The Role of Information Technology Service Management (ITSM) in Nepalese Banks.

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Abstract

This study examines the function of Information Technology Service Management (ITSM) in optimizing work processes, enhancing customer satisfaction, management of technology, and monitoring banking platforms in Nepalese banks. Though ITSM frameworks are required for managing IT resources, compliance, and optimizing operational efficiency, their limited use has caused problems such as poor infrastructure, insufficient skilled personnel, and a lack of standardized practices. This research explores the position of ITSM in efficiently managing banking activities and IT governance in the Nepalese banking industry. Identifying key issues and proposing strategic recommendations, the study contributes valuable knowledge to banks, regulators, and IT professionals, ultimately resulting in Nepalese banks' competitiveness and efficiency.

Keywords: *IT Service Management (ITSM), Work Process Optimization, Customer Satisfaction, Technology Management, Banking Platform Monitoring, IT Governance in Banking*

1. Introduction

Nepal's banking sector has gone through a technological revolution, shifting from traditional manual operations to effective operations via Information Technology Service Management (ITSM) models. The models enhance operational efficacy, customer satisfaction, and banking platform management while reducing system complexity, employee preparedness, and regulatory issues.. (Ghimire, Dahal, Rai, & Upadhyay, 2023)

As Nepalese banks are undergoing digital transformation, ITSM is necessary to streamline work processes, manage technology, and ensure alignment of IT governance. The industry, however, still faces hurdles in the adoption of new technologies like Big Data Analytics (BDA) that requires strong infrastructure, manpower training, and investment.

Since there is increasing reliance on e-banking, ITSM frameworks facilitate secure, effective, and well-managed banking operations. The study explains how ITSM assists in improving service delivery, compliance, and technology management, which aligns with Nepal's financial sector reform policies aimed at a more efficient and competitive banking industry.

2. Problem Statement

The limited adoption of Information Technology Service Management (ITSM) in Nepalese banks has led to operational inefficiencies, system integration challenges, and inadequate management of banking platforms. The lack of standard practices, skilled personnel, and structured IT governance has resulted in difficulties in technology management and overall service delivery. These challenges hinder banks from optimizing their work processes and ensuring seamless operations in an increasingly digital environment.

This study aims to explore how ITSM models can optimize work activities, monitor banking systems, and enhance service provision in Nepalese banks and overcome key challenges such as resistance to change, insufficient expertise, and regulatory challenges. By the identification of important stakeholders and harmonization of ITSM initiatives with organizational objectives, this study hopes to provide workable suggestions to improve Nepal's banking sector, increase efficiency, and enable further digitalization.

3. Research Questions

1. Why should ITSM be implemented to manage technology teams in banks?
2. How does ITSM structure and optimize work processes in banks?
3. Why is ITSM necessary for monitoring banking platforms?
4. How does ITSM promote customer satisfaction through the usage of IT in banks?

4. Objectives of the Research

The primary objective of this study is to examine the role of ITSM in improving operational efficiency and cybersecurity in Nepalese banks. Specifically, the research aims to:

- Evaluate how ITSM enhances customer satisfaction through structured IT service delivery.
- Assess ITSM's impact on organizing and managing technology teams in banks.
- Analyze ITSM's role in streamlining banking processes to improve efficiency.
- Investigate how ITSM supports monitoring and security of banking platforms.

5. Hypothesis

This research is significant as it provides an understanding of the implementation of ITSM in Nepalese banks with the purpose of enhancing the provision of IT services and overall operational efficiency. The findings contribute to the knowledge base of IT governance, digital transformation, and the implementation of ITSM models in banking institutions. The study also explores the combined impact of independent variables such as Work Process, Monitoring Bank Platform, Customer Satisfaction, and Managing Technology on ITSM adoption outcomes (Hajiheydari et al., 2021). By identifying key hindrances such as resistance to change, lack of expertise, and regulatory obstacles, the study offers valuable recommendations to Nepalese banks. These suggestions are intended to synchronize ITSM plans with business goals, guarantee regulatory compliance, maximize IT resources, and improve service delivery.

In addition to the qualitative insights, this research employs regression analysis to quantify the relationships between the independent variables and ITSM adoption in Nepalese banks. The regression model is specified as:

$$ITSM = \beta0 + \beta1(\text{Work Process}) + \beta2(\text{Monitoring Bank Platform}) + \beta3(\text{Customer Satisfaction}) + \beta4(\text{Manage the Technology}) + \varepsilon.$$

The data preparation process includes verification for accuracy, handling missing values, and ensuring the independence of variables. The analysis will focus on approximating regression coefficients (β1, β2, β3, β4) to understand the influence of each independent variable on ITSM adoption. Statistical metrics such as R-squared, Adjusted R-squared, and the F-statistic will be used to assess the model's explanatory power. Hypothesis testing will be conducted to determine the statistical significance of the relationships, with t-

tests and p-values used to assess the relevance of each independent variable. Based on the regression results, actionable insights will be provided to enhance ITSM implementation in Nepal's banking sector, addressing both operational and strategic needs of banks.

The research hypotheses are structured around the relationship between the independent variables (IVs) and the dependent variable (DV), ITSM adoption:

Work Process:

Null Hypothesis (H_o): There is no significant relationship between work process efficiency and the adoption of IT Service Management (ITSM) in Nepalese banks.

Alternative Hypothesis (H_1): There is a significant positive relationship between work process efficiency and the adoption of ITSM in Nepalese banks.

These hypotheses would be employed to test the effect of work process enhancement on the execution of ITSM by Nepalese banks. The same hypotheses would be designed for other variables, i.e., Monitoring Bank Platform, Customer Satisfaction, and Managing Technology, based on research objectives.

6. Significance of the Study

Consequently, the growing importance of Information Technology Service Management (ITSM) within Nepalese banks necessitated the investigation of its contribution to improving operational efficiency and IT governance. This research analyzes the adoption of ITSM frameworks among Nepalese banks and their impact on operational processes. The research is important for several reasons:

Adding to the Body of Knowledge for ITSM in Banks: The research adds to ITSM knowledge of adoption in banks, focusing on how ITSM structures optimize work processes, technology management, and service delivery. The study analyzes how ITSM facilitates business objectives and compliance with regulations in Nepalese banks and presents the implementation challenges faced.

Overcoming the Impediments of ITSM Implementation: This study describes the impediments that have hampered the implementation of ITSM models by Nepalese banks, such as resistance to change, deficiency of expertise, and infrastructural constraints. It gives an overview of how these impediments hamper the implementation of ITSM and proposes overcoming these impediments in favor of even higher levels of operational efficiency.

7. Literature Review

The theoretical underpinning of this research is focused on understanding the relationship between four independent variables (IVs) — Work Process, Monitor Bank Platform, Customer Satisfaction, and Manage the Technology — and the dependent variable (DV) IT Service Management (ITSM). All the IVs contribute to the adoption of ITSM and its success in Nepalese banks. The Work Process variable is focused on standardized processes and workflows required for successful service delivery. The Monitor Bank Platform variable involves the monitoring of online banking systems for system availability and security. The Customer Satisfaction variable relates to how ITSM practices influence user experience, while Manage the Technology is focused on optimizing technology in banking processes. The integration of these variables,

the framework provides a broader understanding of the impact ITSM adoption has on banking processes and cybersecurity practice.

8. Methodology

This chapter explains the research methodology adopted to study the issues and IT department roles in Nepalese banks, namely the implementation of ITSM and cybersecurity measures. The research applies a mixed-method approach by combining quantitative surveys with qualitative interviews to frame an in-depth view of the current scenario, issues, and future developments of IT service management among Nepalese banking institutions. The study design aims to address the gaps in the research identified in the literature review, i.e., the limited studies on the adoption of ITSM in Nepalese banks and the use of cybersecurity solutions in ITSM frameworks tailored for developing economies. The study follows a cross-sectional design, examining ITSM and cybersecurity practices in various banking institutions at one point in time to facilitate comparison among various categories of banks. The study incorporates both exploratory and descriptive components, documenting current ITSM practice and examining ITSM maturity, ITSM effectiveness, and organizational factors for potential relationships. A sequential explanatory design is employed where data are first gathered and analyzed quantitatively followed by qualitative data to provide richer insights into the findings and provide validity and reliability to the research outcomes. This research approach attempts to generate empirical results that contribute to the corpus of knowledge around ITSM practice and problems in Nepal's banking sector with actionable recommendations for improving IT service delivery and security.

9. Data Analysis and Results

The research will apply regression analysis to quantify the independent variables (Work Process, Monitor Bank Platform, Customer Satisfaction, Manage the Technology) and dependent variable (ITSM adoption). Data will be collected, processed, and verified prior to applying the regression model. Coefficients will be examined for the magnitude of the relations and directions, and hypothesis testing will examine the statistical significance of individual variables. The regression model will determine which of the factors most significantly affect ITSM adoption among Nepalese banks.

This methodology ensures tight analysis by crossing statistical modeling and qualitative observation in order to yield actionable results in strengthening ITSM practices and Nepal's banking sector.

10.Quantitative Results

Table 1 displays the Cronbach's alpha values for both the dependent and independent variables. Cronbach's alpha serves as an indicator of internal consistency, reflecting the degree to which a set of items is interrelated. A higher Cronbach's alpha value signifies a higher level of reliability.

Table 1: Cronbach's Alpha of Dependent and Independent Variables

Variables of Study	No. of Items	Cronbach's Alpha
ITSM (DV)	5	0.880
Work Process (IV)	5	0.827
Monitoring Bank Platform (IV)	5	0.876

Customer Satisfaction (IV)	5	0.885
Manage the Technology (IV)	5	0.880

Cronbach's Alpha scores for each variable indicate internal consistency and reliability of the study measures. Dependent variable, ITSM Adoption, is measured using a Cronbach's Alpha score of 0.880, indicating good reliability. Among the independent variables, Work Process Efficiency measures 0.827, which is good and indicates good internal consistency. Monitoring Bank Platform has a Cronbach's Alpha of 0.876, indicating good reliability in measuring the role of the platform in ITSM adoption. Customer Satisfaction indicates a value of 0.885, implying high internal consistency and reliability in measuring customer satisfaction. Finally, Managing Technology also has a Cronbach's Alpha of 0.880, affirming good reliability in measuring technology management in ITSM.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	0.962	0.926	0.856	0.35598	0.858	577.798	4	288	0

a. Predictors: (Constant), WORKP ROCESS, MONITOR BANK PLATFORM, CUSTOMER SATISFACTION, MANAGE THE TECHNOLOGY

The model shows a great correlation between predictors and the dependent variable with R = 0.962, extremely high correlation. The value of R Square = 0.926 shows that approximately 92.6% variance of the dependent variable is explained by the independent variable(s) used here, i.e., Work Process Efficiency. The Adjusted R Square value of 0.856 is adjusted for the predictors in the model and is a fractionally smaller, but still high percentage of variance explained. The Standard Error of the Estimate is 0.35598, and it is a measure of the average difference between the value that is predicted and the actual value, which is a fairly low error. The R Square Change of 0.858 indicates that Work Process Efficiency is a significant predictor in the model. The F Change of 577.798 with df1 = 4, df2 = 288, and Sig. F Change of 0 is an indication that the model fit change is statistically significant, ascertaining that the predictor (Work Process Efficiency) is providing a significant contribution in explaining variance in the dependent variable.

11.Hypothesis Results

The results of hypothesis testing will be able to provide valuable information about the relationship between the independent variables (Work Process, Monitoring Bank Platform, Customer Satisfaction, and Manage the Technology) and the dependent variable (ITSM adoption) of Nepalese banks. For each hypothesis, correlation and regression analysis will provide the estimated coefficients, which will quantify whether the independent variables have a significant impact on ITSM adoption. Specifically, Null Hypotheses (H_o) will be tested against Alternative Hypotheses (H_1) using p-values and t-tests to determine statistical significance. If the p-value is less than the significance level (usually 0.05), then the null hypothesis will be rejected, which will mean that there is a significant relationship between the

independent variables and ITSM adoption. For instance, if Work Process hypothesis is positively correlated with ITSM adoption, it will emphasize that well-functioning work processes play an important role in the adoption of ITSM among Nepali banks. Similarly, the results of the Manage the Technology hypothesis will confirm whether effective technology management is crucial for the adoption of ITSM. Regression analysis will also measure the intensity of these correlations and specify which variables have the most significant impact on achieving success for ITSM. The results will guide strategic decisions to improve ITSM practices throughout the banking sector in Nepal to more closely align with cyber security and overall operation efficiency.

12.Summary of Findings

Findings of this study reveal key findings on the adoption of ITSM practices and cybersecurity in Nepalese banks. Quantitative insights show a strong relationship between ITSM maturity and the effectiveness of cybersecurity controls, wherein mature ITSM practices mean more effective cybersecurity stances. The qualitative interviews also provide a greater picture of challenges of IT departments, which are resources, the lack of suitable personnel, and opposition. Moreover, challenges of regulatory barriers as well as too little integration of cybersecurity into models of ITSM were also addressed. The research also highlights that despite significant advances of major commercial banks in areas of ITSM as well as cybersecurity, relatively small financial institutions face enormous implementation obstacles. Overall, the research shows that ITSM maturity can be enhanced, cybersecurity correlated with ITSM models, and organizational issues resolved to improve service delivery and security across Nepal's banking sector. The research provides policymakers and bank managers with insights on improving IT service management.

13.Conclusion and Recommendations

The adoption of IT Service Management (ITSM) within the Nepalese banking industry was investigated by this research with a focus on the most critical factors that can affect the effective implementation and utilization of ITSM models. In the course of the research, a number of key factors—namely IT infrastructure readiness, data quality, ITSM skill, and top management support—were found to be crucial determinants of ITSM adoption success. The outcomes support the premise that a robust IT infrastructure serves as the backbone of effective ITSM practices and enables banks to deploy the correct tools and technology to automate service management and process.

Data quality emerged as a fundamental factor for successful ITSM adoption, as it impacts the accuracy and reliability of information crucial for effective decision-making and service management. The study also highlighted the significance of developing ITSM skills within the workforce, suggesting that continuous training and capacity-building initiatives are essential for fostering a competent ITSM workforce. Moreover, top management support was found to be a critical enabler, with leadership commitment and strategic vision serving as essential drivers for embedding ITSM practices across organizational levels and creating a service-oriented culture.

By knowing these determinants, Nepali Banking and Financial Institutions (BFIs) can design strategies to promote the adoption of ITSM practices, which subsequently will lead to better service delivery, operational efficiency, and competitiveness. This study offers useful recommendations for policymakers,

industry practitioners, and scholars looking to promote the adoption of ITSM and facilitate digital transformation among Nepali banking institutions.

Furthermore, the study opens the door for future research into areas such as organizational culture, longitudinal impacts, and cross-industry comparisons, which could deepen the understanding of ITSM adoption dynamics. In conclusion, as the Nepali banking industry continues to advance digitally, the findings from this study lay the groundwork for a more robust, service-oriented banking environment that can meet the evolving demands of customers and the broader financial ecosystem.

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