

Effectiveness of Buy Now Pay Later (BNPL) Models in B2B Logistic Transactions

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Abstract— As businesses prepare for the fast-paced shift to digital financial management and supply chain operations, an emerging trend has been the use of Buy Now Pay Later (BNPL) in B2B logistics transactions. This paper explores how BNPL financing systems can transform and boost operational efficiency, cash flow management, payment flexibility, and enterprise sustainability in logistics and supply chain contexts. It is interested in logistics companies, transport companies, buying departments, warehouse operators or small companies that are working with a deferred payment model for operating expenses. The methodology approach employed in the study was quantitative research, structured questionnaires were circulated among respondents who are associated with B2B logistics operations. The answers gathered were analyzed using percentage, tables, graphs and interpretative analysis to find out the practical benefits and problems of BNPL adoption. The results show that BNPL systems can enhance working capital management, continuity and convenience of doing business, while issues of repayment pressure and dependency on credit systems must not be overlooked by businesses.

Keywords— *Buy Now Pay Later (BNPL), B2B Logistics, Supply Chain Finance, Digital Payments, Embedded Finance*

I. INTRODUCTION

A. Background of the Study

Digital finance and financial technology are growing very quickly and have revolutionized the systems of commercial transactions in various sectors around the world. For companies in logistics and supply chain sectors, the ability to operate and retain financial flexibility is becoming increasingly crucial, especially with the rise of digital payment systems and integrated financial services. Buy Now Pay Later (BNPL) models, a type of emerging financing, have become a significant topic of interest, as they offer deferred payment options without immediate capital expenditure. However, while BNPL was originally designed for consumer retail, it is now emerging in business-to-business (B2B) industries, specifically in logistics, transportation, warehousing, and procurement. Delayed receivables, fluctuating operating costs, and a lack of working capital are common concerns for logistics companies, making flexible financing systems more relevant than ever to keep operations running smoothly. BNPL financing thus offers a contemporary and refined financial solution that can facilitate transaction continuity, liquidity management, and operational scalability within commercial logistics settings.

B. Statement of the Problem

Delayed customer payments, increased operating expenses, fuel price volatility and ongoing working capital needs are among the financial pressures found in B2B logistic companies. Traditional financing systems generally involve lengthy approval procedures, collateral requirements, and rigid repayment conditions that may not adequately support dynamic logistics operations. While BNPL schemes are gaining traction

in business-to-business transactions, there is a lack of studies on their effectiveness for operations, financial viability and logistics performance. The long-term benefits and potential drawbacks of deferred payment financing arrangements in logistics remain uncertain for businesses.

C. Objectives of the Study

- To examine the effectiveness of BNPL models in B2B logistics transactions.
- To examine how BNPL financing affects the cash flow and running efficiency.
- To outline the key advantages and difficulties of implementing BNPL in the logistics industry.
- To assess business perception of the role of flexible financing in business.

D. Research Questions

1. Is BNPL effective to improve B2B Logistics Transactions?
2. How do BNPL systems affect the logistics enterprise's working capital management?
3. What are key operational advantages and disadvantages of BNPL financing?
4. Does flexible financing boost transaction efficiency in supply chain operations?

E. Significance of the Study

The research aligns itself with the emerging research on digital finance and supply chain management and sheds light on the real-life use of BNPL financing in logistics. The findings provide valuable insights for logistics managers, fintech companies, policymakers, and researchers regarding the role of deferred payment systems in improving financial flexibility and operational continuity. The findings also help companies to understand the benefit, risk and sustainability of embedded Finance in commercial spaces.

F. Scope and Limitations

The analysis investigates BNPL systems applied in B2B logistics transactions, between logistics companies across transportation and procurement departments, as well as between transportation and procurement companies and their warehouses. They limit their study to the views expressed on the questionnaires of selected respondents related to logistic activities. The results may not be widely applicable due to time constraints, small sample size, or geographic scope. Further, fast-changing financial technology could condition future trends that are not necessarily captured by the current research.

II. LITERATURE REVIEW

The commercial finance and supply chain (SC) sectors have been digitally transformed and as a result, the platform of business transactions has changed to great extent across various industries. Digital financial technologies are on the rise to enhance operational flexibility, payment efficiency, and liquidity management, making them vital for businesses in logistics, transportation, procurement, warehousing, and inventory management. Buy Now Pay Later (BNPL) programs are one of the fastest-growing financing methods of today's business landscape. Although originally for consumer-retail transactions, BNPL financing has slowly been growing to fuel business to business logistics, where enterprises need to address urgent working requirements without inducing excess cash flow strain. As supply chains become more global and shipping costs are incurred, customer receivables are not met, and operating expenses continue to be raised, the need for flexible financing systems that enable business continuity becomes more pressing. Liquidity issues are a common concern for logistics companies as payments for fuel usage, transporting and moving goods, managing labour, and processing inventory and warehouse operations often need to be completed before payments are received from their customers. The disparity has led companies towards using integrated financial systems and delayed payment models, directly integrated into digital procurement and logistics solutions. The growth of BNPL systems across commercial industries is also greatly due to the changes or developments in financial technology, as there are faster approval systems, automated credit evaluation mechanisms, and other services that help integrate financial services with digital transaction processing, making it easier for commercial businesses. Cloud based transaction systems, automated payment infrastructures, and digital procurement platforms that integrate both operational and financial processes into a single commercial ecosystem are undoubtedly becoming the backbone of modern B2B logistics operations. As businesses look for ways to optimize their working capital without compromising their ongoing operations, flexible financing solutions have emerged as a strategic imperative. BNPL financing has been embedded into the logistics system and creates a number of practical benefits such as greater cash flow flexibility, easier procurement, scalability of operations, lower delays in logistics transactions and better connection with logistics suppliers. One of the major benefits of businesses adopting deferred payment systems is their enhanced financial planning, as operational costs are spread out across time instead of liquidating capital upfront. Such financing systems can be particularly useful for small and medium logistics companies which often lack access to traditional institutional credit facilities. Despite these benefits, certain issues remain surrounding BNPL adoption such as repayment pressure, reliance on credit systems, service fees, financial risk exposure and regulatory uncertainty. Increased dependence on deferred financing may have adverse consequences on long-term financial stability if unchecked habits of repayment management practices occur within the company/industry. Thus, the rise of embedded finance, digital finance platforms, and financing for logistics transactions underlies the wider shift that is accelerating in commercial transactions around the world where financial services are increasingly part and parcel of business platforms than separate institutional processes.

III. RESEARCH METHODOLOGY

In the systematic design of research methodology for the present study titled "Effectiveness of Buy Now Pay Later (BNPL) Models in B2B Logistic Transactions," the authors incorporated detailed planning of the study's operational methods, data sources, statistical approaches, and financial flexibility frameworks. The research methodology is the base for any academic investigation since it gives a structured outline through which the investigation aims are attained and research questions are answered with science. The current study adopts a descriptive and analytical research approach with a quantitative research method as it basically seeks understanding on opinions of the respondent, operational experiences, financing behavior and transaction management practices related to BNPLs adoption in B2B logistics operation. The descriptive nature of the study helps in understanding the information about the awareness level, financing preferences, working capital management and operational difficulties experienced by logistics companies that use deferred payment systems in a factual way. The research's analytical part enables to understand the correlation between flexible financing systems and operational continuity, liquidity management, transaction convenience and procurement efficiency of business. This study employs a mainly empirical approach in collecting data from structured questionnaires sent to respondents belonging to the logistic management, transportation coordination, procurement departments, warehousing departments, supply chain, and financial management. Watson and colleagues (1999) emphasized that the questionnaire methodology was chosen in order to obtain standardized answers from different respondents within a specific time frame and minimizes the researcher bias to facilitate data comparability. The questionnaire comprised demographic surveys and opinion-related questions concerning BNPL awareness, BNPL usage frequency, BNPL operational benefits, financial flexibility, BNPL repayment concerns, and BNPL satisfaction for deferred payment schemes in logistics transactions. The study population comprised logistics managers, transportation executives, procurement managers, finance executives, supervisors of warehouses, and small business owners who had direct contact with and experience in B2B logistics activities and digital financial systems. The respondents were selected using a non-probability convenience sampling technique as this was considered as an approach to efficiently reach participants with operational knowledge and practical experience in BNPL financing systems in the logistics context. 60 respondents were judged as appropriate in the total sample size taken for the research so that the technique of percentage analysis, frequency distribution analysis, and comparative analysis techniques can be carried out. In addition, the study employed primary and secondary sources of data for reliability and comprehensiveness. The sole primary research method used was survey questionnaires, and the secondary sources included books, journals, financial reports, fintech publications, industry analyses and digital payment studies on embedded finance and Supply chain Management. The results of Blend Primary and Secondary data made the theoretical and practical background of the research investigation to be robust.

Data collected were analyzed using quantitative analytical methods appropriate for survey-based academic research. To increase clarity and understanding of the research findings, statistical interpretation employed percentage analysis, frequency distribution tables, descriptive interpretation and graphic method of representation. Respondent opinions about

BNPL and their effects on logistics operations were presented systematically using tables and description of graphs. The study considered research variables which were independent and dependent. Independent variables were BNPL adoption, payment flexibility, financing accessibility, embedded finance integration, and digital transaction convenience, with dependent variables being operational efficiency, working capital management, transaction speed, business satisfaction, and liquidity stability. The relationships between these variables were the foundation for analytical interpretation in this study. A number of hypotheses were also formulated to determine the positive impact of BNPL systems on operational performance and financial flexibility in logistics businesses. In providing reliability and validity, the questionnaires were designed to be structured and in line with the study objectives throughout the research process. The language used in the questionnaires has been kept simple, clear and understandable to facilitate accurate interpretation and uniform qualities in the respondents' answers. Ethical matters were also adhered to in the process of data collection and analysis. Respondents were duly informed of the academic aim of the study and that all materials gathered would be treated confidentially and for educational purposes only. Responses were always on a voluntary basis and no participant was pressured or misinformed during the survey process. However, there are some limitations in the methodology adopted in the present study. There were only 60 respondents in the study, and inferences might not apply to larger groups in other geographical areas. Convenience sampling might also limit the representation of all categories of logistics businesses and commercial enterprises. Further, perceptions and opinions presented by respondents and in surveys suggest that there may be subjective interpretation, and operation bias. Additional factors, such as time constraints and the fast-changing environment of financial technology systems, may further shape future operational practices in ways which are distinct from the observations made in the course of the present research. However, the chosen methodology offers a robust and well-rounded perspective for analyzing the impact of BNPL financing models in B2B logistics transactions and adds academic and practical value in understanding how embedded finance in logistics commerce is rapidly becoming a part of the business.

IV. RESULTS AND DISCUSSION

The present chapter emphasizes the analysis and interpretation of the data gathered from the respondents related to the effectiveness of the Buy Now Pay Later (BNPL) model in the context of B2B logistic transactions. The information was gathered using a structured questionnaire from 60 respondent informants representing logistics management, transportation services, procurement operations, warehouse management, and financial administration. Data which was collected were systematically analyzed through numerical tables, percentage analysis and graphical interpretation technique to analyze the respondents' opinion on BNPL awareness, the frequency of using BNPL, the benefits of using BNPL in logistics operation and cash flow management. The results offer significant understanding of the increasingly key importance of embedded finance and deferred payment mechanisms in facilitating more continuous operations and better working capital flexibility in commercial logistics settings.

Table 4.1. Demographic Profile of Respondents

Respondent Category	Number of Respondents	Percentage (%)
Logistics Managers	14	23.3%
Procurement Officers	10	16.7%
Transportation Executives	12	20.0%
Warehouse Supervisors	8	13.3%
Finance Executives	9	15.0%
Small Business Owners	7	11.7%
Total	60	100%

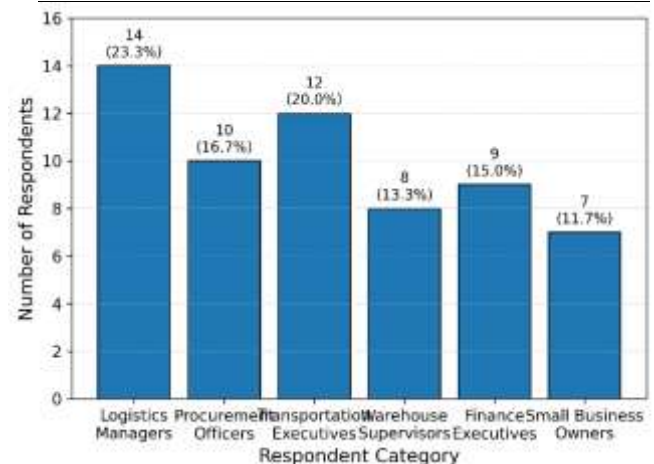


Fig. 4.1. Demographic Distribution of Respondents (Bar Graph)

Respondents represent 40 percent of the demographic distribution to show that the study involved respondents who came from different operational and managerial backgrounds related to logistics and supply chain activities. The most pronounced category of respondents were logistics managers (23.3%), which suggests that operational decision makers have significant engagement in financing and in transactions management processes. Transportation executives were the 20% of the respondents, illustrating the significance of transportation coordination in B2B-logistics operations. 16.7% of respondents were procurement officers, reflecting the high levels of involvement of procurement practitioners in payment management and in financing. One in six respondents (15%) were finance executives, revealing the increasing relevance of digitized financial systems in operational planning and liquidity management. Aware of operational logistics, small business owners (25%) and warehouse supervisors were collectively the largest group of respondents, indicating the influence of BNPL on both operational and entrepreneurial logistics activities. The diversified respondent profile enhances the validity of the results, with each professional group bringing its own unique operational insights into the BNPL financing systems and supply chain management practices.

Table 4.2. Awareness of BNPL Models in Logistics Industry

Response	Number of Respondents	Percentage (%)
Yes	48	80.0%
No	12	20.0%
Total	60	100%

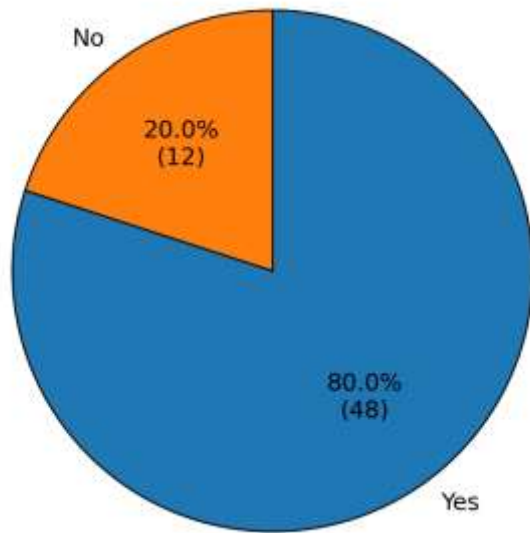


Fig. 4.2. Awareness Level of BNPL Models in Logistics Industry (Pie Chart)

The results show a strong level of awareness about BNPL financing systems, particularly among those with a connection to logistics or supply chain activities. 48 respondents (80%) reported to know BNPL systems as used within logistics transactions, 20% lacked such an awareness. With this high awareness level, it can be seen that commercial logistics settings are assigning and implementing digital technologies of financing and embedding payments systems at a fast pace. Companies are increasingly incorporating integrated financial platforms and digital procurement systems, which are making it easier for operational personnel to work with flexible financing methods like BNPL. Results also indicate that Logistics practitioners are more aware of other financing arrangements because today supply chain operations are becoming more complex and require more liquidity. The procurement, transportation and finance management respondents seem to be aware of BNPL systems more since it directly impacts operational continuity and management of payment processes. The lower percentage of respondents that did not report awareness might indicate companies that still use the traditional approach to finance or those that do not have much exposure to financial technology trends. It shows that conditions are quite favourable in terms of the possibilities of expanding and introducing BNPL systems in B2B logistics processes.

Table 4.3. Frequency of BNPL Usage in B2B Transactions

Usage Frequency	Number of Respondents	Percentage (%)
Very Frequently	16	26.7%
Frequently	18	30.0%
Occasionally	14	23.3%
Rarely	7	11.7%
Never	5	8.3%
Total	60	100%

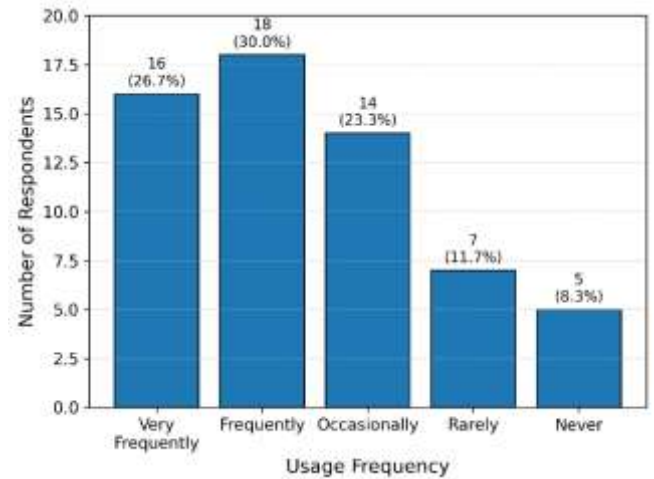


Fig. 4.3. Frequency of BNPL Usage in B2B Transactions (Column Graph)

The above findings suggest that BNPL financing systems are being actively utilised with businesses operating in logistics and supply chains. The largest response was 'Frequently 30%' and 'Very Frequently 26.7%'. When viewed as a whole, these categories illustrate that over half of the respondents rely on BNPL systems on a regular basis to handle operational transactions and for liquidity needs. The results indicate that deferred payment mechanisms offer practical financial flexibility for companies when managing transportation costs, supplier payments, inventory management and operational coordination. Around 23.3% of respondents reported using BNPL systems occasionally, which can represent businesses employing BNPL financing at times of liquidity crises or when expanding their operations. Some businesses may be holding onto old ways of financing or have enough liquidity in house to manage their businesses, as a relatively small percentage said that they rarely use BNPL systems or use them not at all. The general conclusions reveal that BNPL financing has evolved as an integral part of today's logistics flows and commercial transactions management systems.

Table 4.4. Impact of BNPL on Cash Flow Management

Response	Number of Respondents	Percentage (%)
Strongly Agree	22	36.7%
Agree	20	33.3%
Neutral	9	15.0%
Disagree	6	10.0%
Strongly Disagree	3	5.0%
Total	60	100%

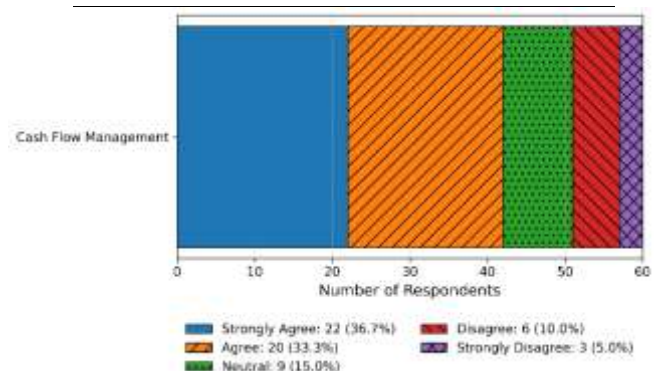


Fig. 4.4. Impact of BNPL on Cash Flow Management (Stacked Bar Graph)

This analysis shows that most respondents feel that BNPL financing systems have a positive impact on cash flow management in logistics. Around 36.7 percent of the respondents strongly agreed that BNPL improves working capital management and another 33.3 percent agreed. In sum, these responses account for 70 percent of the sample size, when it comes to the financial effectiveness of deferred payment systems in B2B logistics transactions, the perception is largely positive. The results indicated that BNPL financing provides businesses with superior liquidity flexibility as it alleviates immediate financial burdens tied to transportation expenses, fuel settlements, labor management expenses, and inventory procurement. As such, businesses can maintain further operation without much of immediate pressure on capital, allowing for more operational continuity and stability in supply chains. Businesses surveyed that gave neutral answers could be those with mid-level exposure to BNPL systems and/or those that only use BNPL financing under certain parts of their operations. Others disagreed in a relatively smaller percentage, perhaps because of concerns around repayment pressure, costs of financing or reliance on credit systems. In conclusion, it is clear that the overall results warrant a strong argument for the positive impact BNPL systems have on financial flexibility and operational sustainability in logistics and supply chains.

CHAPTER 5

The research is concluded and the future work is stated.

The present study “Effectiveness of Buy Now Pay Later (BNPL) Models in B2B Logistic Transactions” was undertaken to explore the increasing significance of BNPL financing systems in logistics and supply chain transactions. The aim of the research was to get a clearer understanding of the impact deferred payment schemes have on operation efficiency, cash flow management, payment flexibility and business sustainability on the B2B-logistics environment. The research results suggest that BNPL systems are becoming an even more significant subject in the context of the quick digitalization that has been observed across financial and commercial systems. Companies involved in logistics services often face the challenge of financial constraints for various reasons, such as slow customer payments, rising transportation costs, inventory management expenses, and operational liquidity needs. BNPL financing schemes are capable of delivering transactional continuity and uninterrupted operational performance, offering businesses some temporary financial flexibility in such circumstances. Further, the study indicates that there is a strong awareness of BNPL solutions among logistics professionals and commercial operators, which is due to the embedded finance offerings within procurement platforms, transportation systems and supply chain management applications. Additionally, key findings here show that enterprises are using BNPL systems effectively to handle procurement, transportation, and working capital needs. Both, major conclusions drawn from the research were that BNPL financing can have a positive impact on cash flow management and operational flexibility in logistics processes. By implementing deferred payment systems, businesses can better manage transactions and coordinate operations while enjoying more stable liquidity and mitigating short-term financial pressures. Despite these benefits, the study also found some problems such as pressure on repayment, dependency on the credit

system, financial risk exposure due to over-dependency on deferred payment system. The results indicate that BNPL systems have significant potential to enhance the financial flexibility and operation sustainability of B2B logistics transactions. Potential areas for further study include sustainable financial viability, risk control measures, cross-border comparisons, technical integration, and regulatory considerations regarding adopting BNPLs in global logistics & supply chains.

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