are one of the core activities in this industry and labor intensive (MIGHT, 2011). To fulfil the project requirement, most of the labor capacities in Shipyard are provided by Subcontractors. Recently, through a complaint by its subcontractors on delay to verify the supporting document for disbursement. Shipyard had acknowledged that it current project disbursement process are in need for review and decided to revamp the process flow using BPR as a tools(Ismail & Osman, 2016).

Prior to project implementation, a BPR team being setup to manage the BPR project and make a reference to existing CSF's that can be used as a guidance. Shipyard originally a unit under public services, and now being transform to private entity but still carry the same employees with the organization. To directly adopt any available CSF's is not possible as the organization already reach it maturity stage at certain level and rooted with it organizational habits for quite some time. Adaptation of BPR CSF's are critical, and in many of its elements, there will be a CSF's that become a key to BPR CSF's and propel the project implementation to accomplishment.

This research will help Shipyard to identify its BPR key CSF's and help to deploy the BPR approach successfully. BPR key CSF's are vital to move the BPR change initiative effectively and increase the successful rate of BPR implementation without incurring further delay in time and cost for the Shipyard.

2. Literature Review

BPR as a management tools had established and produces many it'sCSF's throughout its three decades of implementation in various industries and research setting. CSF's become important factors to be understand prior and post BPR implementation. It helps to prepare detail plaining for BPR implementation and what need to do when plans go wrong and need a revisit.

Depending on the research area and setting, organizational maturity, and BPR project objectives, CSF's cannot be deployed or apply directly without adopting the existing CSF's and adapt it to in line with respective research area and objective. Lee (1995) and Crowe et al., (2002) introduced and study four CSF's in their research; egalitarian leadership, collaborative working environment, top management commitment, and change in management systems. McAdam & O'Hare (1998), while studying BPR within multinational chemical manufacturing organizationsindicate another five CSF's in BPR; top management, employee's commitment, effective communication, teamwork, and empowerment.

Al-Mashari & Zairi (1999), while analyzing BPR hard and soft factors recommends change management, management competency and support, organizational structure, project planning and management, and IT infrastructure as BPR CSF's.Change management, and corporate cultureare critical success factors in advances and developing countries as per Huang & Palvia(2001), while He(2005)doing comparative study of BPR in China suggested management support, improving cross-functional communications, cross-unit project team composition, and measurable BPR objectives as critical success factors for BPR project. A case study within hospital BPR implementation by Huq & Martin(2006)highlighted BPR CSF's as top management driving down BPR, participative BPR, and enterprise resource planning (ERP) systems driving BPR,.

An empirical case study conducted within three higher education in Malaysia by Ahmad et al.,(2007), suggested teamwork and quality culture, quality management system and satisfactory rewards, change management, less bureaucratic and participative, IT/ IS, project management, and adequate financial resources are essential as BPR CSF's. From a survey research carried out in seventy three small and medium manufacturing companies in Slovenian by Herzog et al., (2007); top management commitment, education and training, project of BPR, team work, information technology support, and employee cooperation is a main priority as BPR CSF's.

While studying organizational readiness before deploying BPR within two companies using survey questionnaire, Abdolvandet al.,(2008)indicated egalitarian leadership, collaborative working environment, top management commitment, change in management systems, and use of management system as BPR CSF's. A study on Iranian banking sector doing their BPR project highlighted egalitarian culture, customer involvement, less bureaucratic structure, quality management system, use of information technology, change management, project management, top management commitment and adequate financial resources as critical to have as BPR CSF's (Salimifard, Abbaszadeh, & Ghorbanpur, 2010).

Top management commitment, IT infrastructure, training and adequate financial resources are several BPR CSF's established by Jamali et al., (2011), while studying BPR CSF's in literature using DEMATEL methodology. Jurisch et al.,(2012)had studying BPR CSF's for private and public sector within literature and suggested project scope, top level management commitment, resources, project management, and change management as BPR CSF's.

An interview conducted within a multinational company by Goksoy et al., (2012)illustrated top management commitment and support, communication with employees, and reengineering team composition and team working as factors for BPR CSF's. Kuhil,(2013) studying BPR within Estonian banking industries proposed employee's involvement and empowerment, role and use of IT, management commitment and competence, introduction of new working culture (values and attitudes), working environment, government support and management style as BPR CSF's.

Nisar et al., (2014)studying BPR implementation within Pakistanis banking industry, using qualitative descriptive study highlights change management & culture, management competency & support, organizational structure, BPR process, and IT capabilities as BPR CSF's. A library research using ANP technique by Rouhani & Nateghi(2015),suggested engaging manpower, strong and committed leadership, review of reward and thinking system, and effective communication as a must for BPR CSF's criteria. A survey questionnaire within three recently privatize companies in Pakistan by Iqbal et al., (2015) highlighted supportive and egalitarian leadership, implementation of IT, and a collaborative work environment as BPR CSF's.

The BPR CSF's looks familiar, but it carries different value, effectiveness, and different success rate at every different project implementation. Among all the CSF's discussed above, several are key in ensuring smooth and successful of BPR implementation. The Shipyard during it recent deployment of BPR to revamp its current project disbursement process had established five BPR key CSF's with are vital to its BPR implementation in fulfilling its research objective. Focusing on the key elements will help other CSF's to simultaneously working and supporting each other to seize the moments for BPR success.

3. Methodology

This research using qualitative method and interactive Action Research Cycle (Coghlan & Brannick, 2014)to deploy its BPR project in revamping the project disbursement process of the Shipyard.The research based on single longitudinal study and took about thirty-eight months to complete. The research is in collaboration between Shipyard and its subcontractors to revamp its current project disbursement process which incurred a delay to approve the supporting document for disbursement project around thirty days.

A BPR team comprise of representative from all the cross functional department concerned, collaborate to revamp project disbursement process flows with aim to reduce the concerning delay. The insider elements within Action Research cycles help to increase internal change requirement and fostering accountability and responsibilities between each team members. The interactive action research cycle for this research is indicate as per Figure 1 below.

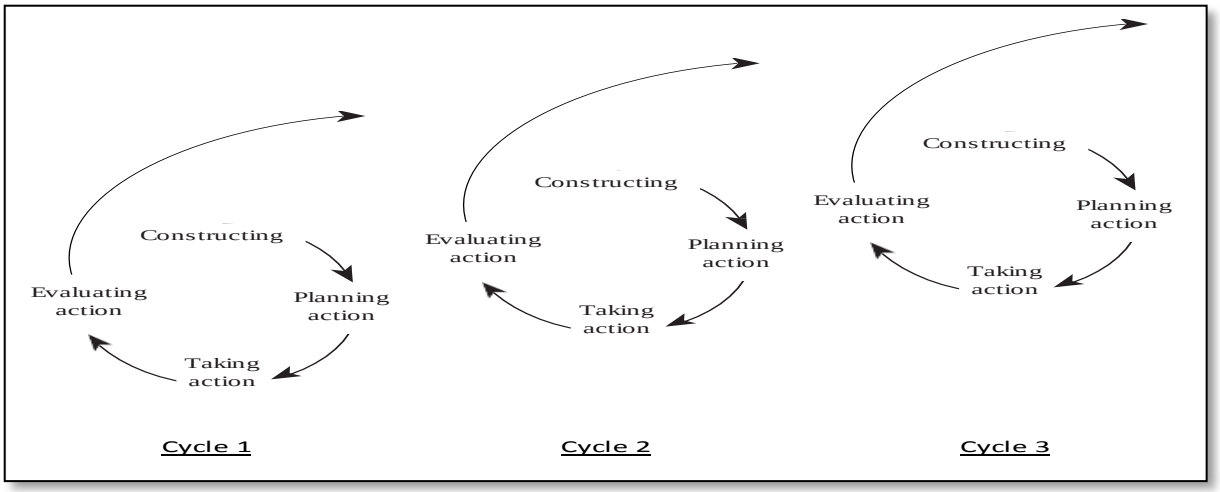

Fig. 1: Interactive Action Research Cycle

Source: Coughlan &Brannick (2014)

4. Research Finding

Prior to revamping process, the team had established current state and desired state of the project disbursement process and set it as target to achieve. BPR required a wind of change to stimulate the change factors, thus it driving and restraining forces for change are analyze by the team using Force Field Analysis (FFA) (Coghlan & Brannick, 2014). A score of maximum five point each being assign by respective team members and the highest average points by the respective criteria are at the top of the list.

The assessment is made twice, i.e. prior and post to project deployment. Within the Action Research interactive cycle, the team had made various observation on the activities conducted during the project implementation. All the cross-functional department activities such as meetings, discussion, brain storming, training, designing stage, and user acceptance test stage being observed, recorded and presented within the team to come out with finding of BPR key CSF's for the Shipyard. The results from the FFA in current state and desired state are stated as per Table 1 below.

Table 1: FFA on assessment of BPR key CSF's

Driving Forces – current state	Points	Driving Forces – desired state	Points
investment in IT facilities/infra	4.75	effective top management support	4.88
adequate financial resources	4.63	effective training	4.75
effective top management support	4.50	effective communications	4.75
effective communications	4.38	employee's empowerment	4.63
collaborative working environment	4.25	employee's involvement	4.63
effective training	4.25	investment in IT facilities/infra	4.13
top management driving down BPR	4.25	adequate financial resources	4.13
employee's involvement	4.13	top management driving down BPR	4.00
egalitarian leadership	4.00	egalitarian leadership	4.00
employee's empowerment	4.00	collaborative working environment	4.00

The findings show that at early stage of project implementation, various CSF's being used and utilized during project deployment. In the middle of project implementation, when the research almost abandons due to a tragedy happening in Shipyard, few CSF's surface and continuously moving the Shipyard BPR change environment together and make the project alive and success. CSF's elements such as effective top management support, effective communications, effective training, employee's involvement, and employee's empowerment had influence the acceptance of change within Shipyard employees, and help Shipyard to achieved BPR objective in reducing time and cost to verify supporting document for disbursement.

Effective top management support is critical during project kick off, as the top managers become the driver and internal change agent for BPR. The support from top management especially on financial matters, allow the changes in IT system to took place and approved for further investment on IT system to be spend. Top management does not dictate and influence any major decision during project implementation, but impose effective intervention when conflicts occurs especially involve cross-functional interest compare to research objective. This given the opportunity for revamping idea to be tested, grow, and implement.

Effective communications relay the relevant and critical information within Shipyard working environment and Subcontractors concerned during BPR project progress. It helps to eliminate negative perception towards BPR implementation and create positive views on benefit or outcome of the BPR project. Communications keep all the stake holders updated and maintaining the need of change within working environment.

Effective training improves employee's skill and knowledge toward adapting to new requirement and job changes. Changes in new IT-based system require new training to be conduct. Training cost could be very expensive if all the training is outsourced to its original IT vendor. Thus, possibilities to train in house must be explored and used. This will help to avoid further financial burden to the Shipyard and help to reduce the skills gaps among employees locally.

Employee's involvement is a must in any BPR change project. Project disbursement process flow, cross over a few departments'functions in Shipyard and all the department must be engaged and informed on the revamping agenda. Involvement from all the department will conclude the best possible ways to revamp the existing project disbursement process, and to propose the new solution without jeopardizing the human related factors that already embedded with the normal way of doing the work.

Employee's empowerment is essential to break the ice of designing process to come out with best solution to revamp the process flow. Empowerment to employees will help to foster conducive collaborative working environment with are critical to avoid cross functional conflicts. Empowerment will instill self-belonging, accountability, and responsibility to employeesand subcontractors on the BPR change program implemented. This will internally increase involvement of respective employees to be involved in the change activities.

In conclusions, Shipyard manage to identify and establish its BPR key CSF's in terms of effective top management support, effective communications, effective training, employee's involvement, and employee's empowerment. These BPR key CSF's play critical role to move forward BPR implementation in Shipyard and helps to achieve the objective to revamp project disbursement process and reduce the cycle time and associated cost to the disbursement process.

5. Discussion and Conclusions

The findings show that CSF's are critical and vital for any BPR project implementations. Practitioner need to analyze and established it key CSF's to adapt and assimilate it in line with its research area, setting, and objective. Most of the organization had establish and are in maturity stage, thus directly adopted the existing CSF's might not be suitable. Acknowledging the key CSF's, will help to plan the BPR deployment and increase is successful rate. In recent study made by the Shipyard, five CSF's being identified as BPR key CSF's for it project success. The five BPR key CSF's are effective top management support, effective communication, effective training, employee's involvement, and employee empowerment. These key CSF's are crucial as it stimulate and influence other element of CSF's such as financial support, IT infrastructure,and others to move in line with BPR project objectives in the Shipyard.

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