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Supply Chain Management in B2C E-Commerce: Delineating Managers' Challenges

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Abstract

This study aims to describe the practices and challenges of managing a supply chain of e-commerce in an emerging economy. Studies have acknowledged that e-commerce requires distinct supply chain management; hence, this topic merits further investigation. As e-commerce is still a growing phenomenon in an emerging country, this study employs a phenomenology approach to reveal practitioners' experiences. This study uses a semi-structured interview to extract meaningful experiences from 17 practitioners responsible for managing the flow of e-commerce products. Two main themes emerge from the in-depth interviews: the uniqueness of e-commerce business, especially compared to the conventional one, and the challenges of managing the e-commerce products, particularly in terms of work pressures, level of details, and the way to manage its human resources. This study proposes a preliminary framework of supply chain management and e-commerce business viability based on the findings.

Keywords
E-commerce, Supply chain management, Business viability, Phenomenology, Indonesia

1. Introduction

E-Commerce, or electronic commerce, is mainly buying and selling through the Internet (Golicic et al. 2002, Karagozoglu and Lindell 2004, Macchion et al. 2017). The literature is rich in highlighting the benefits of e-commerce in business (Macchion et al. 2017, ADB 2018). In real practice, many manufacturing companies have shifted to the internet for their channel distribution (Johnson and Wang 2002). Moreover, "brick and mortar" retail stores were pressured to add online services or completely replaced their conventional business model into an e-commerce business (Rigby 2011).

Developed countries did not monopolize this e-commerce phenomenon. In the Asia region nowadays, customers are getting more convenient to shop online. It was increasingly difficult for traditional retailers to engage with customers and persuade them to visit their physical stores. A report by Asian Development Bank (ADB 2018) stated that "Asia is already the world's largest e-commerce marketplace and continues to grow rapidly" (viii), especially in the business-to-consumer (B2C) market.

In this Asia region, Indonesia becomes an emerging economy that stood out due to its proliferating e-commerce sector in the last five years. Among the ASEAN countries (i.e., ten countries that belong to the Association of Southeast Asian Nations), Indonesia has been the biggest e-commerce market. Its online transactions reached USD 20.3 billion in 2018, a 20% increase from the previous year (Kemp and Moey 2019). Damuri et al. (2017) documented that the Indonesian government targeted e-commerce transactions to be USD 130 billion by 2020.

A few factors drove this growing phenomenon, such as economic growth, internet penetration, ICT adoption, and online offerings (Damuri et al. 2017). However, despite this great potential, several problems hinder the growth of the Indonesian e-commerce market. A study by Das et al. (2016) showed that online consumers' main concerns include transaction fraud, security in online payments, and product reliability. In addition to these issues, poor logistics infrastructures make e-commerce challenging to expand to Indonesia's remote areas.

Indeed, e-commerce requires distinct supply chain management (Croom 2005, Ghezzi et al. 2012, Yu et al. 2017). Studies have investigated the barriers to managing e-commerce's products (e.g., Bakker et al. 2008, Karim and Gide 2018, Al-Tit 2020); yet, to the best of our knowledge, studies examining the supply chain practices of e-commerce are still rare. Moreover, as an emerging country with rapid e-commerce growth yet with underdeveloped infrastructures, Indonesia could serve as another platform for studying supply chain integration practices.

This study aims to bridge the gap and reveals the supply chain practices of e-commerce businesses in Indonesia. As the nature of Indonesian e-commerce is still in its infancy, this study will employ a qualitative method to investigate this topic in depth. A qualitative approach is best suited when the related theory is still "immature" (Creswell 2009) and has the advantages of being rich and insightful (Goulding 2005). Moreover, phenomenology research reveals the managers' experiences would be a notable beginning to understanding a phenomenon (Anosike et al. 2012, Pietkiewicz and Smith 2014). Therefore, one pertinent research question will guide this study: How is the experience in managing a supply chain of e-commerce?

1.1 Objectives

This study describes empirical experiences in managing a supply chain of e-commerce. We focus on the supply chain of business-to-customer (B2C) e-commerce due to its rapid growth that reached 60-70% annually since 2014 (ADB 2018). Managing a supply chain of e-commerce in Indonesia is expected to be quite challenging due to this country's poor infrastructures. Yet, with fast-growing demand, this study will enrich the majorly western-based literature. Moreover, this study uses a qualitative method that enquires persons who manage the distributions of goods of e-commerce. Therefore, this study will provide a new perspective on investigating a supply chain phenomenon.

2. Literature Review

This section briefly describes existing studies related to e-commerce and its relation to supply chain management.

2.1 E-Commerce

An early study by Lee and Whang (2002) provided a framework of e-Business, which consists of three applications: e-commerce, e-procurement, and e-collaboration. They argued that e-business, which interlinks supply chain management and the internet, could offer "intelligent and optimization" (3) to the firms that adopt the applications. In this case, e-commerce is a regular transaction, but it emphasizes utilizing the internet to facilitate communication and enable the business (Hajli et al. 2014, Al-Tit 2020). E-Commerce can offer various benefits to organizations, among others, cost reduction (Kaynak et al. 2005, Hajli et al. 2014), flexibility and responsiveness (Macchion et al. 2017), market development (Kaynak et al. 2005, Yu et al. 2017), as well as customer loyalty (Al-Tit 2020).

Despite these benefits, firms also face barriers in pursuing e-commerce initiatives. Previous studies argued that the level of IT maturity in one country plays a role in determining e-commerce adoption (Hajli et al. 2014). The firms' size also supports e-commerce adoption (Caldwell et al. 2013, Hajli et al. 2014, Al-Tit 2020). Aside from these factors, the lack of awareness of the benefits of e-commerce is also a pertinent factor hindering the adoption of e-commerce (Quayle 2002, Hajli et al. 2014).

2.2 Managing a supply chain of e-commerce

The rise of e-business in practice has opened opportunities for supply chain integration (Lee and Whang 2002, Croom 2005). The internet catalyzes better and faster information exchanges and closer coordination among supply chain partners. An exploratory study by Croom (2005) found that e-business adoption serves as a significant enabler for firms in improving firms' procurement, customer relationship management, and order fulfillment.

E-Commerce, a subset of e-Business, provides an interface for orders and communication between buyers and sellers. E-Commerce triggers the activities of supply chain management (Lee and Whang 2002) from the original suppliers to end customers. In an e-commerce business, customers' orders are usually smaller; yet, customers have higher expectations than in a conventional business (Yu et al. 2017). Therefore, this new business landscape puts more pressure on practitioners in managing the supply chain. Through a study of firms in the US, Europe, and Asia-Pacific, Yu and his colleagues (2017) found that logistics performance, supported by applied information technology (IT), played a significant role in the success of e-commerce.

Consequently, supply chain risks are aspects that supply chain practitioners have to face and address in managing e-commerce. A three-year study by Caldwell et al. (2013) identified perceived risks in managing the supply chain of e-commerce and compared the risks of SMEs and large firms. Furthermore, a study by Bakker et al. (2008) argued that internal readiness, such as organizational characteristics, also contributes to the success of managing e-commerce. Two factors become crucial in managing e-commerce; that is, information sharing and coordination (Golicic et al. 2002).

3. Methods

3.1 Research design

This study aims to explore the supply chain management practices of e-commerce in Indonesia. As previously described, the expansion of e-commerce happened just recently in Indonesia, with very few studies examining its supply chain practices in depth. Therefore, this study employs a phenomenology approach as it is robust in profound interpretations of a phenomenon and, subsequently, in building a theory (Goulding 2005, Anosike et al. 2012). Anosike et al. (2012) argued that qualitative research was underutilized in the management literature, despite its virtues.

Furthermore, while proposing the importance of a 'balanced research process,' Melnyk et al. (2017) also encouraged researchers to utilize a qualitative approach and contribute to the literature by explaining a given phenomenon's whys. Therefore, to portray the supply chain management of e-commerce, this study discloses challenges, efforts to overcome, and reasons (the whys) of the managerial actions. The findings would not be exhaustive, but they would serve as a preliminary exploration in building theory.

3.2 Unit of analysis, informants and sampling selection

This study acknowledged that managing a supply chain in the context of e-commerce was quite complicated and broad. Pietkiewicz and Smith (2014) devised the phenomenology approach captures the 'lived' experiences. As a starting point, this study attempted to investigate the phenomenon from the view of the persons responsible for managing its supply chain, aligned with Goulding's (2005) suggestion. For that reason, this person-in-charge (that is, at an individual level) was the analysis unit.

Those were supply chain managers, logistics managers, or if the e-commerce fully outsources its supply chain practices, a 3PL (third party logistics) coordinators. To gain detailed and factual descriptions of managing a supply chain of e-commerce, we set the criteria of informants as follows:
1   The informant was currently in e-commerce business or supporting the supply chain of e-commerce;
2   The informant had been managing the supply chain (or part of it) for at least one year;
3   The role of supply chain management that the informant was in charge of is sourcing (procurement and warehousing) or delivering activities (shipment and transportation) or both (end-to-end).

Due to the lack of a database profiling persons-in-charge of e-commerce's supply chain, we attempted to approach the informant through a snowball sampling technique. This technique was deemed more manageable and justified since these supply chain practitioners typically belong to a circle of similar professions. Therefore, one informant could refer the researcher to another informant in the supply chain area of e-commerce. The researcher used three sources to get the first qualified informants: a colleague, one of the graduate students, and a guest lecturer. The researcher then asked for more contacts from the informants after each interview.

Notwithstanding this convenient approach, the current study still attempted to reach the theoretical saturation, or "the point in data collection when new data no longer brings additional insights to the research questions" (Mack et al. 2005: 5). As such, even though the literature recommended 6-8 informants as a sufficient number for a qualitative study (Pietkiewicz and Smith 2014), we kept progressing with the data collection. This study settled with 17 informants within the given time. Table 1 details the profile of the informants.

4. Data Collection

Before proceeding with the field study, the researcher prepared a protocol for the data collection, comprising a list of questions related to the informants' experiences in managing the supply chain of e-commerce. However, conversations could progress to more discussions to gain a better understanding of the informants' experiences. Table 1 displays the profile of the informants. The list of questions is displayed in the Appendix.

Table 1. Profile of the informants (N=17)

	Number of informants	%
Gender		
Woman	3	17.6
Man	14	82.4
Education		
Master's degree	2	11.8
Bachelor's degree/equal	14	82.4
High school graduate	1 (with more than 15 years of working experience in various companies)	5.8
Position in the Company		
Director/equal	2	11.8
Manager/general manager	12	70.6
Supervisor/equal	3	17.6
Tenure at E-Commerce Industry	1-3 years	
Previous Related Experiences*		
Conventional retail company	6	
Trading/Distribution company	3	
Manufacturing company	9	

Third-party logistics provider	7
Oil and gas company	1
Other e-commerce	6

Note: one informant could have more than one answers

Each interview lasted for 45-90 minutes. The conversation was recorded with the consent of all informants and transcribed for the coding purpose. All but one informant was willing to be recorded. In this case, the researcher relied on the field notes. Since most of the informants' schedule was quite hectic, it was challenging to set up the interview appointments. One informant could not meet face-to-face with the researcher; thus, we set the interview by phone. The conversation lasted for 45 minutes (which was the shortest). The researcher further recorded and transcribed the phone conversation.

4.1 Data analysis

After the transcription process, the researcher analyzed all documents and field notes. The coding process aimed to extract keywords that were related to e-commerce's characteristics, as well as the supply chain practices and challenges. Each informant provided unique experiences; yet, they also presented similarities among themselves. The study analyzed the data using steps suggested by previous studies (Goulding 2005, Anosike et al. 2012):

1   One researcher read all transcripts to gain the whole meanings, as well as to grasp variations of data;
2   The researcher performed data reduction by breaking it into "meaning units"; that is, insights essential in understanding the phenomenon. This study used NVivo 12.0 software package in coding the meaning units;
3   The meaning units were then constructed into statements describing the experience of managing the supply chain of e-commerce products;
4   Statements were compared across transcripts (i.e., across informants) to obtain patterns as well as peculiarities, that is, in this case, odd circumstances experienced by one or a few informants;
5   If necessary, Goulding (2005) recommended researchers to verify the interpretations by returning to the informants for a cross-check and further probing. The researchers did not pursue this last step due to time and schedule constraints.

5. Results and Discussion

This study investigated 17 informants who conformed to the criteria of the study. Before joining e-commerce, all informants have worked in a conventional "brick and mortar" company. Consequently, they often compared their experiences working in both situations while being interviewed.

The next two sub-sections address the research question of the study, that is, describing the experiences of managing a supply chain of e-commerce. Two reliable main themes emerged from exploring the informants. The first one was related to **the uniqueness of e-commerce business**, which then brought to the second theme: **the main challenges in planning and controlling e-commerce products.**

5.1 E-Commerce: a unique business

E-Commerce is perceived by most of the informants as a fast-paced industry, which is different than a conventional business. This study extracted four main characteristics that differentiate e-commerce from a conventional business, that is, the dynamics of e-commerce business, order size, warehousing management, and delivery management.

The conventional industry typically has a long supply chain, where products flow from the producer or manufacturer to distributors, sub-distributors, and finally to retailers that serve the products to end customers. A conventional manufacturer sends its products in one big truck to the retailers' distribution centers (DCs) or warehouses. A third-party logistics (3PL) usually works as a B2B (business to business) partner.

B2C e-commerce, on the other hand, has a relatively short supply chain. Each customer places the orders directly to the e-commerce business. The customers of e-commerce order in pieces, and thus the company receives greatly-varied orders daily. This situation puts pressure on the company to respond to the customized orders and handle the requested

products. The drop size is relatively small, so the competency for those who managed its logistics is quite different. One informant emphasized that,

"The dynamics are different. The logistics are totally different." (Informant A)

Most of the informants had working experiences in supply chain management before joining the current e-commerce company. Thus, they perceived a significant difference between managing the logistics of conventional business and the current one. The informants concurred that they could not use the competency of handling B2B to handle B2C.

Previously, they managed the product sourcing or delivery without having to interact with end customers. The informants who worked at a manufacturing company distribute products to intermediaries (such as distributors or retailers). Whereas those who worked at a conventional retail company deliver products to a hub (such as a distribution center) or the company's retail stores. Therefore, they always dealt with other departments or external parties as their customers. At e-commerce, they served directly to end customers nationwide. As mentioned by one of the informants,

"That was the characteristics [of e-commerce]; in my opinion, we serve the whole community in the country; that is, we serve all people." (Informant J).

The e-commerce products could be originated from manufacturers or imported from overseas. They go into the distribution center (DC), which was owned by e-commerce (called primary distribution), then to the depots (i.e., small warehouses). The products are then distributed to end customers through last-mile delivery using express logistics (a third-party logistics specializing in small packages and short-distance deliveries).

Each day was a different challenge as the managers interacted with varying consumers in various locations with different expectations. One informant mentioned that he could solve one problem with many actions (more explanations in the next sub-section). The consumer expectations or requirements increased each time. That is, if yesterday a 3 to 4-day shipment was sufficient, it became the norm of e-commerce business, and now consumers wanted a 2-day delivery. Soon, consumers demanded an overnight or even a quick shipment at a low price.

This dynamic made managing the supply chain harder than that of the conventional business; however, three informants perceived this as exciting. The excitement was not merely due to the freedom of physical appearances (more precisely: work outfit) and the flexibility of working hours, but also spring from an ample room for learning and improvements.

"So, it is more fun, more challenging, because in the e-commerce industry, we as operations [managers], always think of ways to innovate to make customers satisfied, in terms of time [receiving the product] and shopping convenience." (Informant K).

Based on the interview, e-commerce typically owns and manages its warehouse, unlike the conventional companies opted to outsource this activity. The informants considered warehousing and distribution management as their critical success factors. Quite often, the nature of e-commerce's business forces it to acquire its couriers (or express delivery services). For example, an e-commerce company from China, for which an informant (Informant D) was currently working, aggressively expanded its business in Indonesia. The company managed three warehouses two years ago and opened eight more warehouses throughout big cities in Indonesia. Recently, it also acquired its courier service to deliver its products. It was such a significant investment, which was usually avoided by traditional companies. Nevertheless, e-commerce considered it pertinent to have its express delivery to maintain its service level to its consumers.

In summary, Table 2 displays the differences between e-commerce and "brick and mortar" companies perceived by the informants.

Table 2. Differences between e-commerce and conventional companies

	E-commerce	**Conventional**
Dynamics	Faster pace	Slower pace
Order size	Small volumes: in pieces	Larger volumes
Warehouse	Preferably managed in-house	Preferably outsourced

Delivery	Preferably managed using its own express logistics service or build a strategic partnership with 3PLs	Preferably outsourced

5.2 The experiences and challenges

Hectic working condition
Most informants generally agreed that working in an e-commerce business was intense. Since e-commerce companies in Indonesia were mostly a start-up, the companies had so many deadlines to meet, and these forced the employees to work very hard and fast.

> "The working situation... well, it's a typical start-up, so many pressures... full of deadlines as well. Because [the company's] capital was from the investors, they want to rush the capital back, so the jobs are like somersaulting, especially at AA [e-commerce where he worked previously]. I was there from January to April, it was going to 'live' [i.e., event launching], I used to come home at 2 or 3 am. The work was heavily imposed on us." (Informant D)

> "So we move from day to day. In the prior [conventional] company that I worked for, we could do scheduling, had regular and relaxed meetings, saw the problems, the charts, and whatnot. Here [at e-commerce] it is impossible. If today we anticipate one big problem, tomorrow we would have other new problems or new challenges." (Informant P)

Another informant, Informant Q, mentioned that the working hour is twenty-four hours a day.

> "So, one night, I was called related to an issue of the shipping process. It means we have to be ready. Yes, I have to monitor all logistics partners to ensure that everything is set. What is the goal? The customers are happy, they will shop again at our store, and they will become our loyal customers." (Informant Q)

The devil is in detail
Aside from the hectic working condition, the informants also mentioned that they need to work in detail because e-commerce deals with more SKUs than a conventional business.

> "At e-commerce, [we] are demanded to cover everything in detail." (Informant L)

> "[The most crucial is] the picking and packing [of sold items]. That is why most women [do the packing] because they are more conscientious." (Informant B)

Informant B reaffirmed that employees have to work thoroughly in e-commerce logistics since there were three problems that he always encountered. That is, (1) wrong products, (2) too much quantity by mistake; and (3) too little quantity by mistake. He manages more than 50,000 (fifty thousand) SKUs in his warehouse and supervises daily workers.

It is essential to have an excellent warehousing system (GWS) in place. It does not have to be a high technology-based GWS--even though it would be an excellent enabler--but more importantly is the system itself. One of the informants recalled that the company where he worked is a start-up. Therefore, he set up an information system in the warehouse, redesigned the distribution network to ensure faster lead time, and installed a tracking system for the return shipment. When he started, he relied mostly on manual, paper-based systems. Along the time, the company was able to upgrade the systems into more sophisticated IT-based systems.

Innovate or die
During conversations concerning the managers' challenges, another sub-theme emerged. Seven informants underlined the significance of maintaining service quality and constant improvements. One of the informants (Informant N) clarified that good quality means two things: firstly, product quality. The products have to be original (not imitations or knock-off products) and accurate as of the company website's description—secondly, service quality. The service comprises delivery service (which has to be reliable and fast) and support service (which has to be responsive). Informant N warned,

> "When e-commerce does not have a good quality of product and delivery, it would be left by its customers."

However, merely maintaining this was not enough. Most informants agreed that other competitors beat them whenever they were satisfied with the current service level by offering a better service. That happened quite fast and often, which makes the e-commerce competition more intense and severe. The managers acknowledged that they had to be alert all the time and continuously improved their service.

People is the most challenge
Interestingly, the most challenging issue that the managers encountered in e-commerce was managing workers and retaining them. One of the informants indicated that he barely faced problems associated with systems and information technology. Instead, even though he was responsible for managing the product flow, the issues he had to solve were human problems. Another informant seconded that perception,

> "[There are] many challenges, especially the character of the persons. The most difficult thing is managing people as compared to managing the products. If we put the items there, it's done. But with the people, they are rather difficult, the characters of the people are different. Some are diligent, lazy, meticulous, careless. A lot [of employees] is like that, so it is indeed difficult to manage people. Well, that is our function to control. So, do not just give them tasks and consider it is done. But we control risk, the result, these are what we must control." (Informant I)

> "The challenge is to maintain the logistics people. A logistics officer works for 24 hours. We are contacted at any time by a logistics partner (i.e., 3PL). They would tell us that there is a problem with the package they sent: unclear address, unavailable customer, unanswered phone call. We must stand by. We have to stand by all the time." (Informant Q)

The hectic working condition was one of the factors that made managing people hard. The turn-over rate in the industry was high, while there is also hijacking practice among e-commerce companies. As managers, the informants indicated that they had to motivate their subordinates and build good teamwork. One key was to create good leadership to have a good team. Furthermore, most informants agreed that close monitoring and evaluation were pertinent in managing their team.
> "We must be good at managing the people [even though our main job is delivering the products]." (Informant B)

To summarize, the nature of the B2C e-commerce industry creates working pressure (because the informants have to conform to the deadlines) and requires a high level of details that the informants have to handle. In their experiences, managing people is the biggest challenge that they encounter.

5.3 Implications for theory

In their grounded theory paper, Golicic et al. (2002) reveal the nature of the e-commerce industry: speed, information visibility, connectivity, and uncertainty. These characteristics apply to the Indonesian e-commerce business. The rate of change in this industry is quite fast that the Golicic et al. illustrate as "moving at 150 miles an hour" while the conventional business only "moving 20 miles an hour" (857). Similarly, in our study, one informant mentions,
> "[E]-commerce is in the far-right line, which is the fastest lane." (Informant P)

This kind of vibe requires the managers to make quick decisions, not only reactively but also proactively. Often time, without sufficient information or data. In a conventional business, managers could discuss problems in a monthly meeting. Whereas, in the e-commerce business, they have to solve the issues right away and monitor the progress daily, if not hourly. The manager has to stay alert, learn fast, and make improvements. Indeed, managing the supply chain of e-commerce is perceived as more complex than that of a conventional business, as previously argued by Yu et al. (2017).

The informants highlight the importance of solving problems and making successive continuous improvements to prevent recurring issues as they realize the intense competition in the online retail industry. This competition is also one characteristic defining e-commerce (e.g., Golicic et al. 2002, Karagozoglu and Lindell 2004, Dubelaar et al. 2005, Torres et al. 2014). In our study, the informants raise two main supply-chain-related factors for e-commerce's success, that is, original products and fast and accurate delivery. Authentic products could be of a concern since Indonesia is still abundant with counterfeit products or imitations. Therefore, it is imperative to secure consumers' trust with the authentic. As such, managers need to source products from credible suppliers.

Outsourcing is another issue in managing the logistics of e-commerce. Theoretically, outsourcing is vital for e-commerce to lessen the investment; yet, previous research also acknowledges the problems associated with satisfying customers' requirements (Yu et al. 2017). Our informants second that argument. They bring up the complications of fulfilling customer orders when coordinating with third parties, both warehouse providers and express-logistics providers.

Furthermore, significant challenges emerge when e-commerce outsources the logistics activities to 3PLs. An informant, whose e-commerce outsources its logistics activities, mentions his difficulties in delivering the products in a very tight allocated lead time. The company has to "share" its product shipment with its competitors, especially during the Indonesian big and famous online sale (November 11th and December 12th).

The fast-delivery requirement of end customers, coupled with limited resources, toughens the responsibility of managing the flow of e-commerce products. From their experiences, the informants argue that information sharing and tight coordination are crucial to successfully managing the supply chain, aligned with previous studies (Golicic et al. 2002, Dubelaar et al. 2005). A good partnership with external logistics partners is also a must (Ta et al. 2015), more so in the e-commerce business than in the conventional ones. One informant reports collaboration practice among the warehouses in his company and also with other online retailers. Leadership was one of the significant factors that made a company collaborate with its supply chain partners, which aligned with Yunus and Kurniawan's (2015) study.

Interestingly, no informant mentions information technology (IT) capability as a problem. The company where they work has a dedicated IT team and thus dependably solve any IT issues. An informant even boasts no logistical issue within his area of work due to the sophisticated and robust IT system. The only challenge he faces is mainly human resource issues. Other informants also feel that the human resources aspect is the most challenging to manage. Nevertheless, most informants could offer a solution to manage human resources: building good teamwork and monitoring and evaluation.

When we dig deeper into the literature, there are mixed results regarding the importance of logistics capability as an e-commerce strategy. Ricker and Kalakota (1999) and Ghezzi et al. (2012) argue that logistics superiority is the key to the viability of e-commerce. Cho et al. (2008) further provide evidence of a positive relationship between logistics capability and e-commerce performance. The findings conflict with those of Karagozoglu and Lindell (2004) and Torres et al. (2014). Their studies assert that logistics capability, which brings cost differentiation to the market, does not correlate significantly with e-commerce performance. On the other hand, innovation advantage is the crucial facet that defines the success of e-commerce (Torres et al. 2014).

Reflecting on these previous findings and pondering the informants' interpretations of the current study, we infer that logistics capabilities are no longer sufficient in today's fierce competition. Logistics performance, which once was an order winner, might become a qualifier (Hill 2000), which only guarantees a company to enter the market, but not necessarily warrants its success. Our findings support this notion.

Finally, this study proposes a framework to portray all linkages as well as synthesize all the findings, as depicted in Figure 1. The framework presents the overall picture of codes or meaning units from the informants. It is still preliminary and speculative; therefore, it provides valuable opportunities for future studies for validation.

As highlighted by all informants, customer satisfaction is the primary goal of managing e-commerce. Managers accomplish excellence in two facets: the products and delivery services. The products have to be original, which result from good sourcing practice; whereas, the deliveries have to be fast and accurate. Three good practices derive three latter facets:
    a.   close monitoring and evaluation, particularly in managing the team;
    b.   win-win partnership, particularly when the company has limited resources and thus outsources the warehousing and delivering activities;
    c.   reliable and robust information technology (IT) system served as an enabler.
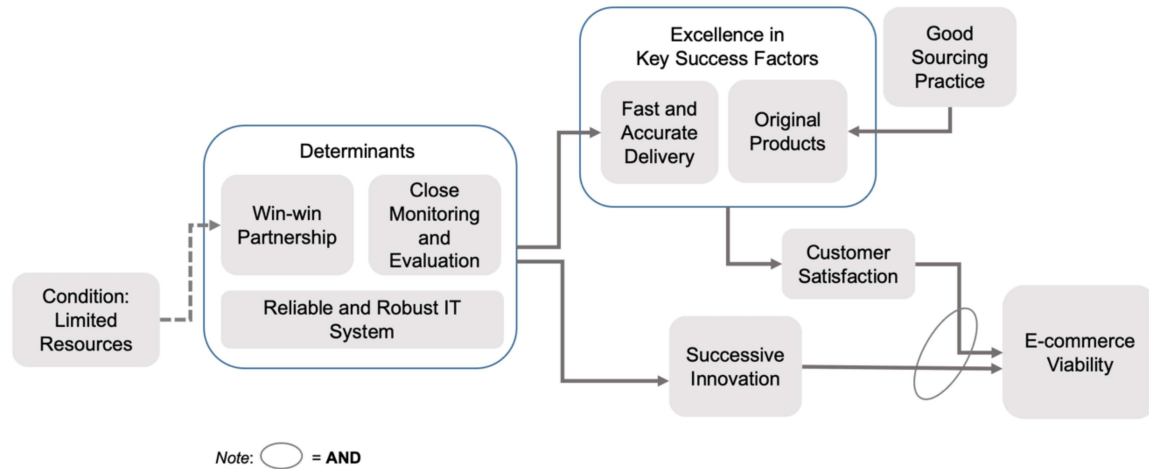
Figure 1. Theoretical framework for managing a supply chain of e-commerce

The implementation of close monitoring and evaluation, which is once pressurized by the necessity to manage subordinates, triggers actions to overcome problems. The works are not only reactively, but also proactively as to prevent subsequent problems. This turn of events pushes the managers to create significant improvements, which sustain the e-commerce company in the intense competition.

5.4 Implications for practice
This study provides empirical evidence of the life of managing a supply chain of e-commerce. The supply chain is an essential aspect of e-commerce, as one of the informant captions,

"Good e-commerce reflects good logistics. Excellent logistic management defines e-commerce itself" (Informant Q).

Operations managers who are in charge of sourcing and delivering products are the soul of online retail. They deal directly with end customers and contribute positively to customer satisfaction by fulfilling their service level. Several recommendations could be extracted from the study for managers. That is:
1) practicing good sourcing management (i.e., getting the products from the right sources);
2) engaging in good collaboration with 3PLs; and
3) building good teamwork within the company. In e-commerce, continuous monitoring is pertinent to get the work done as fast as possible. This study encourages managers to find the root cause of a problem and implement the solution right away, with constant evaluation and further improvement.

5.5 Limitation of the study

This study has a limitation. As this study uses a phenomenology approach, the number of informants is justifiable since the researcher could deeply investigate the informants' experiences in managing the e-commerce supply chain. Nevertheless, the interviews are conducted once with each informant; therefore, the information is still limited and should be elaborated by future studies.

6. Conclusion

This study reveals the practices and challenges of managing the supply chain of e-commerce in Indonesia. The ways of managing e-commerce logistics are essentially different from the traditional ones. Therefore, managers need some guidance from hands-on experience. The findings could enrich the management literature, specifically in supply chain management, and enhance the understanding of managers who are currently working or willing to join e-commerce. This study contributes to the literature by illuminating hands-on experiences in e-commerce and providing a fresh approach to investigating this growing phenomenon.

Furthermore, this study provides a framework that captures themes and codes obtained from the informants. The verification of the framework is beyond this research scope since phenomenology research does not require a framework to present findings. The proposed framework could be a starting point for future research to resume an e-commerce examination and apply it to other contexts or populations. Therefore, we encourage other scholars to validate the findings.

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Appendix

List of Questions

1. How long have you been managing the firm's supply chain?
2. What specifically are your responsibilities?
3. Could you please describe your tasks and daily activities?
4. What challenges that you encounter along the line?
5. How do you resolve the problems or challenges?
6. What are your performance indicator?
7. Have you had an experience managing other firms' supply chain, especially the conventional ones?
8. Do you face similarities? What are the major differences?
9. What do you think is the key success factors in managing the supply chain of the e-commerce?

Biography

Erlinda Nusron Yunus is an assistant professor of Operations Management at Sekolah Tinggi Manajemen PPM. She was the coordinator of Center of Innovation and Collaboration and the coordinator of Research Center and Case Clearing House at Sekolah Tinggi Manajemen PPM. She received her Ph.D. in supply chain management from Southern Illinois University at Carbondale, IL, USA. She had published her research in many journals, particularly in the areas of supply chain management, operations management, and innovation management.

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