

Exploring the Efficiency of ICT Service Delivery and Identifying Critical Factors for Improvement in Bhutan

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Abstract: *This paper presents the result of a survey conducted to explore the efficiency and critical factors for improving Information and Communications Technology (ICT) service delivery in Druk Green Power Corporation Limited, the largest wholly-owned corporate entity of the Royal Government of Bhutan. Efficient ICT service delivery depends on many factors like technical competency, code of conduct of the ICT service provider. User experience may also get effected by customer service skills of the service provider as well as the working relationship existing between them. Understanding the changing user needs and evolving business needs also plays a critical role in standing up to the user's expectation. Therefore, efficient ICT service delivery encompasses creating a comfortable user experience while providing timely, effective and complete service performance which contributes to leveraging technology resources for improving performance of the organization. Understanding the current efficiency of service delivery can provide an insight to the organization's management team towards better resource optimization as well as skills, knowledge and human resources development. IT service delivery plays a crucial role in enabling an organization's workforce to add value to the organization by increasing their productivity. The end-user experience interacting with the Service Desk can help ICT to be perceived as an equally important partner in achieving business goals. The survey finding indicates that, among other factors, Technical Competency and Reliability of Service are the important areas of improvement for an organization to channel its efforts and resources to provide an efficient service delivery along with a pleasant experience for the end users.*

Keywords: IT service delivery, technical competency, user experience, complete service performance, resource optimization, and skill

1. Introduction

Druk Green Power Corporation Limited (Druk Green) is a hydropower company that develops, operates and maintains all major hydropower assets of Bhutan. It was established in 2008 through a merger of the three existing hydropower companies on the country and the merger of the 1,020 MW Tala Hydroelectric Project to Druk Green in 2009. It has dynamically grown to become the largest corporate body in Bhutan making a huge contribution towards the direct revenues to the Royal Government of Bhutan.

Druk Green has 5 formations located across the country. The following are the details of the remote locations;

- 1) Corporate Headquarter Office, Druk Green, Thimphu;
- 2) Basochhu hydropower Plant, Wangdiphodrang;
- 3) Kurichhu Hydropower Plant, Gyelposhing, Mongar;
- 4) Chhukha Hydropower Plant, Chhukha;
- 5) Tala Hydropower Plant, Rinchentse, Gedu;

Corporate Headquarter office is connected to its four hydropower power plant offices using Wide Area Network for internal communication, video conferencing, application hosting and Help Desk system etc.

Services related to desktop applications, mail and messaging services, Systems, Applications and Products (SAP) services, internal and external web services, print and multifunction services, telecommunication services are part of the support and infrastructure services provided by ICT division to the end users of Druk Green. In order for the users to avail these services and for ICT Division to manage and depute its

technical support team, Help Desk System is implemented which was put in place as dictated by the ICT strategy of DGPCL in 2011 [1].

All the ICT support services are defined in the ICT operations policy in the ICT policy document of DGPCL. Since DGPCL's ICT policy is based on the International best practices of ITIL Version 3 [2], Service Desk is the relevant term used for Help Desk System. It serves as the first point of contact for availing any ICT services or addressing unplanned interruptions to ICT services. Subject Matter Experts (SMEs) is the term used for ICT personnel providing such services.

Event Management process flow of the Service Operation Manual as in Figure: 1 is used to provide ICT services through the Service Desk System. The process provides flow for Incident logging, Incident Categorization, Incident Prioritization, Initial Diagnosis, Incident Escalation, Investigation and Diagnosis, Resolution and Recovery, and finally Incident Closure [3].

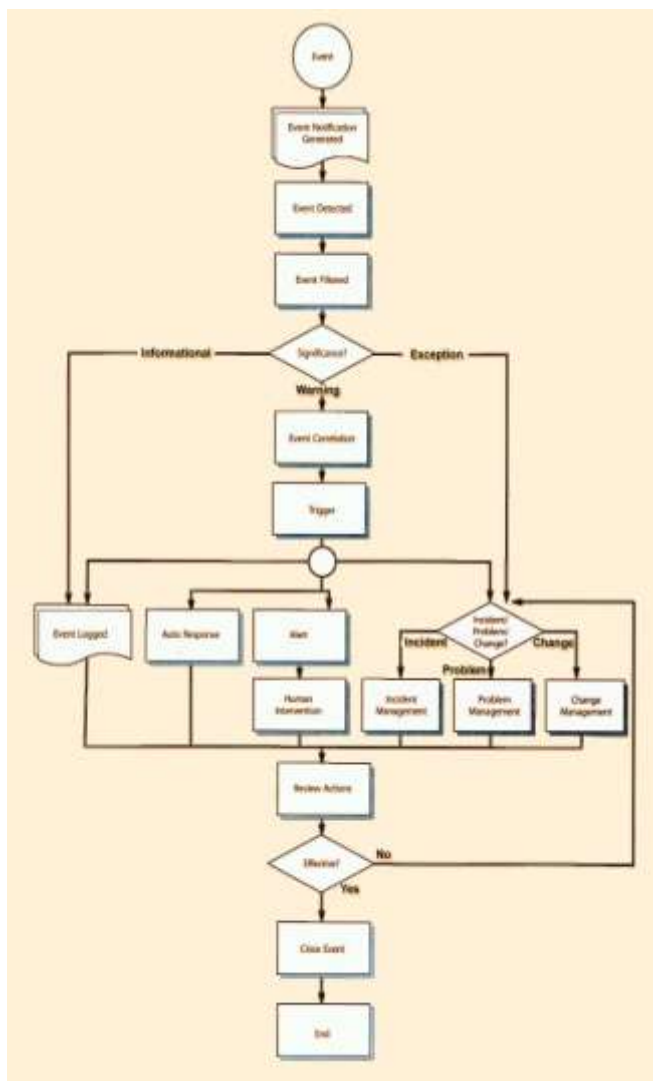


Figure 1: Event Management Process Flow

Literature Review: Service Delivery

In our knowledge, there has been no data in any organization in Bhutan to provide the efficiency and quality of ICT services and support being provided by the ICT SMEs to the end-user. This is the first user experience survey being done to understand the effectiveness of ICT service delivery in terms of providing solution of competence as well as service assurance and pleasant experience.

2. Methods and Materials

2.1 Research Method and Instrument

The survey was carried out by using a quantitative survey method for collecting data. Questions impacting various aspects of IT service delivery were compiled. The questions were framed to obtain data in terms of (a) Technical competency, (b) Professional Code of Conduct, (c) Customer Service Skills, (d) Working relationship and friendliness, (e) Awareness of Business Needs, (f) Timely support, (g) Efficiency, (h) Reliability of the service, (i) Ease of Reachability/ Approachability, and (j) Overall satisfaction with the IT service delivery.

4 options were used to measure the perspectives of the end

users for IT service Delivery effectiveness. In addition to “Satisfied” and “Dissatisfied”, “Don’t Know” is kept as one of the 4 responses as not having the option is considered unethical and is explicitly disallowed by many Institutional Review Boards [4]. Further, “Neither satisfied nor dissatisfied” has been kept to provide a neutral view to the respondents to avoid them from expressing agreement or disagreement without clear opinion.

2.2 Survey Instrument

A dual mode of survey was conducted with online surveys as well as paper-based questionnaire for the respondents to choose from. Both the online survey and paper-based questionnaire had the similar questions.

2.3 Survey Sample

The survey population was the employees of Druk Green Power Corporation at the five locations. They were requested for participation in the survey through a choice of their response mode i.e either online survey via Google Forms or paper-based questionnaire.

Survey requests were sent to 300 employees of Druk Green. 161 fully responses were received giving a response rate of 53.67% (161/300) and all the received responses were fully completed.

3. Results

3.1 Key Findings

The survey results were analyzed using descriptive statistics. A frequency distribution has been calculated for the responses provided for each factors encompassing the ICT services as in Figure: 2.

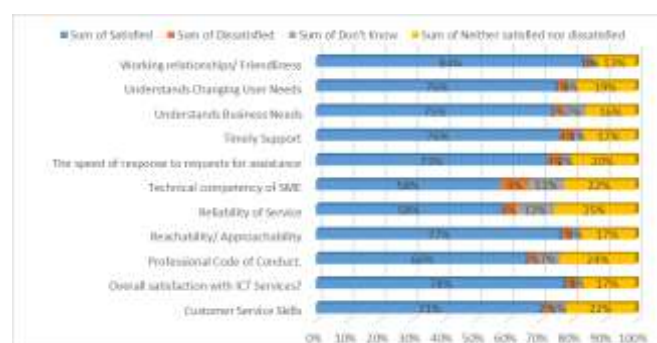


Figure 2: Aggregated satisfaction level of ICT services

Some of the key findings from the survey results are as follows:

- 1) Majority (More than 70%) of the respondents are satisfied with the ICT SMEs in areas pertaining to maintaining a friendly working relationship, timely and fast support, reachability/approachability, professional code of conduct. Less than 4% of the respondents were dissatisfied in these areas.

- 2) 75% and 76% of the respondents felt that the ICT SMEs also had a good understanding of the organization's business needs and changing user needs respectively.
- 3) The responses show high overall satisfaction with the ICT SMEs while availing support services related to ICT.
- 4) 66% of the respondents are satisfied with the professional code of conduct of the ICT SMEs while 2 % are dissatisfied.
- 5) A minimal margin of respondents who did not know what to respond ("Don't Know") ranges from 2% to 12% of the respondents.
- 6) Neutral responses were observed from respondents in all the areas ranging from 13% to 25%.

Therefore, the results show that the overall end user satisfaction with ICT SMEs are positive with a huge number of satisfied end users in many areas including working relationship, timely support, professional code of conduct etc.

However, the proportion of respondents who believe that Technical competency of SME and Reliability of service are satisfactory is comparatively lesser than other areas at 58% in both the areas.

Further, the results show that there are many respondents between 13% to 25% who is neither satisfied nor dissatisfied and hence, taking a neutral stand, which would have impact on the survey results had they expressed their opinion.

A further study into the demographic pattern of the respondents, cultural receptivity or openness to Feedback system taking into account the highly conservative nature of the Bhutanese population could throw a new light on the neutral responses which may or may not be intended to indicate the respondent's dissatisfaction which is not in the scope of this paper.

The survey finding suggests that ICT services needs further improvement, particularly in the areas in which end users satisfaction has been lower. The study recommends to improve the technical competency of the SMEs which in turn will improve the reliability of their provided solutions.

References

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Author Profile



Yeshi Chodon received her B.Tech (Information Technology) from PSNA College of Engineering and Technology, Anna University, Tamil Nadu, India in 2010. She is currently working as Deputy Manager, Security Unit, ICT Division at Druk Green Power Corporation Limited. Prior to her current position, she worked as a Head, ICT Unit at Chhukha Hydropower Plant. Her prior post also includes working at Taj Tashi, (Taj Hotels, Resorts and Palaces) as Cyber Executive.

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