



Third-Party Logistics Practices in E-commerce of Nepal: A Narrative Study of the Supply Chain Professionals

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Abstract

In recent years, the rapid growth of e-commerce has revolutionized the way businesses operate and consumers engage in commercial activities. This transformative shift has brought about unprecedented convenience and accessibility, enabling global consumers to shop for products and services from the comfort of their homes, including in Nepal. Simultaneously, the demand for the intricate web of operations behind these transactions (logistics management) has become paramount. And, in the realm of logistics, the notion of outsourcing by means of third-party logistics (3PL) emerges as a pivotal strategy. Subsequently, this study embodies a pragmatic perspective through the qualitative study using the narrative approach thus by unstructured interviews with the select information-rich supply-chain service professionals in e-commerce companies employing the 3PL practices in their logistical fulfillments. The study illuminates on the circuitous reciprocity between 3PL strategies and the distinctive features of Nepal's e-commerce landscape filled with infrastructural challenges and urban-rural divide that co-exist with opportunities. The findings revealed that the core focus, reach, digitalization, financial viability, product safety, and logistical efficiency concerns influence the 3PL outsourcings. It also delves through the prevalent practices, challenges, and opportunities, and also optimization measures from the perspective of supply chain professionals, shedding light on the path forward for optimizing logistics for e-commerce, emphasizing the coherent need to incorporate the digital shift, customer-centricity, continual learnings and financial prudence, thus holds a significant importance.

Keywords *digital shift; e-commerce; optimization; supply-chain; 3PL*

INTRODUCTION

The rapid expansion of the e-commerce landscape and the global interconnectedness have propelled the prominence of the supply chain, particularly in terms of logistics and fulfillment. In the circuitous landscape of e-commerce, where speed, accuracy, and scalability are paramount, the seamless movement of goods from production hubs to distribution centers and, ultimately, to customers' doorstep needs robust logistics management. The rise of digital commerce enforces consumer appetite for quick home deliveries and increases sensitivity to the timelines of the distribution (Fried & Goodchild, 2023; Ji, 2023). E-commerce logistics is described as the physical flow of merchandise from the supply source to the consumer considering reverse logistics as well and calls it the backbone of e-commerce operations (Risberg, 2022).

And, where e-commerce logistics involves complex processes such as order management, inventory

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control, warehousing, packaging, shipping, tracking, and returns, which often is too overwhelming to the capabilities of individual e-commerce firms, third-party logistics (3PL) providers emerge as indispensable link bridging sellers and consumers to accommodate the capability disparity.

Sink and Langley (1997) explain 3PL as "using the services of an external supplier to perform some or all of a firm's logistics function". 3PL providers can offer various benefits to e-commerce firms, such as reducing logistics costs, improving customer service, enhancing flexibility and scalability, accessing specialized expertise and technology, and focusing on core competencies (Knemeyer et al., 2003; Langley et al., 1999; Lieb and Randall, 1999; Sink and Langley, 1997).

The synergy between e-commerce and 3PL is evident in the real-time tracking, warehousing solutions, and last-mile delivery services that have become synonymous with the online shopping experience. By entrusting select logistics functions to third parties, companies can focus on their core competencies, bolster customer satisfaction through streamlined delivery mechanisms, and adapt more readily to the ever-changing dynamics of the market. However, the decision to outsource logistics functions to 3PL providers is not a trivial one. It requires careful analysis of the costs and benefits of outsourcing versus insourcing, as well as the selection of suitable 3PL partners.

As the e-commerce domain continues its growth trajectory, the role of 3PL transcends mere physical merchandise transport, encompassing technology-driven breakthroughs that amplify visibility, curtail transit durations, and fundamentally reshape customer expectations in the digital era. Such that, many e-commerce firms have resorted to outsourcing some or all of their logistics functions to 3PL providers, who specialize in offering customized and integrated logistics solutions. This fast-paced development with 3PL outsourcing also entails certain risks and challenges, such as loss of control, dependency, information sharing, contract management, performance measurement, and relationship management (Chen et al., 2004; Rahman et al., 2011; Zacharia et al., 2011).

And, in recent years, the rapid growth of e-commerce has transformed commercial dynamics globally, including in Nepal. Some full-fledged e-commerce marketplace models like Daraz, Sastodeal, etc., and many hybrid and unorganized e-tailers are operating through the constituted social media as a result of the advancement in technology and ever-increasing internet penetration.

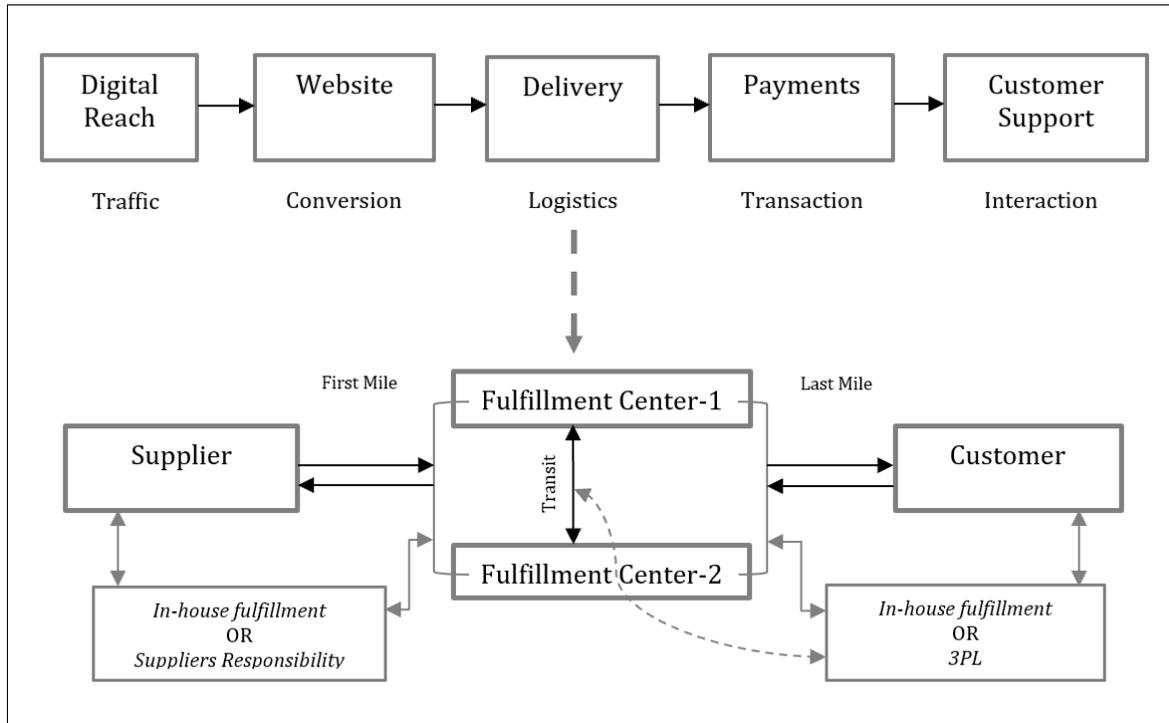


Figure 1. E-commerce experience ecosystem & delivery logistics in Nepal

Figure 1. sums up the e-commerce experiences of Nepal with components of digital reach for traffic generation, website to convert traffic to orders, delivery to accommodate logistics management, payments to transaction settlements, and customer support to ensure interactions with prospective and prevailing customers. Also, the delivery logistics of e-commerce in Nepal transcends the movement of goods to and from suppliers, fulfillment centers, and customers. self-fulfillments or outsourced services. 3PL in e-commerce of Nepal mostly takes up the role of the last mile carriers which is only the very early incorporations of 3PL in the services ecosystem to the likes of Amazon and Alibaba at their prime today. Also, the study is focused on the domain of marketplace e-commerce whereby the choices of the sellers and customers towards 3PL are not so relevant and it is at the discretion of the e-commerce companies to make a decision.

While studies have explored e-commerce growth, there remains a gap in understanding the 3PL practices and how the optimization measures are enacted through the 3PL strategies within Nepal's e-commerce industry. Specifically, there is a dearth of research that delves into the narratives of supply chain professionals, who play a pivotal role in shaping logistics strategies within this evolving context.

The central research question to guide this very study was: "How do supply chain managers of full-fledged e-commerce marketplace companies perceive the prevalent 3PL practices and how to see through this dilemma and enact optimization amid the country's unique logistical challenges and opportunities?" with the primary objective to conduct a narrative exploration by engaging with supply chain managers' perspectives, and uncover the underlying dilemma and express the prevalent practices. This necessitates a comprehensive exploration of the reciprocity between prevalent 3PL practices, challenges & opportunities, optimization, and the distinctive features of Nepal's burgeoning e-commerce landscape for effective logistics management and provides valuable insights for the industry practice.

LITERATURE REVIEW

E-commerce and a new marketing channel created by the internet will have a profound impact on how firms conduct business and provide logistical support activities (Copacino, 1997; Karpinski, 1999). It echoes the aspect that advances in the adoption of newer technology and accessibility of the internet have propelled electronic commerce to the comfort of online customers and firms in digital marketplace as a business.

In the Asia-Pacific region, Singapore widely holds on the frontier of e-commerce and logistics (Wang et al., 2020). Similarly, in the context of Nepal, the surge in e-commerce activities over recent years can primarily be attributed to the substantial enhancement of internet accessibility. Many online businesses are made accessible because of the expansion of internet connections. Furthermore, rural regions in Nepal are progressively gaining improved internet access and utilization, largely owing to the expansion of operations by internet service providers (ISPs) in those areas.

Consequently, e-commerce was introduced in Nepal almost a decade back initially serving Nepalese residing abroad who sought to send a gift back home. In the beginning, few online stores operated as sites to promote e-commerce rather than offering products to customers (Subedi, 2017). Gaps persistent in digital infrastructure and legislation prevent many Asian countries from fully reaping the potential of e-commerce (Kinda, 2019). The increase in transaction and logistical efficiency only promotes the formation of a global network and helps improve the status of the national value chain (Zhu et al., 2021). However, Ngudup et al. (2005) also affirm that even in nations marked by weak infrastructure and limited access to information technology, there is evidence that innovative businesses and governments have seized the opportunities presented by e-commerce.

Notably, Nepal's e-commerce landscape experienced growth following Alibaba Group's acquisition of Daraz, a renowned e-commerce platform, in 2018, indicative of the catalytic impact international giants like Alibaba can have on bolstering e-commerce activity (Lama, 2020). The money that international juggernauts like Alibaba inject in boosts e-commerce.

However, Nepal's e-commerce market is predominantly concentrated within a select number of key urban centers, including Kathmandu and Pokhara, thus delineating the landscape of e-commerce activities (Devkota et al., 2021). Nevertheless, he also asserts that the accessibility of delivery options remains confined to urban locales, impeding the e-commerce reach to rural regions and thus constraining the potential customer base. The platforms serving last-mile deliveries are located closer to consumers than upstream platforms, but facility size, costs, public incentives received, and metropolitan population, among other factors, determine centrality (Fried & Goodchild, 2023). This urban-rural divide contributes to a reduced accessibility of e-commerce services.

Likewise, the primary challenges emerging from online shopping predominantly revolve around logistics issues, encompassing protracted delivery timelines and discrepancies between the received product and the specifications outlined online and also the need to scale the use of new mobile application innovations to fuel the value-added services (Mkansi et al., 2020). This study is a narrative exploration with select supply chain managers on their perspectives and with a comprehensive exploration of the reciprocity between prevalent 3PL practices, challenges and opportunities, optimization measures, and the distinctive features of Nepal's burgeoning e-commerce landscape.

Also, the logistics and the customer service- the two non-glamorous parts of the business, are the

biggest challenges with e-commerce. In the new normal era where changes in consumer buying behavior are eminent, logistical efficiency can help (Kurniawati et al., 2022). A lot of companies that are coming online spend all their money and effort building a beautiful website and then they can't get the stuff to the customer (Cho et al., 2008; Semeijn et al., 2005). For the e-commerce industry, logistics service is one of the most expensive operations and plays a critical role in promoting online purchases (Agatz et al., 2008; Ding et al., 2018; Ji, 2023; Xu and Huang, 2017). And, the effective and efficient movement of goods is critical in the e-commerce logistics supply chain (Foster, 1999; Harrington, 2000). Also, the development of a marketing e-commerce system needs to consider the delivery costs because all of the transaction processes do not stop after the payment process, it is necessary to deliver the products at cost-efficient rates. (Sunaryono et al., 2022) That's where the mantra of success for the e-commerce firm unequivocally resides. In essence, logistics management involves a series of integrated activities covering information processing, freight transport, material handling, inventory storage, and sharing information with supply chain members involved in moving products (Martel and Klibi, 2016).

And, from a process point of view, e-service is only the first part of the customer's perceived online shopping experience, which includes searching for and browsing product information and placing orders online. The other important facet of online shopping is logistics services (Yang et al., 2006), whereby companies either deliver products to customers themselves or outsource this to third-party logistics (3PL) providers (Semeijn et al., 2005).

Also, e-tailers face the critical task of strategically managing the secure and expedient delivery of goods to customers. This responsibility assumes paramount importance, as it significantly impacts the pricing of commodities. The ability to maintain minimal delivery costs is imperative, as customers are driven to online shopping primarily by the allure of cost-effective prices. Hence, failure to achieve safe, secure, and economically efficient delivery undermines the essence of online shopping – affordability and convenience.

Also, based on the insights of Bowersox & Closs (1996) the perspective emerges that logistics capabilities encapsulate the competencies exhibited by logistics service providers as they engage in activities to fulfill their service objectives – notably, delivering competitive service to customers. In the very case, having the proper logistics capability and/or the provider to support with the services of logistics to the online sellers' business is crucial. Subsequently, customer happiness and loyalty are influenced by both online (website) performance and offline (physical) fulfillment (Semeijn et al., 2005).

Henceforth, this translates into a strategic proposition for e-commerce managers- to elevate the quality of logistics services, leveraging it as a conduit to enhance customer satisfaction and foster loyalty towards their e-services. As a result, they may seek to manage logistics services either independently or through 3PL service providers (Ramanathan, 2010). And, according to Parilla et al. (2022), the Covid-19 pandemic engulfed from the retrenchment of employees to the disruptions in the supply chains with temporary to permanent shutdowns. The impact included uncertainties, hence the decline in productivity, demand, and sales which implies that uncertainties like COVID-19 significantly affect operations, primarily supply chain management. Subsequently, many organizations are pursuing local in-house sourcing as a result of supply chain disruptions.

However, the better alignment of 3PL service providers is crucial to achieving sustainability in supply chain management (SCM). This study explores the opportunities and challenges of logistics outsourcing from the perspective of supply chain managers. However, the study from Cho et al.

(2008) revealed that the logistics capability was positively related to the firm performance in the e-commerce business, and, counter-intuitively, logistics outsourcing and firm performance were not found to be positively linked. It brings the notion that even though the logistics capability is directly associated with the growth of the firm's business whereas no sufficient affirmations on the outsourcings as the better deal than the self-managed logistics, which develops the importance of the case-based study of the issue.

Langley et al. (1999) defined a 3PL provider as a company that "provides multiple logistics services for its customers." Numerous 3PL studies have shown that firms reduce costs and increase customer service by outsourcing their logistics functions (Knemeyer et al., 2003; Langley et al., 1999; Lieb and Randall, 1999; Sink and Langley, 1997).

Intense global competition, shortened product lifecycles, and elevated customer expectations have had manufacturers concentrate on their core competencies and delegate ancillary processes to market experts. In this context, harnessing the efficiencies of 3PL is anticipated to yield cost-reduction advantages. The specialized attributes including scale, expertise, search proficiency, and information technology (IT) acumen, further augment their appeal. The pivotal factors shaping the adoption or renewal of 3PL services encompass service quality and cost, with logistics performance evaluated across dimensions of quality, timeliness, flexibility, and cost-effectiveness (Wilding and Jurado, 2004). These enduring principles have consistently guided decision-making in the realm of logistics.

Moreover, effective logistics management is recognized as a potent driver of competitive distinction, yielding benefits that extend beyond mere cost reduction. Indeed, logistics play a pivotal role in elevating the caliber of a firm's product or service offerings (Mentzer et al., 2004). Efficient logistics services define competitiveness, rendering logistics management a fundamental constituent of organizational efficacy and triumph (Khan and Burnes, 2007).

However, implementing 3PL solutions with distinct requirements in e-commerce operations presents a myriad of challenges. One notable hurdle is relinquishing control over certain logistics functions, potentially impacting the alignment of processes with the company's specific requirements. Information sharing between the e-commerce company and the 3PL provider becomes pivotal, often demanding seamless integration of technology systems. Additionally, selecting the right 3PL partner capable of aligning with the company's vision, accommodating its unique demands, and maintaining service quality can be complex (Chen et al., 2004).

And, within Nepal's unique context, the landscape of 3PL presents both nuanced challenges and promising opportunities. The proliferation of e-commerce activities, spurred by increased internet penetration (Devkota et al., 2021), has opened avenues for the integration of 3PL services. However, this convergence is not without hurdles, as Nepal grapples with infrastructural limitations and the urban-rural divide (Lama, 2020).

Consequently, a narrative study on 3PL practices and associated optimization in Nepal's e-commerce through the perspective of supply chain professionals holds significant importance in delving into the circuitous reciprocity between e-commerce operations, logistics management, and the utilization of 3PL services. It is instrumental in unraveling the complex dynamics of logistics management within a rapidly evolving digital landscape and serves as a valuable compass for navigating the intersection of e-commerce and logistics in Nepal.

METHODOLOGY

This study employed a qualitative research approach with a narrative study design to investigate 3PL practices and the associated optimization measures within the e-commerce industry of Nepal. Creswell and Creswell (2018) explain qualitative research as an approach involving the collection, analysis, and interpretation of non-numerical data to understand social phenomena and explore the underlying meanings and patterns. This very study was focused on understanding the perspectives of supply chain managers from select e-commerce companies practicing 3PL logistics in their operations, elucidating their experiences, insights, and narratives concerning 3PL practices, implementation, and optimization.

The study aimed to uncover the underlying themes and theoretical patterns that shape the interplay between 3PL practices and the distinctive features of Nepal's e-commerce landscape. And, the most modern qualitative approach that focuses on life stories as the essence of people-oriented sciences is a narrative study with an interpretivist epistemological standpoint by employing in-depth interviews to gather rich narratives from the participants (Jaishi, 2023). Finally, the population of the participants, from the ones who are working in the very field of the supply chain in the e-commerce landscape and the purposive samples for the information-rich narratives with pseudo-names, which forms the basis for data analysis to the themes of the qualitative data.

The study limits the research to purely concentrating its' population size to only two established full-fledged marketplace e-commerce companies in Nepal (Daraz and Sastodeal) employing both in-house logistic fulfillment and 3PL outsourcing. The study does not accommodate the other forms of e-commerce practices prevailing in the country including the online-to-offline (O2O) modality, where the physically operating stores also transact virtually. social media pages, websites, etc., as well the other small e-commerce ventures and some unregistered businesses, where they only employ the 3PL practices for the logistics fulfillment and do not have their in-house logistics to trade off the logistics dilemma. Further future studies can accommodate the holistic perspective, varied dimensions and compare & contrast the current studies with the 3PL practices by accommodating the O2O firms, and small ventures, and un-registered businesses of the e-commerce landscapes as well.

Finally, the study was organized within the data collection from the in-depth interviews of the information-rich participants one each from the two select companies identified as the population size, and then the data were analyzed for the themes within the experiences and narratives of the participants to develop the notion on the specificity of the 3PL practices in Nepal.

Participants and Sampling:

The research involved two participants, each representing a different e-commerce company operating within Nepal as a full-fledged marketplace model only and employing the 3PL practices in their logistics management either in transit distribution or last-mile delivery. There are only two established full-fledged marketplace e-commerce companies in Nepal (Daraz and Sastodeal) that also employ the 3PL services alongside the in-house fulfillment, so the information-rich supply chain managers from each of these two companies form a participant in the study. Daraz a subsidiary of Alibaba Group, is a global marketplace with operations in Pakistan, Bangladesh, Nepal, Sri Lanka, and Myanmar whereas, Sastodeal is a homegrown daily deals platform that pivoted to a full-fledged marketplace. The selection of participants was based on a purposive sampling of supply chain managers from these two companies to incorporate the requirement of a full-fledged marketplace model of e-commerce, and considering the supply chain managers' significant involvement in logistics decision-making and management processes to ensure that the participants possessed rich experiential knowledge.

The population for the purposive study was aptly supported through the research by Boson et al. (2023) whereby the 'Workers of Ethiopian Telecom who held managerial positions and were either directly or indirectly in charge of the business's supply chain operations only made up the study's population'. The same method has been taken into consideration for the study to determine the population for this study too and subsequently the purposive samplings of the two information-

rich participants.

Data Collection:

An in-depth semi-structured interview was recorded by phone in the Nepalese language, which was then transcribed first into text (Nepalese) and further translated into English text as the means of data collection. The interview provided a platform for participants to share their narratives, experiences, and perspectives on 3PL practices and optimization measures. Open-ended questions were used to explore themes such as the integration of 3PL services, prevalent practices, challenges faced, possible strategies for optimization (if any), and the impact of contextual factors.

Data Analysis:

A narrative method of data analysis was employed to analyze the collected data. The process involved multiple iterative stages, including data familiarization, generating initial codes, grouping the codes, searching for themes therein, reviewing the texts and refining themes, and finally, defining and naming themes from the qualitative data and explaining in the form of a narrative story (Jaishi, 2023; Pagtalunan et al., 2023). This approach facilitated the identification of recurring patterns, relationships, and key insights embedded within participants' narratives.

Ethical Considerations:

Respecting ethical guidelines is paramount throughout the research process. To ensure the confidentiality and privacy of participants, written and informed consent was obtained before the interviews. Participants were assured that their identities and company affiliations would remain confidential, and pseudonyms were used to further anonymize their responses also the final output of the interview being used in the article was confirmed for public disclosure. The collected data were securely stored thereby safeguarding the participants' information.

FINDINGS AND DISCUSSION**Findings**

This narrative study was with the interpretivist epistemological standpoint whereby it employed in-depth interviews to gather rich narratives from the life experiences of the established supply chain professionals in the e-commerce landscape who dealt with the outsourcings and fulfillments of the logistics functions of the organization. The study delved into the dynamics of 3PL practices and the associated optimization measures within Nepal's burgeoning e-commerce landscape. The study participants, two experienced supply chain managers from two renowned e-commerce marketplaces embodying 3PL services in their logistics operation, shared valuable insights that shed light on the concept of 3PL service and in context to Nepal, with prevalent practices and experiences, challenges, opportunities, future roadmap and the interplay between 3PL services and the ever-evolving e-commerce space of Nepal.

To start with the data analysis process, firstly the initial codes were generated from both the interviews, which were grouped together and then resonated to the following themes in regards to the 3PL practices and optimization measures from the standpoint of the supply chain professionals: sustainable expansion, core function focus, digital shift, customer and market reach, learnings and development, trust and safety concerns associated to products & logistics system and financial viability. Thematic analysis of the qualitative interview data revealed the themes of sustainable expansion, core focus, digital shifts, market reach, learning and development, financial viability, and trust and safety concerns associated with the logistics system.

However, earlier studies on 3PL practices for e-commerce companies mainly resorted to the strategy for cost-planning, flexibility, and organizational efficacy (Khan and Burnes, 2007; Wilding and Jurado, 2004). Also, different studies provided remarks on 3PL adoption measures for cost-reduction and customer service (Knemeyer et al., 2003; Langley et al., 1999; Lieb and Randall, 1999; Sink and Langley, 1997).

The newfound themes of sustainable expansion, core function focus, digital shift, customer-market reach, learnings and development, trust and safety concerns associated with the logistics system,

and financial viability form the result findings of the study and are explained in terms of the research niche contextually defining the 3PL concerning Nepal's landscape, associated challenges and opportunities from the perspective of select professionals and also the thought-out prudent measures by the professionals to optimize the logistics functions of the e-commerce industry.

At first, both the participants defined and explained 3PL as a necessary arrangement where the infrastructural capability of the company can't suffice the core focus of the business, uneven terrains and geographics of Nepal as well as impractical context to the function of the e-commerce and thus needs the outsourcing of the operation function to the external service providers. This strategic approach allowed e-commerce businesses to leverage external expertise and focus more on core activities.

3PL service in e-commerce was aptly explained by participant 2 'Bhuwan' as:

"This is how any company uses the resources of a third person other than its resources. 3PL is used to provide logistics service on our behalf and to fulfill our demands within our standard operating procedure (SOP) guidelines. It is very important because in the market dynamics of Nepal, it is very difficult to run an e-commerce company by doing its logistics everywhere, of its high cost, third party logistics is also very important for cost-efficiency."

Also, participant-1 'Ramesh' explains that 3PLs are most useful for in-transit transportation to distribution centers of the company rather than the end-customer last mile delivery whereas the other participant 'Bhuwan' opined differently with the notion that 3PLs are equally competent for the last mile delivery as well and with improved learnings and developments put on by the logistic companies for customer servicing they are better equipped for better customer experience with their extensive networks and experience navigating local terrain and transportation infrastructure constraints- enabling timely deliveries even in hard-to-reach locations. When asked to 'Ramesh' on this issue for his take on whether 3PL services lack accountability with the end-customers as they have no business with end-users rather only with the e-commerce company unlike where e-commerce's internal logistics as a part of the company rhymes with the service vibe, he said: "Exactly yes, Ours and theirs reflects difference." whereas 'Bhuwan' opined on the same question as follows:

"In one sense, 3PL is better than internal logistics even for the last mile, for example, our 3PL partner in Banepa city is working very smoothly and has adopted our SOP, and another 3PL partner has grown with us from 2 facility centers and now has business with our 9 centers. It is good to see them provide quality service and Everest Logistics is providing service in almost 50 cities. And unlike before where internal logistics and other 3PL had only 80% success rate (timely delivery fulfillments to end customer) now it is up to 92% with them."

In the discussion over the prevalent practices of 3PL outsourcing, both the participants echoed the theme of cost-savings in logistics operations, resource management, in-efficient internal capability, and expansion of presence to varied locations as the major considerations for 3PL partnerships.

Also, both the participants emphasized the great possibilities of opportunities with the outsourcing of logistics mainly over the impracticality of the self-sourced logistics to reach every nook and corner of the geographical divide of the nation. And improving focus and service delivery of 3PLs and core function focus especially to the un-organized e-commerce sectors operating services via. social media handles enforce the coherent spectrum of business growth between e-commerce and logistics.

However, with regards to challenges, Bhuwan's thrust was on the technological gap between the e-commerce companies and logistics service providers where 3PLs are still processing in the traditional way and e-commerce requisites the modern tracking abled mobility infrastructure for enriched customer experience. And the information alignment for operational and financial modules between the parties is still a big challenge. He states:

"Having a proper tracking system is a challenge. The buyer's urgent request cannot be processed according to their control. It takes time to align the information, which is possible from our company in-house. Also, 3PL is not suited for cash on delivery payments."

And 'Ramesh' also supported a similar argument over the challenges of the 3PL integration in e-commerce. In this context, both participants highlighted the importance of technological advancements, learning and development initiatives, and infrastructure investments in enhancing 3PL operations, improving customer experiences, and quality service delivery through digital solutions. Both echoed the need for research, training over challenges related to product safety, risk management, and liability in logistics, and discussing the potential of safety insurance to mitigate risks associated with breakage and damage.

Both participants further, in the quest towards the 3PL service optimization measures emphasized that the focus on vision alignment, product safety, enriched partnerships of 3PLs and e-commerce sector, systems integration, and enhancing customer-servicing experience will yield wayward opportunities to the future of the efficient logistics and online shopping. In this regard, 'Ramesh' mentioned that:

"To make 3PLs service better, they should make a mission, vision in align with e-commerce businesses and, product-safety should be of utmost importance, on-time delivery, and investment over the digital infrastructure is must."

And 'Bhuwan' regarding optimization measures emphasizes the following:

"Now learning & development (L&D) is becoming widespread in many e-commerce companies and similarly, to do well in 3PL services, there should be continuous L&D and participation in e-commerce initiatives. Next, you have to invest a little better in the 3PL infrastructure. Currently, we are working traditionally, now we have to get used to infrastructure and technology and also importantly to customer experience, it should be the same as similar experiences in self-fulfillment and 3PL-fulfillment and also focus on customer service training, issue handling, query handling should be taken down to ground level too."

Finally, both the participants projected an optimistic future for the e-commerce and outsourced logistics business in the coherent landscape and emphasized the need for knowledge and learning alongside good practices to enforce optimal growth and also opined that the academic research community can bridge the knowledge sharing to the 'state-of-informed' for rational decisions.

Discussions

The participants' narratives align with the vital role of 3PL in the context of Nepal's unique geographical and urban-rural divide. The theme resonated from the participant's insights to develop the notion of digital shift, financial prudence, core function focus, and customer centrality to optimize the nuances of logistics operations in e-commerce businesses. And, herein both the participants emphasized how the infrastructure and resource limitations and geo-political diversity necessitate a strategic outsourcing of logistics operations. This enables e-commerce companies to leverage external expertise, reduce costs, and focus on core competencies. The divergent viewpoints regarding the suitability of 3PL for last-mile delivery services highlight the nuanced challenges associated. While one participant views 3PL as more suited for in-transit transportation, the other participant believes that 3PL can effectively manage last-mile delivery too. This discrepancy underscores the need for tailored strategies and company-specific operational modules.

The study findings above also resonate with the findings of research in regards to the significance of 3PL in enhancing supply chain efficiency and reducing operational costs (Khan and Burnes, 2007; Wilding and Juriado, 2004) which hereby, is applicable in the context of Nepal. The participants' agreement on the cost-saving benefits aligns with prior research highlighting how outsourcing logistics operations can lead to significant savings for e-commerce businesses.

The discussions also reflect the emphasis on the pivotal role of technology in modernizing logistics operations (Chen et al., 2004). Also, the consensus on the need for technological advancements and digital infrastructure suggests that investments in tracking systems, real-time data sharing, and communication tools are pivotal for enhancing 3PL services. The call for continuous learning and development (L&D) aligns with the growing trend of upskilling employees to navigate the evolving logistics landscape. It also holds implications of customer trust and satisfaction, aligned information highlighting the importance of effective partnership management between e-commerce companies and 3PL providers.

Finally, it also resonates with the findings of Wilding and Juriado (2004) that striking a balance between cost-effectiveness and service quality while managing performance metrics is another intricate challenge that underscores the importance of meticulous planning, clear communication, and robust monitoring to ensure successful 3PL implementation.

So, the participant's emphasis on timely delivery, efficient tracking, product safety, mission alignment, and customer-centric approaches reflects a growing concern for customer satisfaction and long-term sustainability needs for logistics outsourcing. These resonate with the global trend of prioritizing technological alignment and customer experiences in logistics operations and particularly with the necessity of e-commerce servicing. The study is ultimately explored through the perspective of supply chain managers and resonates with the theme of digital shift, customer centricity, and financial prudence for logistics outsourcing motives. Also, the study holds significance for the policy infrastructure needs to enrich the facilitation.

CONCLUSION

Effective and efficient supply chain management is critical to the success of firms engaging in e-commerce and the logistics capability is crucial for superior firm performance (Cho et al. 2008). 3PL can at the best form of utilization become the ability to the absence of the internal capability. In essence, this narrative study contributes insights into the complex relationship between the 3PL practices and the evolving e-commerce landscape in Nepal. The insights from the experiences of information-rich supply chain professionals reflect the practical challenges and opportunities faced in optimizing logistics operations. The discussions reveal the thematic developments of the data analysis of the data collected from the in-depth interviews of the information-rich participants with the following themes the potential of technological advancements, collaboration, customer-centric approaches, and financially viable resource planning to enhance the synergy between e-commerce and 3PL services. These findings resonate with the cost-saving benefits, technological advancements, and the importance of continuous learning.

The study also emphasizes the need for ongoing knowledge development, strategic infrastructure investments, and the alignment of mission and vision between stakeholders. While limited by the population and sample size, only considering the established e-commerce businesses operating with marketplace modality and employing 3PL alongside the in-house logistics, the study's implications though, are significant with the insights and experiences of the information-rich participants. Further future research avenues could explore stakeholder perspectives, unorganized sectors in e-commerce businesses, and other relevant regulatory frameworks.

The study gives readers a thorough grasp of the crucial elements- such as technological innovations, stakeholder focus, financial prudence, and the significance of ongoing learning, that propel the outsourcing of logistical operations to 3PLs in Nepal. These findings are instrumental in helping industry professionals and businesses make informed decisions regarding their supply chain and logistics strategies. By emphasizing the value of continual knowledge, strategic infrastructure investments, and stakeholder mission and vision alignment, the study also has practical consequences for the industry. These forces can inform policies and strategic decision-making. Beyond the industry and stakeholders, the research contributes to academic knowledge by offering a deeper understanding of prevalent 3PL practices in Nepal in the e-commerce logistics landscape, paving the way for future empirical studies and research avenues.

The digital shift, customer centricity, financial prudence, and importance of continuous learning are the major propellant for the outsourcing needs of logistics function to 3PLs in Nepal, these findings of the study reflect the important variable considerate to understanding Nepal's e-commerce logistics and form a perspective of the supply chain professionals that illuminates on the circuitous reciprocity between 3PL strategies and the distinctive features of Nepal's e-commerce space. Further empirical studies with these considerate variables, will enhance the better understanding of the 3PL practices and optimizations in the logistics landscape.

And, as Nepal's e-commerce sector continues to grow and with the ever-increasing internet penetration and awareness of online shopping, aligning logistics with technology and customer-centric approaches, the industry can pave the way for resilient growth, ultimately contributing to a thriving digital economy. Finally, by addressing prevalent practices, and nuances, informing strategic decisions, contributing with, from, and to academia, and guiding policy formulation, this study serves as a valuable compass for navigating the realm of e-commerce and logistics in Nepal.

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