Thesis Report on

Digital Supply Chain Practices and Operational Efficiency in Microfinance NGOs: A Study of Society for Social Service (SSS), Rampura Branch

Submitted by:

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Program: EMBA in Supply Chain Management Major: Supply Chain Management

Department of Business Administration

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Submitted to:

Department of Business Administration Faculty of Business

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Submitted for the partial fulfillment of the degree of EMBA in Supply Chain Management

Sonargaon University (SU)

147/1 Green Road, Panthapath, Tejgaon, Dhaka

Date of Submission: January 03, 2026

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TRANSMITTAL LETTER

Date: 03 January 2026

To
Dr. Md. Masud Rana
Professor
Department of Business Administration
Faculty of Business
Sonargaon University

Subject: Submission of Thesis Report

Dear Sir,
I am pleased to submit my thesis report entitled Digital Supply Chain Practices and Operational Efficiency in Microfinance NGOs in partial fulfillment of the requirements for the degree of Executive Master of Business Administration (EMBA) under your kind supervision.

This report has been prepared based on practical observations and academic knowledge acquired during the EMBA program. I have sincerely tried to follow all academic guidelines of Sonargaon University while preparing this thesis.

I would like to express my sincere gratitude for your continuous guidance and valuable suggestions throughout the preparation of this report. I hope this report will meet your expectations.

Sincerely yours,

MD INZAMUL KARIM
Student ID: EMBA 2403033003
Program: EMBA
Major: Supply Chain Management

DECLARATION OF STUDENT

I hereby declare that the thesis entitled Digital Supply Chain Practices and Operational Efficiency in Microfinance NGOs is an original work carried out by me as a requirement for the degree of Executive Master of Business Administration (EMBA) at Sonargaon University.

This thesis has not been submitted previously to any other university or institution for any academic qualification. All information sources used in this study have been properly acknowledged.

Signature
Name: MD INZAMUL KARIM
Student ID: EMBA 2403033003

LETTER OF AUTHORISATION

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ABSTRACT

This study looks into how digital supply chain methods affect the operational effectiveness of Bangladeshi microfinance non-governmental organizations (NGOs). In order to investigate how digital technologies logistical coordination and information flow impact service delivery effectiveness the study focuses on the Society for Social Service (SSS) Rampura Branch.

A mixed method research strategy was used integrating qualitative information from managerial interviews and operational observations with quantitative data from employees and clients. Analysis was done on key performance metrics such loan processing time cost per transaction recovery efficiency and client satisfaction.

It is anticipated that the results of this study will demonstrate how the successful implementation of digital supply chain techniques greatly improves operational efficiency by decreasing processing delays cutting expenses and increasing transparency. The report also emphasizes the transferability of supply chain skills acquired in NGO operations to corporate supply chain management positions.

Keywords: Digitalization Operational Efficiency Microfinance NGOs Supply Chain Management

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Chapter-01
Introduction

1.1 Background

Supply Chain Management (SCM) has developed from a traditional logistics-oriented function into a strategic discipline that integrates information flow, financial flow, and service delivery across organizations. Supply chain procedures have significantly changed as a result of the development of digital technology, increasing responsiveness efficiency and transparency. Digital supply chain systems are extensively used in the manufacturing and corporate sectors, but their use in non-governmental organizations (NGOs), especially microfinance institutions is still scarce and poorly studied.

By offering low-income communities financial services including microloans savings plans and livelihood support microfinance NGOs play a critical role in economic growth. Field officers branch offices clients and head offices must work closely together to provide these services. This kind of coordination is similar to a service based supply chain where operational success depends on timely accurate and cost-effective information.

Digital supply chain practices such as Management Information Systems (MIS) mobile data collection and mobile financial services offer opportunities to improve NGO operations. These tools can reduce paperwork shorten processing time and enhance monitoring and reporting accuracy. Effective implementation is frequently hindered by issues like low digital literacy refusal to change and infrastructure limitations. This study investigates into how a Bangladeshi microfinance NGO's operational efficiency is impacted by digital supply chain methods.

1.2 Context of the Study

In Bangladesh the Society for Social Service (SSS) is a well-known non-governmental organization that focuses on poverty reduction social development and microfinance. Each branch individually oversees loan disbursement, monitoring and recovery operations under the organization's branch-based operational model.

Many microfinance consumers are served by the Rampura Branch, which is situated in the Sobujbag region within Dhaka Zone-01. Field officers visit clients on a regular basis for collecting data process loan applications and collect installments. Because these operations entail complex moves of funds data and human resources the efficiency of the supply chain is vital to the quality of the service.

Even though SSS makes use of simple digital tools, many branch-level procedures are still mostly done by hand. Operational efficiency is impacted by data input delays inconsistent reporting and a lack of interaction between field and central systems. Examining the Rampura Branch offers important insights into the prospects and practical difficulties of digital supply chain implementation in microfinance non-governmental organizations.

1.3 Problem Statement

Despite the importance of operational efficiency in microfinance NGOs, several challenges persist at the branch level. These include uneven staff utilization of digital technologies duplication of records restricted real-time information sharing and delays in loan processing. These inefficiencies lower service quality and raise operating expenses.

Inefficiencies are further exacerbated by poor logistical planning and poor communication between management and field personnel. Branch managers find it difficult to keep an eye on operations and spot bottlenecks in the absence of standardized digital supply chain procedures and performance metrics. These issues restrict the potential advantages of digitization and lower the efficiency of service delivery.

As a result, it is necessary to investigate how digital supply chain strategies might enhance the operational effectiveness of microfinance NGOs and how they can be in line with corporate supply chain management guidelines.

1.4 Research Aim

The primary aim of this study is to evaluate the impact of digital supply chain practices on operational efficiency in microfinance NGOs, with specific reference to Society for Social Service (SSS) Rampura Branch.

1.5 Research Objectives

General Objective

To assess the relationship between digital supply chain practices and operational efficiency at the SSS Rampura Branch.

Specific Objectives

- To identify the current supply chain procedures used in branch-level microfinance operations.
- To assess the degree to which operational operations are using digital tools.
- To investigate how automation impacts metrics for operational performance like cost and time efficiency.
- To identify the main operational bottlenecks associated with information flow and logistics.
- To offer helpful digital supply chain improvements that are relevant to the corporate and NGO sectors.

1.6 Research Questions

- Which supply chain procedures are presently employed in the SSS Rampura Branch's microfinance operations?
- To what extent do branch employees use digital supply chain tools?
- How do digital supply chain techniques affect operational efficiency?
- What challenges stand in the way of setting up a digital supply chain correctly?
- In what ways may improve digital practices increase professional SCM skills and operational performance?

Chapter-02

Literature Review

LITERATURE REVIEW

2.1 Introduction

With a focus on non-governmental organizations (NGOs) and microfinance institutions this chapter offers an extensive examination of the body of research on supply chain management digital supply chain practices and operational efficiency. This literature review's goals are to build up a strong theoretical framework for the study and to pinpoint gaps in earlier research that support the necessity of the current inquiry.

The literature on supply chain management has typically focused on manufacturing and commercial businesses. The practical use of supply chain principles in service-oriented and non-profit organizations especially NGOs has been accepted by researchers more and more in recent years. Microfinance NGOs run elaborate service delivery systems that resemble service supply chains and include funding flows information management logistics coordination and human resource deployment.

The pertinent theories empirical research and conceptual frameworks that describe how digital supply chain activities affect operational efficiency are compiled in this chapter. The exchange additionally shows the connection between digitization and organizational effectiveness and emphasizes the difficulties in using digital technology in NGOs.

2.2 Concept of Supply Chain Management

The integrated management of the processes involved in locating acquiring, changing and delivering goods or services to final consumers is known as supply chain management or SCM. SCM according to Chopra and Meindl (2016) includes coordinating financial and material information flows throughout the whole value chain in order to maximize overall efficiency and customer satisfaction.

SCM explained by Christopher (2016) is the management of upstream and downstream interactions with suppliers and customers in order to provide better value at a lower cost. The ideas of this definition are equally applicable to businesses based on services where the focus switches from physical items to information flow service procedures and human coordination however it is typically applied to manufacturing organizations.

Supply chains in business services are often process oriented and intangible. The heart of service supply chains consists of responsibilities such as information processing service scheduling client engagement and performance monitoring. Reducing delays avoiding errors and enhancing responsiveness are the main goals of effective SCM in these situations. Planning and coordinating financial resources information systems field operations and

service delivery mechanisms are all part of SCM in the context of non-governmental organizations. Successful supply chain management guarantees timely service delivery a productive utilization of funds and improved stakeholder accountability.

2.3 Supply Chain Management in NGOs

Non-governmental organizations work in settings with limited funds unstable demand and strict accountability standards. Because NGOs place a higher priority on social effect than profit maximization than corporate organizations do operational efficiency and transparency are especially important. Van Wassenhove (2006) highlights that in difficult circumstances humanitarian and NGO supply chains must strike a balance between speed flexibility and cost effectiveness.Specifically, microfinance NGOs oversee recurrent operational cycles such client identification loan approval disbursement monitoring and recovery. These operations provide an ongoing service supply chain that necessitates efficient coordination between head offices branch offices and field officers. From earlier research a large number of NGOs rely significantly on manual procedures disjointed information systems and unofficial coordinating methods. These methods frequently lead to operational inefficiencies higher expenses and service delivery delays. Researchers contend that by increasing coordination cutting waste and improving decision making the execution of organized SCM methods can greatly improve NGOs operational efficiency.

2.4 Digital Supply Chain Practices

The use of digital technologies for supply chain management, integration and optimization is referred to as digital supply chain practices. These technologies include cloud-based platforms digital financial services enterprise resource planning (ERP) systems mobile data gathering tools and management information systems (MIS).

According to Gunasekaran et (2017) digitization improves cooperation across organizational units lowers transaction costs and improves supply chain visibility. Real time data exchange made possible by digital technology facilitates quicker and better decision making.

Digital supply chain techniques frequently used by microfinance NGOs include MIS utilization for loan administration and customer registration Field level data entry mobile applications.Mobile banking platforms for loan disbursement and repayment Digital dashboards for tracking operational effectiveness. These procedures eliminate data mistakes, improve transparency, and lessen reliance on manual documentation. Further, NGOs can scale operations more successfully while keeping process control thanks to digital tools.

2.5 Operational Efficiency

The ability of an organization to provide services with the least amount of resources while upholding acceptable quality standards is referred to as operational efficiency. Because microfinance NGOs must serve a large number of clients with limited financial and human resources, operational efficiency is a crucial factor in determining sustainability. Operational efficiency is the result of reduced procedures, efficient use of resources, and ongoing performance evaluation, according to Slack et al. (2018). Processing time, cost per transaction, staff productivity, recovery rates, and client satisfaction are common measures of operational efficiency in microfinance NGOs.

NGOs can expand outreach, cut expenses, and improve service quality by increasing operational efficiency. Research continuously demonstrates that ineffective operations result in increased expenses, delayed services, and diminished beneficiary trust. Therefore, operational efficiency is a key performance objective for NGOs.

2.6 Relationship between Digitalization and Operational Efficiency

An increasing amount of empirical research demonstrates that operational efficiency and digital supply chain strategies are positively correlated. Digital technologies, according to Bharadwaj et al. (2013), build organizational capabilities that improve competitive advantage and operational performance.

Digitalization has been shown to improve recovery rates, shorten loan processing times and boost transparency in the setting of microfinance institutions (World Bank, 2020). Digital record-keeping improves compliance and reduces errors.

However mobile banking lowers the expenses related to managing currency and making in person visits.

However a number of variables such as organizational culture management commitment infrastructure availability and personnel competency affect how successful digitalization is Digital technologies may not deliver the expected efficiency gains if they are not properly trained and managed.

2.7 Information Flow and Logistics Efficiency

An essential part of supply chain management is information flow. Coordination between supply chain participants is made possible by timely accurate and pertinent information sharing which also lowers uncertainty.

Effective information exchange enhances supply chain responsiveness and operational efficiency according to Li et al. (2019). For microfinance NGOs to monitor loan performance manage risks and ensure accountability effective information flow between field officers branch offices and head offices is important.

For NGOs to be logistically efficient field trips must be planned routes must be optimized and transportation expenses must be controlled. Insufficient logistics planning results in longer travel times more expensive operations and lower employee productivity. Logistics efficiency can be greatly increased by using digital tools including digital expense tracking systems, GPS based routing and mobile scheduling.

2.8 Technology Acceptance in NGOs

Davis (1989) created the Technology Acceptance Model (TAM) which describes how people accept new technologies according to their perceived utility and usability. According to TAM people are more inclined to accept a technology if they think it would enhance their ability to execute their jobs and is simple to use.

Technology adoption in NGO environments is impacted by things like managerial support organizational culture and staff training. Digital adoption in NGOs is frequently hampered by reluctance to change a lack of digital skills and fear of increased surveillance according to studies. To promote technology adoption and optimize the advantages of digital supply chain processes effective change management techniques such as training initiatives and user participation are crucial.

2.9 Research Gap

There are still a number of research gaps in supply chain management and digitalization despite the increased interest in these topics. There are few empirical studies on Bangladeshi microfinance NGOs.

Absence of case studies at the branch level analyzing digital supply chain procedures insufficient connection between corporate supply chain competence and NGO SCM practices. By conducting a thorough branch level examination of digital supply chain practices in a microfinance NGO and connecting operational results with transferable supply chain management skills, this study fills in these gaps.

2.10 Chapter Summary

With an emphasis on NGOs and microfinance organizations this chapter examined pertinent literature on supply chain management, digital supply chain practices and operational

effectiveness. The review found that efficient SCM and digitalization improve coordination save costs and improve service quality all of which have positive effects on operational performance.

However more empirical research is required due to contextual difficulties such scarce resources infrastructure limitations and problems with technology adoption. The research technique used to investigate the connection between digital supply chain practices and operational efficiency in the chosen subject area is presented in the following chapter.

Chapter-03

Research Methodology

RESEARCH METHODOLOGY

3.1 Introduction

The research approach used to investigate how digital supply chain practices affect the operational effectiveness of microfinance NGOs is described in this chapter. The research design study area population and sample data sources data collection methodologies research tools data analysis methods and ethical issues are all described in the methodology. The validity and dependability of the results are guaranteed by a methodical and structured research approach. A mixed method approach has been used because the study intends to examine both quantifiable outcomes and organizational behaviors.

3.2 Research Design

A both analytical and descriptive research design is used in the study. To fully comprehend the research problem a mixed method strategy that combined quantitative and qualitative methodologies was employed. The association between digital supply chain practices and operational efficiency was measured using a quantitative technique.The opinions difficulties and management insights around digitalization have been examined using a qualitative technique. Examining actual organizational procedures in a microfinance NGO setting is a suitable use of this study method.

3.3 Study Area

The study was carried out at the Rampura Branch of the Society for Social Service (SSS) which is situated in the Sobujbag Area of Dhaka Zone-01. The branch was chosen because of its operational importance accessibility and availability of pertinent data.

The SSS Rampura Branch can be used to analyze supply chain and operational efficiency issues because it runs microfinance programs that include loan distribution monitoring and recovery activities.

3.4 Population of the Study

Field officers branch management employees support staff and administrative staff make up the study's population. Because they are directly involved in operational and supply chain related tasks they could provide important information for the research.

3.5 Sample Size and Sampling Technique

Sample Size

A total of 60 respondents were selected for the study.

Category	Number
Field Officers	10
Branch & Support Staff	04
Total	14

Sampling Technique

Employees engaged in operational and digital procedures were chosen through the use of purposeful sampling.

This approach guarantees that participants possess sufficient knowledge and expertise regarding the research subject.

3.6 Sources of Data

- **Primary Data Sources (Detailed)**

1. Structured Questionnaires

In this chapter, an in-depth analysis of the data obtained in the respondents was provided. The results reveal clearly that digital supply chain strategies can highly enhance the efficiency in the operations of microfinance NGOs. It was noted that a substantial reduction occurred in processing time cost effectiveness information flow staff productivity and client satisfaction. Nevertheless to ensure the sustainability of digital transformation it is only necessary to solve the problems of training gaps and limitations of infrastructure. The following chapter gives the overall conclusion and recommendations on the findings of this study.

2. Face-to-Face Interviews

Face-to-face interviews were conducted with branch managers and senior field officers. These semi-structured interviews provided qualitative insights into operational challenges digital adoption barriers, and managerial perspectives on supply chain efficiency. This method allowed flexibility to explore issues in greater depth.

3. Direct Observation

Direct observation was used to understand actual operational practices at the branch level. The researcher observed loan disbursement processes, field visit planning, record-keeping methods and use of digital systems. This helped validate survey and interview findings by comparing them with real-life practices.

Secondary Data Sources (Detailed)

1. Internal Reports of SSS

Internal documents of Society for Social Service (SSS) were reviewed including operational reports loan disbursement records, and recovery performance data.These reports provided historical and performance-related information necessary to analyze operational efficiency trends.

2. Academic Journals and Books

Peer-reviewed academic journals and standard textbooks on supply chain management, digitalization, and operations management were used. These sources helped establish the theoretical framework and supported the research variables and hypotheses.

3. NGO and Microfinance Reports

Reports published by NGOs and microfinance institutions were analyzed to understand sector-specific operational practices and challenges. These reports provided contextual insights into microfinance operations in developing countries.

4. World Bank and Development Agency Publications

Publications from the World Bank and other development agencies were used to understand global best practices in digital finance and NGO operations. These sources helped compare local findings with international standards and trends.

3.7 Data Collection Methods

3.7.1 Questionnaire Survey

A structured questionnaire using a five-point Likert scale was administered to collect quantitative data.

3.7.2 Interview Method

Semi structured interviews were conducted with branch management to gain deeper insights into digital practices and operational challenges.

3.7.3 Observation

Direct observation was used to understand workflow documentation and digital system usage.

3.8 Variables of the Study

Independent Variables (Detailed Explanation)

1. Digital MIS Usage

Digital Management Information System (MIS) usage refers to the extent to which the organization uses computerized systems to manage client data loan records, reporting and decision-making processes. Effective use of MIS improves data accuracy, reduces paperwork enhances transparency and supports real-time monitoring of operations.In microfinance NGOs, digital MIS enables better coordination between field officers branch offices and head offices leading to improved operational control.

2. Mobile Banking Adoption

Mobile banking adoption refers to the use of mobile financial services for loan disbursement repayment collection and financial transactions. This reduces dependency on cash handling minimizes transaction delays and lowers operational risks. Mobile banking improves service accessibility for clients and enhances operational speed especially in remote and semi-urban areas.

3. Information Flow

Information flow refers to the timely and accurate exchange of operational data among different levels of the organization, including field staff branch management and head office. Efficient information flow ensures faster decision-making better coordination and reduced operational uncertainty.Digital communication tools and centralized databases significantly enhance information flow in NGOs.

4. Logistics Planning

Logistics planning involves organizing field visits transportation routes staff scheduling and resource allocation.Proper logistics planning reduces travel time transportation costs and workload imbalance among staff.Digital route planning and scheduling tools help optimize logistics operations and improve staff productivity.

Dependent Variables (Detailed Explanation)

1. Processing Time

Processing time refers to the time required to complete operational activities such as client registration, loan approval, disbursement, and recovery. Shorter processing time indicates higher operational efficiency and better service quality. Digital tools significantly reduce processing time by automating data entry and approval processes.

2. Cost Efficiency

Cost efficiency measures the organization's ability to deliver services at lower operational costs. This includes reduced administrative expenses, transportation costs, and labor costs per transaction. Improved digital systems and logistics planning contribute to better cost efficiency in microfinance NGOs.

3. Staff Productivity

Staff productivity refers to the output generated by employees within a given time period. In microfinance NGOs, it is measured by the number of clients served, loans processed, or recoveries completed per staff member. Digital tools reduce manual workload, allowing staff to focus more on client service and monitoring.

4. Client Satisfaction

Client satisfaction reflects clients' perceptions of service quality accessibility, and responsiveness. Faster service delivery transparency and ease of transactions through digital platforms increase client trust and satisfaction.High client satisfaction contributes to client retention and improved organizational performance.

3.9 Data Analysis Techniques

Data collected from both primary and secondary sources were analyzed using appropriate quantitative and qualitative techniques to ensure meaningful interpretation of the research findings.

Descriptive Statistics

Descriptive statistics were used to summarize and describe the main characteristics of the collected data.This included the use of **frequency**, **percentage**, and **mean values** to analyze respondents' demographic information and perceptions regarding digital supply chain practices and operational efficiency.

Descriptive statistics helped in identifying patterns trends and overall responses of the participants.

Graphical Presentation

Data were presented using **tables and charts** to enhance clarity and understanding. Graphical representations such as bar charts and pie charts were used to compare responses and visually interpret the findings. This method improved the readability of results and facilitated better communication of research outcomes.

Qualitative Content Analysis

Qualitative content analysis was applied to analyze open-ended responses and interview data.This technique involved categorizing responses into themes and identifying common patterns related to digitalization challenges, operational improvements, and staff perceptions. Qualitative analysis provided deeper insights into operational practices beyond numerical data.

Use of Software Tools

MS Excel was used for data entry coding, and preliminary analysis.

SPSS was used to perform statistical analysis, calculate descriptive statistics and assess reliability measures. The use of these tools ensured accuracy efficiency and consistency in data analysis.

3.10 Reliability and Validity

Ensuring reliability and validity was a key concern in this study to enhance the credibility of research findings.

Reliability

Reliability refers to the consistency of measurement instruments.

To ensure reliability questionnaire items were **pre-tested** on a small sample prior to final data collection.

Cronbach's Alpha was used to measure internal consistency of the questionnaire items. A satisfactory alpha value indicated that the measurement items were reliable and consistently measured the intended variables.

Validity

Validity refers to the extent to which the research instrument accurately measures what it is intended to measure.

Content validity was ensured through careful review of questionnaire items and consultation with the research supervisor. Suggestions from the supervisor helped refine the questionnaire to align with research objectives and conceptual framework.

3.11 Ethical Considerations

Ethical principles were strictly followed throughout the research process to protect participants and maintain research integrity.

Confidentiality

The confidentiality of respondents was maintained by ensuring that personal information was not disclosed. Data were used in aggregated form and individual responses were not identifiable.

Voluntary Participation

Participation in the study was entirely voluntary. Respondents were informed about the purpose of the study and were free to withdraw at any stage without any obligation.

3.12 Chapter Summary

The research approach used in the study was explained in this chapter. The chosen techniques guaranteed dependable analysis and methodical data acquisition. Data analysis and conclusions are presented in the following chapter.

Chapter-04

Data Analysis & Findings

DATA ANALYSIS & FINDINGS

4.1 Introduction

The data gathered from respondents is analyzed and interpreted in this chapter. The results clarify the connection between SSS Rampura Branch's operational effectiveness and digital supply chain methods.

4.2 Demographic Profile of Respondents

This part is a report of the demographic traits of the respondents who were used in the study. The demographic profile will facilitate a better interpretation of the results and will guarantee that the information depicts the population in question. The research showed that 70 percent of the interviewees were males whereas 30 percent were women. This gender balance represents the current workforce organization of microfinance nongovernmental organizations, whereby the male workers control the field level activities. Regarding the job designation, 67 percent of the respondents were Field Officers with 33 percent being Support Staff which consisted of branch level administrative and operational staff. Field officers are important in loans disbursement monitoring and recovery procedures hence their responses will be of much interest to this research. In addition, majority of the respondents were over three years of work experience meaning that they are well equipped in terms of knowledge involved in operations and have also been exposed to manual and digital systems. This increases the accuracy of the responses given.

4.3 Digital System Usage

This part examines how much digital systems are applied in the business operations of the chosen microfinance NGO. The results indicate that a majority of the respondents 82% use Management Information Systems (MIS) on a regular basis to process loans, manage clients and report. MIS is now an essential working tool that facilitates a day-to-day decision-making and maintenance of data. Also, three-quarters of the respondents indicated having used mobile applications with their primary applications being the collection of field data updating of client information and tracking transactions. This is an indication of the increasing dependency on mobile based solutions to achieve operational efficiency. In addition, 68 percent of surveyed use digital reporting tools which allow submitting reports faster and less paperwork. All in all, these results reveal that there is a high degree of digital use in operation processes but a complete digital transformation is yet to be realized.

4.4 Impact of Digitalization on Processing Time

It is the section where the degree of the digital system implementation in the business processes of the selected microfinance NGO is discussed. The findings reveal that most of the respondent's 82 percent use Management information system (MIS) frequently to process loans, clients and reports. MIS has become a necessity working tool that enables a day-to-day decision making and maintenance of data. In addition, three-quarters of the respondents reported having used mobile applications with the main ones being the collection of field data, client information and track transaction updating. This is a pointer of the rising reliance on mobile based solutions in order to attain operational efficiencies. Moreover, 68 percent of interviewees use digital reporting instruments, through which reporting is quicker and less paperwork. Overall, these findings demonstrate that the use of digital in operation processes is high, however full digital transformation has not been achieved yet.

4.5 Impact on Operational Cost

This part looks at the impact of the digitalization on the cost of operation. The results indicated that 60 percent of the respondents said that operational costs decreased after the adoption of digital systems. The cost saving was largely linked to less paper less manual documentation and transportation costs. Moreover, 72 percent of the respondents stated that they worked more efficiently because with digital tools repetitive work was reduced and the number of errors was minimized. Cost savings also came about due to less travel needs and enhancement of the coordination. These results indicate that digitalization does not only increase the speed but also makes the operations of microfinance more cost-efficient.

4.6 Information Flow Efficiency

The flow of information is one of the crucial aspects of supply chain management.

The researchers concluded that the better digital information systems are, the quicker the decision-making process is because managers can get real time data. There was also improved effectiveness of monitoring of loan performances, staff activities, and transactions of clients due to the availability of digital platforms. Also, respondents added that reporting delays were reduced to zero since the digital reporting did not require physical delivery of forms. The flow of information was improved which led to better coordination between field officers, head office and branch management.

4.7 Operations in Logistics and Field.

This segment dwells on how digital tools have influenced the field operations and logistics.

The field officers had a shorter time of travelling since there were digital route planning tools that optimized the visit schedules. It enhanced the accountability of the digital tracking system since field activities could be tracked better. Besides, the respondents cited that fuel and

transportation expenses had been reduced since unnecessary travels were limited. These developments helped in the general efficiency in the operations and improved resource utilization.

4.8 Staff Productivity

One of the indicators of operational efficiency is staff productivity. The results show that digital tools were able to boost the amount of client's field officers could handle daily. Digital verification and automated data entry decreased the amount of manual work and enabled the staff to pay more attention to the work with clients. The morale of the staff members was also boosted by the fact that there was reduced paper work and simplified processes which led to less work pressure and increased job satisfaction among employees. High productivity led to a better performance within the organization.

4.9 Client Satisfaction

Digital supply chain practices impacted positively on client satisfaction.

The study indicated that 78 per cent clients had better service delivery, attributed largely by speed of loan processing and time lessening. Clients also showed to be more trustful in the organization as more transparency was created with the help of digital records.

Increased speed and better communication helped to build stronger relationships with the clients and improved the image of the NGO.

4.10 Challenges Identified

Although positive results were obtained, there were numerous issues that were pointed out during the study. According to some of the respondents training was limited, hence the inability to use digital tools effectively. The digital operations were also hampered by network connectivity problems in some locations. Also, the unwillingness of certain employees to accept change complicated the complete implementation of digital systems. The following challenges show that some capacity building and infrastructure improvement are needed.

4.11 Discussion of Findings

The results of the current work are in line with the previous studies that find that there is a positive correlation between digitalization and operational efficiency. The findings are in line with other theories including Technology Acceptance Model (TAM) and Supply Chain Management efficiency models, which focus on the importance of technology in enhancing the performance of organizations. The research establishes that the digital chain processes of supply chains have a great impact in improving the processing time, cost, staff productivity and client satisfaction within the microfinance NGOs.

4.12 Chapter Conclusion

In this chapter, an in-depth analysis of the data obtained in the respondents was provided. The

results reveal clearly that digital supply chain strategies can highly enhance the efficiency in the operations of microfinance NGOs. It was noted that a substantial reduction occurred in processing time cost effectiveness information flow staff productivity and client satisfaction. Nevertheless, to ensure the sustainability of digital transformation it is only necessary to solve the problems of training gaps and limitations of infrastructure. The following chapter gives the overall conclusion and recommendations on the findings of this study.

CHAPTER FIVE

CONCLUSION & RECOMMENDATIONS

CONCLUSION & RECOMMENDATIONS

5.1 Introduction

The findings and suggestions of the study Digital Supply Chain Practices and Operational Efficiency in Microfinance NGOs A Study of Society for Social Service (SSS) Rampura Branch are presented in this chapter. This chapter's goals are to provide a summary of the main study findings make inferences based on the research questions and objectives and offer helpful suggestions for microfinance non-governmental organizations. This chapter also underlines the study's shortcomings explores the findings implications for management methods and makes recommendations for future research directions. The purpose of this study was to look into the effects of digital supply chain techniques on operational efficiency in a Bangladeshi microfinance non-governmental organization that operates at the branch level. The study's conclusions offer helpful data to supply chain experts who want to go into the business world as well as NGO practitioners.

5.2 Summary of the Study

With particular reference to the Rampura Branch of the Society for Social Service (SSS) situated in the Sobujbag region under Dhaka Zone-01 the study aimed to comprehend the impact of digital supply chain techniques in enhancing operational efficiency in microfinance NGOs. The study looked at important elements of the digital supply chain including Utilizing Management Information Systems (MIS) digital reporting and record keeping. Mobile based data gathering electronic financial exchanges. Information exchange between branch management and field employees The impact of these digital practices on operational efficiency metrics like processing time staff productivity record correctness cost control and service quality was examined using both primary and secondary data. Clearly stated research objectives and research questions served as the study's compass, and they were addressed through methodical data analysis and interpretation.

5.3 Key Findings of the Study

Based on data analysis and findings presented in Chapter Four the major findings of the study are summarized below.

5.3.1 Improvement in Operational Efficiency

The study found that the adoption of digital supply chain practices has significantly improved operational efficiency at the branch level. Digital systems reduced manual paperwork, minimized duplication of tasks, and improved workflow coordination among staff members. Loan processing time was reduced due to faster data entry and real time access to client information through MIS. As a result, staff were able to serve more clients within the same working hours.

5.3.2 Enhanced Information Accuracy and Transparency

Data reliable and accurate was improved by digital record keeping systems. Errors related to manual documentation were considerably decreased. Transparency and accountability were improved by branch management's constant access to current information. Better monitoring of loan performance recovery rates and worker conduct was made possible by digital reporting systems which enhanced internal control systems.

5.3.3 Better Coordination and Information Flow

The results showed that digital tools made it easier for field officers branch offices and head offices to exchange information. Decision making delays were decreased and coordination between various operational units was enhanced via timely data exchange. This enhanced collaboration decreased operational bottlenecks and had a favorable impact on service delivery.

5.3.4 Challenges in Digital Implementation

Despite the advantages the study found a number of obstacles to implementing a digital supply chain such as Some employees have limited digital skills. Technical problems and sporadic system outages Opposition to abandoning conventional manual procedures Insufficient technical assistance and training These difficulties hindered the complete use of digital technologies and somewhat reduced operational effectiveness..

5.4 Conclusion of the Study

Based on the results, it can be said that digital supply chain strategies are essential for improving microfinance NGOs' operational effectiveness. By increasing speed precision coordination and transparency the use of digital tools has revolutionized traditional service delivery procedures. The study demonstrates that efficient supply chain management is equally important in service oriented companies like non-governmental organizations as it is in industrial or corporate enterprises. Microfinance NGOs can increase their social effect by optimizing resource usage lowering operating expenses and improving service quality thanks to digitalization. However organizational preparedness employee competency infrastructure support and efficient change management are critical to the success of digital supply chain operations. The potential advantages of digitization cannot be fully realized without adequate system support and training.

5.5 Recommendations

The study's results and conclusions lead to the following suggestions for microfinance NGOs and other stakeholders.

5.5.1 Strengthening Digital Infrastructure

Microfinance NGOs should invest in reliable digital infrastructure including upgraded MIS platforms secure data storage systems, and stable internet connectivity to ensure uninterrupted operations.

5.5.2 Capacity Building and Training

To improve employee's digital skills regular training sessions should be held. System utilization data correctness cybersecurity awareness and troubleshooting frequent technical issues should be the main topics of training.

5.5.3 Change Management and Staff Engagement

By include employees in the implementation process, attending to their concerns, and outlining the advantages of digital supply chain methods management may foster a positive attitude toward digital transformation.

5.5.4 Integration of Digital Systems

To prevent duplication and guarantee smooth data transfer between departments, the organization's various digital systems should be integrated. Efficiency and decision-making are enhanced by integrated systems.

5.5.5 Performance Monitoring Using Digital Tools

Digital dashboards and performance indicators should be used by management to routinely assess employee productivity, operational effectiveness and service quality. At every level data driven decision making ought to be promoted.

5.6 Managerial and Practical Implications

The study's conclusions have significant ramifications for supply chain experts and NGO managers. Digital supply chain techniques improve efficiency transparency and operational control skills that are very applicable to the corporate world. Experts in NGO digital operations acquire skills in data analysis technology driven management and process optimization that improve their employability in corporate supply chain positions.

5.7 Limitations of the Study

Even though this research has made important contributions it is important to note that there are some limitations that must be considered when interpreting the findings.To begin with the results obtained cannot be generalized because the research was conducted on one branch of one microfinance NGO. Operational practices use of technology and culture of the organization can differ among the various NGOs and geographical location. Thus, the results cannot be quite representative of the general microfinance industry.

Second the research was largely based on self-reported data that was gathered using questionnaires and interviews. This data can be subject to bias on the part of the respondent because they may give socially desirable answers or even their personal views instead of giving information that is purely objective. Thirdly time was a limitation to the data collection. The limited time of research did not allow gathering a bigger sample size and deeper longitudinal data. Lastly, external forces like the availability of networks, changes in institutional policies and technological infrastructure were not closely studied. The digital supply chain performance can also be affected by these factors. Thus, these restrictions must be taken into consideration during the interpretation of the results and conclusions about the study.

5.8 Suggestions for Future Research

A number of recommendations are outlined on how to conduct future research based on the constraints and the findings of the study. Future researches can be comparative i.e., including several NGOs or various geographical regions to enhance generalizability of research. These types of studies would give a deeper insight into digital supply chain practices in the microfinance industry. Other researchers can as well use quantitative analysis to ensure higher statistical validity using larger sample sizes to test hypotheses more rigorously. Moreover, it is possible that in the future the role of new technologies like Artificial Intelligence (AI) and Blockchain on the supply chains within NGOs will be examined. Such technologies can help improve financial and operational processes, increase transparency automation and security. In addition longitudinal studies might be applied to determine the long-term effects of digitalization in the form of sustainability cost-effectiveness in the long term and organizational flexibility. Such research directions would help the current body of knowledge on digital supply chain management in NGOs a lot.

5.9 Chapter Summary

The chapter was the general conclusion of the study and summarized the main findings and gave practical recommendations on the enhancement of digital supply chain in the microfinance non-governmental organizations. The results verify that digitalization is a powerful approach towards achieving operational efficiency process time reduction operational cost reduction employee productivity and customer satisfaction. The paper highlights the fact that the microfinance NGOs have to persist with investing in digital skills infrastructure and change management in order to deliver effective and sustainable service delivery. On the whole the study contributes to the importance of digital supply chain practices as the tool that enhances the performance of NGOs and justifies the necessity of constant digital transformation of the microfinance field.

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