Indonesian Journal of Business Analytics (IJBA)
Vol.3, No.4, 2023: 1043-1066

The Business Process of Selling Ready Stock and Pre Order Items through E-Commerce System : an Indonesian SME Case Study

Retnaning Ayu Dyah Sawitri[1]*, Jaswadi[2], Andi Kusuma Indrawan[3]
Politeknik Negeri Malang
Corresponding Author: Retnaning Ayu Dyah Sawitri ayudyah.98@gmail.com

A R T I C L E I N F O

Keywords: Accounting Information System, E-commerce, Business Process Modelling

Received : 9, June
Revised : 14, July
Accepted: 19, August

A B S T R A C T

The purpose of this study is to offer efficient business process modeling to overcome the problem in the sales quotation section of the sales cycle of pre-order by requesting products and the problem in the sales order section for sales cycle of ready-stock and pre-orders products by requesting products. The method used was qualitative, with direct observation of the fashion business object of the Sakinah_id MSME. The study results showed that an e-commerce system was needed to facilitate electronic form features by request and separate sales order menus for ready and by request products. This form feature makes it easier for buyers to describe products according to requests and connect with the designer system. Based on the very short time gap from submitting the form, so that sales quotes can be followed up on promptly. The existence of an effective sales quotation provides a profitable domino effect in the next stage, namely that many prospective buyers agree and decide to place a sales order. Then the separation of the sales order menu for ready and pre-order products is needed because the handling of the two products is different, and pre-orders must start from the sales quotation stage, while ready products start from the sales order stage. This separation makes it easier and faster for employees to divide work through clear departmental boundaries for two products at the shipping stage, recording cash receipts, and scheduling special pre-order production.

DOI: https://doi.org/10.55927/ijba.v3i4.4850
ISSN-E: 2808-0718
https://journal.yp3a.org/index.php/ijba

INTRODUCTION

There has been a revolution in the treatment of the accounting process along with the development and use of information technology in the contemporary world (Wilkinson & Cerullo, 1997). At this stage, the accounting field is greatly influenced by the use of information technology, so the Accounting Information System (AIS) is certainly more efficient. As stated by Orf (2012), an integrated accounting system is a system that allows the combination of various accounting (financial accounting, management accounting), operating mechanisms, and decision mechanisms by enabling the multi-dimensional inclusion of economic events (purchases, production, and sales). Evidenced by the growing trend of e-business, which is the transformation of the main business processes through the use of technology that influences the development of buying and selling transactions through e-commerce (Chaffey, 2002). The presence of e-commerce, which is part of e-business and facilitates online business transactions, indicates that AIS has an important role in controlling all business activities at the consequence stage of each alternative action used in decision-making. So that there is an increase in complex business practices, resulting in requests to effectively manage cross-functional processes (Osinowo, 2018). This environment forces companies, especially SMEs, to be innovative and constantly review their processes and practices to survive in the market (Bahri et al., 2011).

A competitive and innovative business environment has been evident in the last few decades for the fast-growing convection business in Indonesia, in line with public awareness of fashion, which has become part of the lifestyle (Haryono et al., 2016; Permata et al., 2016). Communities tend to have a high level of consumption of apparel, so the need to provide apparel commodities is both a demand and an opportunity (Haryono et al., 2016). Especially the e-commerce system makes business transactions easier and expands the global market scope so that regional boundaries are not an obstacle. According to research initiated by the Indonesian E-commerce Association (idEA), Google Indonesia, and TNS (Taylor Nelson Sofres) (Erlangga, 2014), fashion products continue to dominate the online market as the most frequently purchased products. It can be said that not only in the real world but also in cyberspace, business competition is increasingly lively, thus creating a very competitive climate (Andriyanto, 2018). All things considered, to support the smooth running of a trading business transaction, a sales cycle is needed that is able to manage two main subsystems in real time, namely the sales order processing subsystem and the cash receipts subsystem (Hall, 2011). Especially in sales cycles that are more complex by processing sales on credit.

In general, the sales cycle begins with an order by the buyer, followed by procedures for receiving and processing customer orders (sales orders), billing, receiving and calculating payments (receive payment), filling orders and sending products (receive products), handling return transactions, and preparing sales reports (Hall, 2011). However, the presence of pre-orders based on buyer requests in the convection business has an inefficient sales cycle when done in cyberspace, namely in the sales quotation section. Because it can lead to

long interactions with customers to get information (Monk & Wagner, 2013), it causes sales orders to not be processed immediately. It impacts delaying the next stages in the sales cycle, especially production processes that cannot be done immediately. Because product stock is not yet available, coordination with the production system is needed to adjust the buyer's request model and must consider the condition of the availability of the type and color of fabric that the buyer wants in the seller's warehouse. Like the sale of products based on orders in general, range problems occur in pre-sales with incorrect pricing, excessive calls to customers for information, and the impact on order processing delays, missed delivery dates, and so on (Monk & Wagner, 2013).

One of the MSMEs that has problems with its sales system is Sakinah_id. Engaged in the fashion industry, namely the manufacture of clothing, and ready stock Muslim clothing and pre-order by request for children and adults. Inefficiencies occur in the pre-sales stage of pre-ordered products because the interaction time via WhatsApp or Instagram direct messages between buyers and admins is long enough to find out the data on the clothing model the buyer wants. Besides that, the data information received by the admin is sent to the designer for determining the selling price and processing offers. Then the offer letter is submitted to the admin to inform the buyer that an offer has been submitted. At this stage, it is clear that there is a double delivery of information, where the buyer sends product data information to the admin to be forwarded to the designer. Nevertheless, it takes a long time for the buyer to wait, so it can influence the buyer's decision to reject the offer and not continue the sale order. Ready products do not require a sales quotation, and the buyer can carry out the ordering process immediately. Besides that, the stages of pre-order and ready-stock product sales orders have different packaging periods, but in implementation they use the same media, namely WhatsApp and direct messages. This condition certainly affected the process flow of the sale quotation and sale order products for pre-orders and sales orders for ready products, which did not go well. Impact the delay in the delivery of information on other parts that require data access. Therefore, designing a business process to handle these problems is necessary.

To overcome obstacles, it is necessary to design a system that makes it easy for users and improves the quality of their job through modeling business processes. For this to happen, computerized accounting technology requires detailed knowledge of business operations and must work closely with SME owners or managers (Ichdar et al., 2022). Such a system must carry out technically efficient work with user satisfaction as the primary concern (Hirschheim & Klein, 1994). The convergence of rapid business developments and the challenges of digitalization are causing organizations to seek approaches that emphasize service orientation and business operations to achieve organizational responsiveness (Deloitte, 2018; KPMG Insights, 2019). So that the right business process is needed by a company because it is a bridge between business and information technology (Ningtiyas et al., 2018). Effective and efficient business processes automatically improve the quality of the organization's accounting information system (AIS) (Mudjahidin, 2004), in

assisting decision-making and planning, implementing, and controlling activities. So that product sales business process modeling is required by using business process management (BPM).

Several studies have shown the application of Business Process Management (BPM) to executing and managing sales plans by changing manual processes to digital ones. The standard procedure for controlling or managing sales implementation results in time efficiency and operational cost efficiency (Ningtiyas et al., 2018). The modeling results can be a tool to identify system requirements and business processes for sales transactions at Erni Karawang Stores to improve and increase service effectiveness and efficiency (Setiyani et al., 2022). However, few studies have been found that model business processes for the sale of pre-order products as clearly as in Sakinah_id SMEs. So that it is necessary to model business processes to overcome inefficiencies in the sales quotation and sales order stages of the sales cycle of pre-orders and ready stock, which are objects. Therefore, this study aims to describe the design of business processes for the sales cycle of pre-order and ready-stock products using business process management (BPM) to overcome problems that occur in Sakinah_id.

THEORETICAL REVIEW

1. Accounting Information System for SMEs

Researchers observed the practice of recording business accounting in microbusinesses over a certain period of time. Hall (2007) noted that the manual process model is the oldest traditional form of accounting information system and is still used by many small businesses. A growing body of literature has investigated that manual accounting records in small and medium enterprises in a number of countries are still used simply, namely by single entry, both recording sales and expenditure information (Ademola et al., 2012; Chelimo & Sopia, 2014). Meanwhile, MSMEs in Indonesia mostly use manual accounting records that are incomplete and not in accordance with existing standards (Andarsari & Dura, 2018; Coram, 2018; Sari, 2013).

There has been a revolution in the treatment of accounting information systems and IT development and use in the contemporary world. Initially, the manual accounting recording system was known to use tools such as pencils, paper, and even machines such as typewriters and calculators, but with the influence of IT, the use of computer-based information systems to achieve information processing actions to be able to produce information in a short time has increased (Francis, 2017; Stiglitz, 2017). Automatically, there is an increasing awareness of the role of strategic IT installations in SIA, especially in terms of giving competitive advantage to its facilities and simplifying accounting records to be faster and more efficient (Hamdan, 2012).

Because, in general, the accounting recording system is not implemented properly in many MSMEs, so automatic technology-based accounting records are still rarely found in MSMEs. In contrast to the studies previously described,

Fagbemi & Olaoye (2016) showed that when an accounting information system (AIS) has been affected by the use of IT, it turns out that small and medium enterprises in Nigeria have gradually taken advantage of information technology, which can increase their competitive advantage. In addition, a positive relationship was found between using AIS and business growth, such as increased sales and customers (Esmeray, 2016). In a study in Malaysia, participants who used an accounting information system agreed that it facilitated their company's financial and accounting management, positively impacting their business (Ahammed, 2019). It can be seen that the performance of small businesses that use SIA is better than that of businesses that do not use AIS.

However, it was found that many SMEs in Tanzania consider AISs to be expensive due to the cost of installing and operating them (Mwakujonga & Bwana, 2013). MSMEs, which are medium- to lower-scale businesses, must be careful when adopting an automated AIS if they do not want to experience losses considering their limited capital (Achadiyah, 2019). To facilitate and lead to the desired results as a basis for decision-making, it must be in accordance with the elements of technology acceptance in TAM, which pay attention to the perception of usefulness and convenience of technology to increase acceptance and use of technology by its users (Gresty, 2013; Mbatha, 2013).

2. Adoption of e-commerce by SMEs

Not only in developed countries, globalization, the emergence of information and communication technology, and e-commerce have changed the economic reality of developing countries (Ghobakhloo, Hong, & Standing, 2015). In the last decade, there has been an increase in the participation of SMEs in e-commerce, especially with the commercial use of the internet. SMEs can benefit from using the Internet (Daniel, 2003; Daniel & Wilson, 2002; Martin & Matlay, 2001; Poon & Jevons, 2017). Some SMEs have started to market their products and services online, and some have started moving into international markets using internet capabilities (Hashim, 2012). Despite this enthusiasm, a significant number of SMEs have yet to adopt e-commerce, especially those involving websites with online transactions. Indeed, several studies showed that the number of SMEs trading online is declining (Brown & Lockett, 2004; Pool et al., 2006). But in COVID-19, as a whole aspect of life, there has been a significant shift in the role of e-commerce (Tran, 2021). That shift has created a need for businesses to change their business models and adopt e-commerce. Similarly, the e-commerce literature shows that the use of e-commerce, even in SMEs, has led to increased company performance in sales, internal processes, improved customer/supplier relationships, increased efficiency of information sharing, and transactional efficiency (Ghobakhloo & Tang, 2013).

3. Accounting Information Systems in E-commerce

A number of studies have postulated the convergence of accounting information systems in e-commerce through the use of e-business technology that is currently developing. Several businesses and online activities integrated

accounting into information technology after the passing of the era of total quality and reengineering. Now is the time for AIS to adopt IT in the electronic era, which is marked by the proliferation of business activities including e-business, e-commerce, e-economy, e-university, e-government, e-entertainment, e-service, and many other similar terms (Manik, 2018).

The presence of e-commerce today is a form of transformation of main business processes by applying technology towards automation of business transactions and workflows, so accounting information systems have an important role in controlling all business activities of an organization or company at the stage of analyzing the consequences of each alternative action used in decision-making (Manik, 2018). In accelerating the use of an information technology-based financial accounting recording system in e-commerce, e-commerce stakeholders provide features that are easily understood by e-commerce users as well as supporting facility conditions such as the availability of complete bank accounts and bank counters. as well as automatic cash-in and cash-out counters on e-commerce accounting information systems. E-commerce players view that using an accounting information system in e-commerce will increase their motivation to shop online, and online buying and selling activities are carried out quickly (Nuryahya et al., 2019).

E-commerce, when backed up by an accounting information system, broadens the sales scale, making transactions easier to process, and can have an impact on the effectiveness of financial performance, making it easier for MSMEs to obtain profit or loss information and other information that can be used to make a decision (Yuscintara & Hendrani, 2022). This positively influences financial performance, for e-commerce and accounting information systems to maximize earnings and positively impact financial performance.

4. Business Process

Most of the literature on the definition of business processes has appeared since the 1990s, many authors have described the definition of business processes according to their own version but with the same meaning, namely trying to direct business processes in a certain direction and highlight certain aspects. Most researchers use the concepts of activities, sequences, inputs, and outputs to describe business processes. Havey (2005) defined business processes simply as stepwise rules specifically for solving business problems. Other leading definitions consider business processes from a different perspective, where business processes are said to consist of elements related to processing inputs, the process itself, transformation of inputs or workflows, human and computerized resources, and outputs (Agerfalk, Goldkuhl, & Cronholm, 1999; Becker, Kugeler, & Rosemann, 2003; Fan, 2001; Lonchamp, 1993; Saxena, 1996).

This proves that most of the definitions have similar meanings. The significant difference lies in emphasizing certain aspects of the business process. Agerfalk et al., (1999), for example, focus on the need for activities to be organized and structured in a certain way within business processes.

Castellanos, Casati, Dayal, & Shan (2004), Fan (2001) outlined the goal orientation of business processes. Davenport & Short (1990), Gunasekaran & Kobu, (2002), Hammer & Champy (1993) defined business processes as more customer-oriented, while Irani et al., (2002) shifted the focus to the need for clear inputs and outputs. Völkner & Werners (2000) argued that there is no generally accepted definition of the term business process due to the fact that business processes have been under discussion in theory in a number of different disciplines. Despite many different definitions, four main features of any business process can be identified:

1. Certain inputs can be specified
2. A clearly defined set of tasks or activities carried out in a certain order
3. Computerized and human resources
4. Certain results or results that create a certain value for customers

5. The Relationship of Business Process Modeling to E-Commerce

E-commerce is said to replace traditional ways people do business by buying and selling. Because e-commerce is part of e-business, which is the main business process transformation through the use of internet technology (Chaffey, 2002) it will certainly affect changes in business processes. Interestingly, business process change is seen as a prerequisite for e-business implementation, but many businesses have failed to benefit from the transformation from a business process point of view. This view is also supported by Sweet (2001) who identified business process restructuring as one of the main concerns of companies when implementing e-business. It is, therefore important that the improvements offered by business process change are valid and sustainable for e-business.

Guidelines are needed to manage change and adapt their business processes to address changes in demand patterns and the responsiveness required. Yen & Ng (2001) argued that changing a company to take advantage of e-business requires changing business processes. The move to e-business should be evaluated not only in terms of visible structural improvements but also in terms of actual performance improvements. In the field of process modeling, it is known that simulation has been applied as a technique to predict the outcome of changes in the way business processes operate (Hlupic & Robinson, 1998; Giaglis & Paul, 1996; Tumay, 1996). An approach to business process modeling is required to select the best reconfiguration of current business processes to deal with these changes effectively and efficiently when implementing e-commerce.

METHODOLOGY

This study used a qualitative method with a case study approach to the business process design of an object that has problems with the previously implemented business processes. The qualitative method is considered to be more useful for identifying problems broadly, it was chosen because this method's perspective on reality is holistic (one unit), dynamic, and not separated into research variables (Sugiyono, 2019). The object set was

Sakinah_id, which was engaged in the Muslim clothing convection fashion industry with a focus on the problem of inefficient business processes in the sales cycle section.

The sources of data needed to support this research used primary and secondary data. Primary data were obtained from field observations of Sakinah SMEs and interviews with employees directly involved in the sales cycle. Understanding and identifying the existing business process flow from pre-order and ready stock sales, what operations were carried out, and the parties involved, were done during direct observation. Checking order chat transactions between the admin and buyer sections was also carried out. Then, secondary data was obtained through literature studies obtained from the internet, journal articles, and books related to business process management, as well as document files belonging to Sakinah SMEs, namely product request data from buyers, product sales reports by request, and sales memos. Meanwhile, business process management material was needed to make it easier to model business processes using BPMN.

RESULTS

The sales cycle at Sakinah_id was divided into two parts, namely the sale of ready-to-ship and pre-order by request products, so that the production team was also divided into two parts. The stages of selling ready-to-ship and pre-order products had different packaging times that require different handling. However, the sales media used were only WhatsApp chat and Instagram direct messages. The sale of pre-ordered products involved coordination with production. It began with interaction between the admin and the buyer to obtain information on the product model data that the buyer wanted. Based on this data, it was sent to the designer to set a sales quotation (related to specifications for the type and color of fabric, clothing size, quantity, and price). Sales quotations were submitted to the admin to inform the buyer as a form of price quote. If the buyer agreed, proceed with placing a sales order, which will be processed by the admin by informing them of the total payment that had been subject to shipping costs, a down payment of 30% of the product price to be paid, and the payment account number. The buyer made a down payment as proof determined by the seller of the buyer's seriousness in ordering.

Furthermore, proof of the transaction sent to the admin will be checked; if appropriate, a down payment record of 30% will be made, and a record of 70% of the buyer's receivables will be submitted to the accounting department. Then a data form for the clothing model was created to be submitted to the design department. Furthermore, the production department can enter the queue on the production list, and the production process scheduling can be designed. If the buyer still had not set the desired model, then a sales quotation cannot be made. Thus, consulting services must be carried out first through the admin. Then the information was sent to the designer for input on a suitable model. Information from the designer will be sent to the buyer by the admin. The following is presented in Figure 1: the business process of ordering pre-order products to clarify the descriptions described.

While ready-to-use products certainly had sales stages that were not complex, the packaging period was relatively shorter because of the stock that was already available. If there was a buyer's order, there was no need to coordinate with the design and production departments. So that the initial stage was a buyer's order based on the list of available products, the admin will process the buyer's order and inform the seller of the selling price and personal data form. Then the buyer filled in the personal data and address and sent it back to the admin. The admin will set the total product price after adding shipping costs and informing the buyer along with the bank account number. Then, the buyer can make payments in full and send proof of the transaction to the administrator. The admin will check, and if it was appropriate, a sales note was made in duplicate, with one copy given to the accounting department for recording cash receipts and a second copy given to the packaging department to package the product according to the written specifications and submitted it to the expedition service. The following is presented in Figure 2: the business process of ordering ready-stock products to clarify the descriptions described.

While ready-to-use products certainly had sales stages that were not complex, the packaging period was relatively shorter because of the stock that was already available. If there was a buyer's order, there was no need to coordinate with the design and production departments. So that the initial stage was a buyer's order based on the list of available products, the admin will process the buyer's order and inform the seller of the selling price and personal data form. Then the buyer filled in the personal data and address and sent it back to the admin. The admin will set the total product price after adding shipping costs and informing the buyer along with the bank account number. Then, the buyer can make payments in full and send proof of the transaction to the administrator. The admin will check, and if it was appropriate, a sales note was made in duplicate, with one copy given to the accounting department for recording cash receipts and a second copy given to the packaging department to package the product according to the written specifications and submitted it to the expedition service. The following is presented in Figure 2: the business process of ordering ready-stock products to clarify the descriptions described.

This ineffectiveness occurs because there is no separation of sales order media for two products with different characteristics and handling. By still using WhatsApp and Instagram direct messages, the delivery of sales quotations and receipt of buyer orders are not optimal in processing buyer transactions, taking into account the number of incoming message notifications, which range in total from 250 notifications from the sales order media used. Especially in the pre-sales section of pre-order products, there is double information delivery, namely, the buyer sends information on the description of the desired clothing model to the admin, then the admin forwards it to the designer to make a sales quotation. As a result, the pre-sales process becomes ineffective, and sending sales bids to customers takes longer. Furthermore, there are occasions when the buyer demands consultancy services, which impacts sales estimates that the designer cannot generate, causing the process to take longer. Besides, the delivery of information on the sale of pre-order

products to the accounting department for recording down payment and accounts receivable as well as the designer's department for production scheduling cannot be done in a timely manner because there are many incoming message notifications as well as a lot of work being done by the admin, most of which is still being done manually. Then, the delivery of information on the sale of ready products to the accounting department for recording cash and the packaging department also experienced delays. In this condition, the performance of the accounting, production, and packaging departments cannot be optimal in carrying out their functions and responsibilities, so the time for packing ready stock and pre-ordering products based on buyer requests cannot be handled with good time management. If proper preventive measures are not taken, it will certainly have an impact on the overall operational performance. Because the accounting department cannot record and update the amount of cash received, the position of accounts receivable to be billed to buyers, income from ready-stock and pre-order products, and sales of products that are most desirable to less desirable.

The quality of the resulting accounting information is not ideal and influences bad decision-making. Because the characteristics of the quality of ideal accounting information include being timely, accurate, and complete (Romney & Steinbart, 2015). Additionally, the production department of pre-order products could not properly manage the production scheduling of pre-order products, so pattern setting and fabric cutting could not be done. Also, the handling of pre-order products takes longer and can even cause production overload. Because the maximum production capacity per day can accommodate around 30–50 product orders with a total production team of 28 people who already have their respective job divisions. Then the packaging process also could not be carried out immediately by the packaging department, so the process of sending goods was not in accordance with the estimates set. Sales business processes that still rely on social media and WhatsApp and manually applied AIS make it difficult for buyers to place orders. The buyer cannot immediately make a payment because it depends on the response from the admin serving the notification of the previous buyer's message. This condition certainly affects the level of buyer satisfaction and has an impact on decreasing sales volume.

Based on the existing conditions, the implemented business processes were inefficient, and the AIS used to manage the entire business process was classified as not of good quality. The characteristics of a quality accounting information system include integration and reliability (Baltzan, 2014). Where the reliability of the accounting information system is the ability of the system to function correctly and produce accurate accounting information (Bocij et al., 2015) it is said that integration is a collection (integration) of sub-systems or components, both physical and non-physical, that are interconnected and cooperate in harmony. In this condition, it is clear that the AIS that was used in practice did not meet this definition, where there was a delay in the delivery of information to related parties, namely the accounting department and designers in pre-order product sales and the accounting and packaging department in

ready product sales. It can be seen that these sub-sections had not been able to work together harmoniously. Besides, the implemented business processes were also inefficient at the sales quotation stage because there was overlap in the delivery of the same information, and the sales order stage did not yet use separate media for ready-to-ship and pre-order products.

Business Process Optimization Analysis

Based on the problems that had been analyzed, a business process was needed that can handle the deficiencies of the sales stages of pre-order and ready-to-ship products. For pre-order products, a feature was needed that made it easier for designers to determine sale quotations. This feature can facilitate buyers in filling in and storing all information (including pictures of clothing models, desired descriptions, clothing sizes, type, and color of the fabric chosen), and the form can directly connect with the designer system to determine the selling price and speed up the bidding process. Given the relatively short time gap after submitting the form, sales quotes can be followed up on promptly while the prospective buyer is still considering the offer made. The existence of an effective sales quotation provides a profitable domino effect in the next stage, namely, when the buyer accepts the offer and places an order. Then, it is necessary to separate sales order services from ready stock and pre-order products that have used the e-commerce system with interconnected sub-systems or parts that can work in harmony to reflect the implementation of a quality AIS. The existence of e-commerce indicates the transformation of the main business into cyberspace through the use of internet technology (Ettingshause, 2009) which will facilitate sales; moreover, the existence of a computerized accounting system (Manik, 2018) which can manage pre-order and ready-stock sales, is recommended to be implemented. It can be said that sales that are still made through social media with a manual accounting system are irrelevant due to the complexity of the sales being made and do not reflect the use of a quality AIS.

There is a growing need to develop and deliver systems that are robust, reliable, supportable, cost-effective, and responsive to customer and employee needs. The efficient and precise business processes are the key to components and supporting actors working together to create optimal performance. Business activities are not only carried out by a company but also by a person or group of people who work together to obtain income from these activities (Osijo & Sudarmiatin, 2023). Supported by the statement of the philosopher and economist Adam Smith (1723–1799), who determined that a qualitative increase in productivity can be achieved through the division of labor when individual cooperation specializes in the performance of certain tasks. In addition, AIS is also closely related to business processes and is applied to control the business

activities of selling ready stock and pre-order products, which can provide reliability and accuracy of accounting (sales) data and assess business performance (Manik, 2018). The convergence of computerized AIS in e-commerce business processes is crucial because it makes sharing information between users who need it easier. Rapid environmental changes require a dynamic system that continues to provide value to consumers through both products and services and requires the ability to change business processes in line with changes in the business environment at optimal costs (Kale, 2019).

Business Process Modeling

In designing a new business process, we needed a tool that can represent the process flow, so the Business Process Modeling Notation was chosen. The Business Process Modeling Notation clearly describes the sequence of processes from start to finish, along with the parts that play a role. It can provide red thread information for parts that require information exchange, which can provide convenience in the process of implementing the process of selling pre-order by request products and ready-stock products that will be carried out. The following is presented in Figure 1. The business model for selling pre-order by request products that was implemented (as is) and Figure 2: The Business Process Modeling Notation that had been designed and proposed (to be) for Sakinah_id.

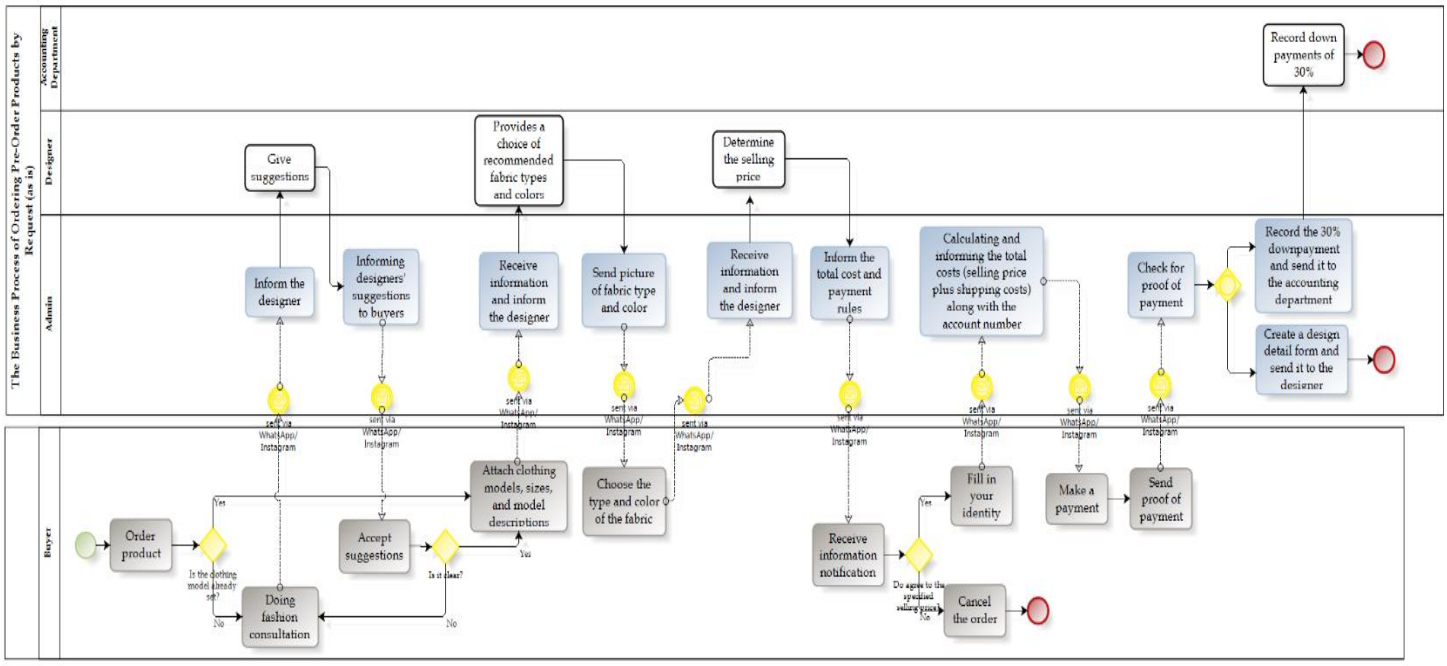

Figure 1. Business Process of Ordering Products by Request (as is)

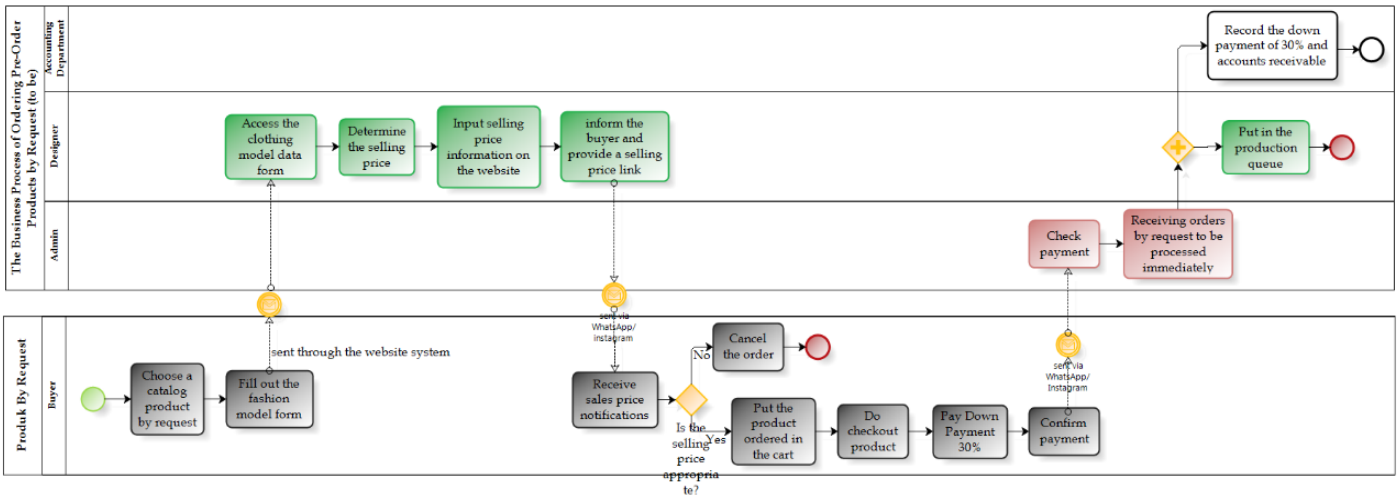

Figure 2. Business Process of Ordering Products by Request (to be)

In Figure 1, the current business processes were implemented conventionally, and in Figure 2, the business processes (to be) were designed based on e-commerce systems to improve previous business processes. The actors who played the roles in the two pictures are the same, consisting of buyers, admins, designers, and the accounting department. However, there was a simplification of the stages of the business process that was designed and clearly visible to the buyer, admin, and designer so that the business process became more effective and efficient. In Figure 1, the business process was still carried out conventionally by relying on WhatsApp chat messages and Instagram direct messages, so intense interaction occurred between the admin and the buyer at the pre-sales stage to get information on the clothing model data that the buyer wants. However, the process was inefficient because the admin here acted as an intermediary who connected the clothing request data with the information requested by the buyer and conveys it to the designer. Then, the designer will edconsider the types and colors of fabrics that were suitable and can be chosen by the buyer, as well as determining the selling price as a form of sales quotation to the buyer. Besides that, the admin also acted as a contact person between the designer and the buyer through a consulting service, which was also facilitated if the buyer was confused about determining the appropriate clothing model.

As seen in Figure 1, the designer cannot obtain buyer information directly since it is still routed through the admin, resulting in the distribution of duplicate information. Obviously, the business process is inefficient, indicating that the designer's proposed sales quotation process is time-consuming. Consequently, this will affect the desire of prospective buyers to place orders, and the offers submitted are no longer attractive for buyers to consider because the delivery of sales quotations takes a long time and is inefficient. The admin workload also looked increasingly complex and seemed to have an important role in driving the wheels of the pre-order sales process so that it was realized properly by bridging and communicating the interests of buyers with

designers, as well as making notes on clothing model forms to be submitted to designers and making sales notes to be submitted to the accounting department on confirmed buyer payments. It can be said that the applied AIS was also not of good quality due to inefficient business processes. Wrong business processes causes signs of problems when implemented. Based on the analysis that had been done, it was necessary to change business processes by adopting e-commerce that had integrated AIS.

Figure 2 shows a business process designed for an e-commerce system so that buyers can directly serve their own product ordering needs by request by filling out the form provided and facilitated by various choices of available types of fabrics and colors accompanied by a description of the type of fabric to make it easier for buyers to choose. This form can be accessed by designers to determine the selling price. The data form that already contained product price information was uploaded back to the system, and the link will be sent via WhatsApp to the buyer to make it easier for the buyer to make checkout and downpayment payments if they agree to the price and rules that have been determined. At this stage, the sales quotation proposed by the designer was quite efficient because the design of this business process considered the integration of the e-commerce website that was accessed by the buyer with the designer's system. So, sending sales quotations at short intervals from when the buyer sending the electronic form indicated a positive thing where the prospective buyer was still considering the offer submitted. The existence of an effective sales quotation provided a profitable domino effect at a later stage, namely that many prospective buyers agreed with the offer letter and decided to place a sales order and pay.

Afterwards, the admin can immediately check payments upon confirmation from the buyer. The order will automatically be recorded in the accounting department system for cash received from down payments and trade receivables. Then the sales quotation data that was previously inputted can be immediately processed by the production department. Based on the designed business process, it can be seen that the delivery of information directly to the intended party without going through intermediaries, namely buyers and designers, with the adoption of an e-commerce system that is integrated with the AIS with a design that certainly makes it easier to arrange ordering and paying for pre-order products So that it can be seen that business processes are simpler and more effective and the admin workload is not as complex as in Figure 1.

Then the following is presented in Figure 3 of the business process model for selling ready-stock products that are implemented (as is) and Figure 2 of the Business Process Modeling Notation that has been designed and proposed (to be) for Sakinah_id.

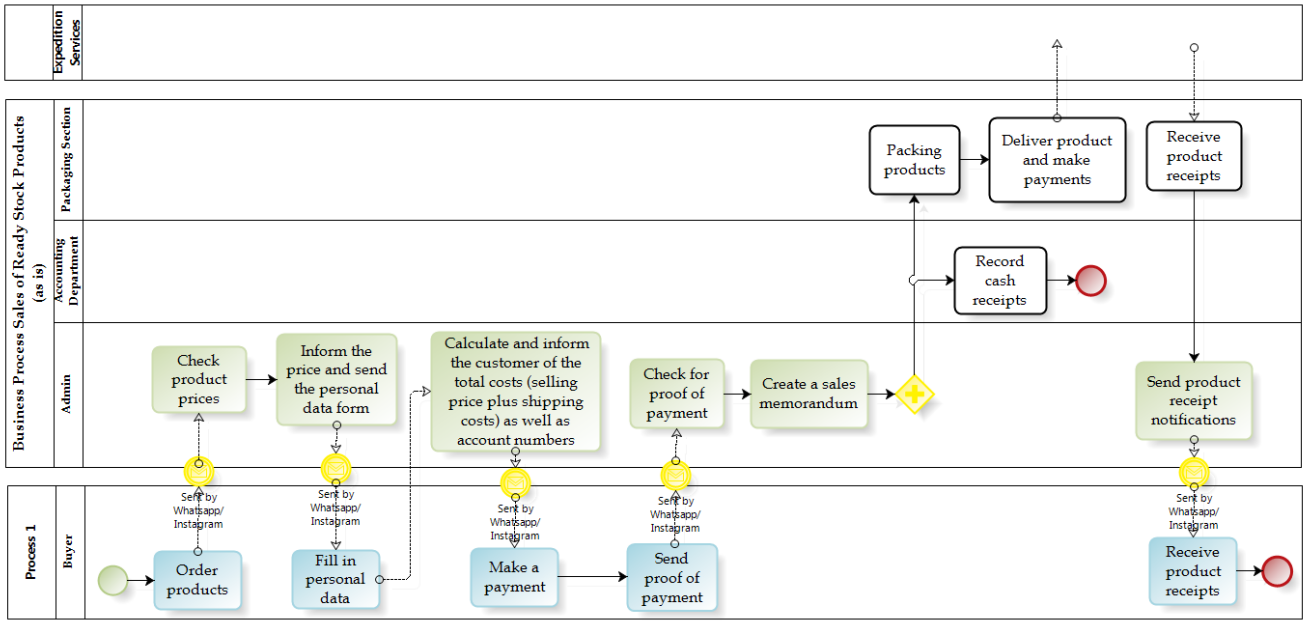

Figure 3. Business Process of Selling Ready-Stock Products (as is)

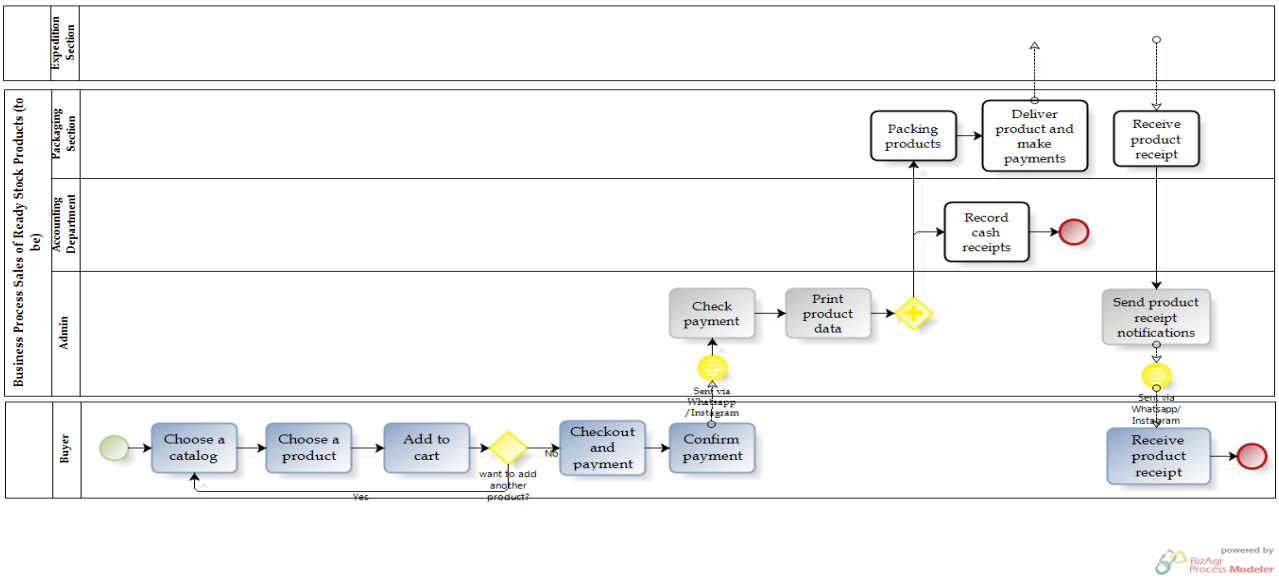

Figure 4. Business Process of Selling Ready-Stock Products (to be)

In Figure 3, the current business processes were implemented conventionally. In Figure 4, the business processes (to be) were designed based on e-commerce systems to improve previous business processes. The parts that played a role in the two pictures were the same: buyers, admin, the accounting department, the packaging department, and shipping services. However, there was a simplification of the stages of the business process that was designed and clearly visible to the buyer and admin to make the business process looked more effective and efficient. The sales media used in the business process of selling pre-order products (Picture 1) and ready-stock products (Picture 3) were the same, namely WhatsApp and Instagram direct messages. It can be seen in

Figure 3 that quite intense interactions occurred via WhatsApp or Instagram direct messages between buyers and admins at the sales order stage. Starting from the time the buyer ordered the product, the admin will check and submit the price and attach a personal data form for the buyer to fill out to facilitate package delivery by the expedition service, conveying the total price to be paid, up to receiving confirmation of the buyer's payment made via chat. But the buyer's order process was inefficient because it required several stages based on the chat interaction between the buyer and the admin in Figure 3. If this condition persisted, inefficiency will be felt, resulting in all message notifications not being handled in one working day because the process was still done manually. In addition to sales quotation and sales order transaction stages, and pre-order by request, which awerere also done through the same media. Buyer communications that cannot be handled will be processed or responded to the next working day. This condition can affect the balance between sales of ready-to-ship and pre-ordered products. So, it is also necessary to design a business process for selling ready-to-ship products based on e-commerce, which is already integrated with the AIS.

In this business process design, it was made simpler and more efficient, where buyers can choose the desired product based on the available catalog first, then add it to the shopping cart. If you want to add another product, you can access the catalog again. Furthermore, the checkout process, payment, and payment confirmation can be carried out by the admin. After receiving confirmation, the admin will check incoming payments and print product and buyer data to be submitted to the packaging department. Payment data that had been confirmed will automatically input cash data received into the accounting section system. Furthermore, the packaging section can carry out the packaging process and product delivery to the expedition service. The receipt received was given to the admin to send a WhatsApp message notification with the receipt number to the buyer. At this stage, the sales order can be carried out directly by the buyer up to the payment process, so there was no need for a lot of interaction between the buyer and the admin, as shown in Figure 3. The admin only checked the proof of payment sent by the buyer, and there was no need to send a sales note to the accounting department because the data will automatically enter the database system accounting section. So, the admin only needed to print the product data to be given to the packaging section to make the packaging process and product delivery to the delivery service can be done quickly.

DISCUSSION

Based on the business process modeling that had been done, it has provided several solutions for solving problems that occur both in the sale of ready-stock and pre-order products. Because business services are no longer limited to ready-stock products but have developed into pre-ordered products at the buyer's request to meet rapidly changing circumstances, organizations are focusing on standardization to create agility (Plugge et al., 2020). Known as an e-commerce concept that provides many conveniences and is converged

with AIS to automate sales transactions, which can help cut pre-sales parts or inefficient sales quotations made on pre-order products. Providing an electronic form feature facilitates the delivery of information between buyers and designers so that the sales quotation stages run more effectively and are delivered in real time. It increases the opportunity for the buyer to accept and proceed to the sales order stage. The second advantage is that sales orders and payments can be made directly by buyers because of the product checkout feature and bank account information for both ready-to-ship and pre-order products. The third advantage is product data information that has been paid for by buyers, both ready and pre-order products, which will automatically be entered in the accounting section system database for cash receipts from ready products, down payment cash receipts, and accounts receivable data from pre-order products. The sales quotation data that has been ordered and paid for by the buyer is entered into the designer's system, with the status automatically changing to a buyer's order that needs to be processed.

The existence of automation involves the use of technology to increase the efficiency and effectiveness of tasks (Hall, 2011). The design of this business process by adopting e-commerce with integrated sales AIS, including real-time technology, can significantly eliminate process delays in the pre-sales or sales quotation and order stages. Real-time processing can give companies a competitive advantage in the market and maximize customer satisfaction, which means increased sales. So that it has a positive influence on user behavior of information technology-based financial accounting recording systems in e-commerce (Abrahão, Moriguchi, & Andrade, 2016; Nuryahya et al., 2019). It can be inferred that this design model is responsive to user needs and has an efficient flow of information delivery to those who need it, so the timeliness of receiving information is an advantage. Therefore, designing good modeling will certainly have an impact on good software design because it can meet the needs of its users and process data into valuable information quickly (Muhamad Syarif & Wahyu Nugraha, 2020).

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the research and discussion that had been described, it can be seen in the case of Sakinah_id that the design of the latest business processes for selling e-commerce-based products that were converged with AIS was considered to provide several solutions to solving problems that occurred. Where the design of the business process was enhanced with an electronic form feature that facilitated pre-sales and speeds up the sales quotation process submitted to buyers. The existence of an effective sales quotation makes buyers interested and consider accepting. So that this feature added to the proposed business process certainly has a domino effect, namely facilitating the sales order and payment stages for buyers. Besides that, it also facilitates the task of the sales admin, that is, there is no need to make a model detail form by request of the buyer, because the designer already has the data based on the sales quotation received by the buyer. Furthermore, there was also a separation of sales orders between ready stock and pre-ordered products.

This separation makes it easier and faster for employees to divide work through clear departmental boundaries for the two products at the shipping stage, record cash receipts, and schedule special pre-order production. This real-time management reduces processing delays so that orders can be processed immediately. It can be said that good and efficient business processes have an important role in producing products or services in accordance with the goals that have been defined. In overcoming problems resulting from inefficient business processes, it is important to analyze and design new business processes using business process management and notation, which analyze, test, implement, and improve processes.

FURTHER STUDY

Research only focuses on solving MSME problems, which are subjective from the MSME perspective. Problem solving prioritizes urgent problems and requires settlement, namely at the product ordering stage, especially pre-order products, so that it is only limited to completion at the sales stage, not including the pre-order product production process stage, because it considers the urgency of problems that occur in the field. Further research is needed at this stage of the production process for pre-order products.

REFERENCES

Abrahão, R. D. S., Moriguchi, S. N., & Andrade, D. F. (2016). Intention of Adoption of Mobile Payment: An Analysis in the Light of the Unified Theory of Acceptance and Use of Technology (UTAUT). *RAI Revis- Ta de Administração E Inovação*, *13*(3), 221–230.

Achadiyah, B. N. (2019). Otomatisasi Pencatatan Akuntansi Pada UMKM. *Jurnal Akuntansi Multiparadigma*, *10*(1), 188–206. https://doi.org/10.18202/jamal.2019.04.10011

Ademola, Olukotun, G., James, S. O., & Olore, I. (2012). The roles of record keeping in the survival and growth of small-scale enterprises in ijumu local government area of Kogi state. *Global Journal of Management and Business Research.*, *12*(13), 55–66.

Agerfalk, P. J., Goldkuhl, G., & Cronholm, S. (1999). Information systems actability engineering - integrating analysis of business processes and usability require- ments. *In Proceedings of the 4th International Workshop on the Language Action Perspective on Communication Modelling Copenhagen, Denmark*, pp. 1245–1252.

Ahammed, S. U. (2019). *An Examination of Accounting Practices and Business Relationships of Micro-Businesses in Scotland.* Doctoral Thesis, University of the West of Scotland.

Andarsari, P. N., & Dura, J. (2018). Imple- mentasi Pencatatan Keuangan pada Usaha Kecil dan Menengah (Studi pada Sentra Industri Keripik Tempe Sanan di Kota Malang). *Jurnal Ilmiah Bisnis Dan Ekonomi Asia*, *12*(1), 59–65.

Andriyanto, I. (2018). Penguatan Daya Saing Usaha Mikro Kecil Menengah Melalui E-Commerce. *Jurnal Bisnis Dan Manajemen Islam*, *6*(2), 87–100.

Bahri, M., St-Pierre, J., & Sakka, O. (2011). Economic Value Added: A Useful Tool for SME Performance Management. *International Journal of Productivity and Performance Management*, *60*(6), 603–621.

Baltzan, P. (2014). *Business Driven Information System* (Fourth Edi). The McGraw-Hill.

Becker, J., Kugeler, M., & Rosemann, M. (2003). *Process Management A Guide for the Design of Business Processes*. Springer-Verlag Berlin Heidelberg New York. https://doi.org/10.1007/978-3-642-56680-6

Bocij, P., Greasley, A., & Hickie, S. (2015). *Business Information Systems Technology, Development and Management for the E-Business* (Fifth edit). Pearson Education Limited.

Brown, D. H., & Lockett, D. (2004). Potential of Critical E-applications for Engaging SMEs in E-business: A Provider Perspective. *European Journal of Information Systems*, *13*(1), 21–34.

Castellanos, M., Casati, F., Dayal, U., & Shan, M. C. (2004). A comprehensive and automated Approach to Intelligent Business Processes Execution Analysis. *Distributed and Parallel Databases*, *16*(3), 239–273. https://doi.org/10.1023/B:DAPD.0000031635.88567.65

Chaffey, D. (2002). *E-business and e-commerce management: strategy, implementation, and practice*. Financial Times/Prentice Hall.

Chelimo, J. K., & Sopia, I. O. (2014). Effects of bookkeeping on growth of small and medium business enterprises in Kabarnet Town, Baringo County, Kenya. *International Journal of Science and Research (IJSR)*, *3*(12), 432–437.

Coram, P. J. (2018). Discussion of "Account- ing Practitioners' Attitudes toward Accounting Harmonization: Adoption of IFRS for SMEs in Italy. *Journal of International Accounting Research*, *17*(2), 123–126. https://doi.org/https://doi.org/10.2308/ji- ar-10630

Daniel, E. (2003). An Exploration of the Inside-out Model: E-commerce Integration in UK SMEs. *Journal of Small Business and Enterprise Development*, *10*(3), 233–249.

Daniel, E., & Wilson, H. (2002). Adoption intentions and benefits realised: A study of e-commerce in UK SMEs. *Journal of Small Business and Enterprise Development*, *9*(4), 331–348. https://doi.org/10.1108/14626000210450522

Davenport, T. H., & Short, J. E. . (1990). The New Industrial Engineering: Information Technology And Business Process Redesign. *Sloan Management Review*, 11–27.

Deloitte. (2018). *Future of Global Business Services: Catalyst for Enterprise Digital Transformation*. https://www2.deloitte.com/us/en/pages/operations/articles/globalbusiness-

Erlangga, M. (2014). *idEA: Nilai Pasar E-commerce Indonesia Diprediksi Capai $25 Miliar di Tahun 2016*. Retrieved from https://dailysocial.net/post/idea-e-commerceindonesia-

Esmeray, A. (2016). The Impact of Accounting Information Systems on Firm Performance: Empirical Evidence in Turkish Small and Medium Sized Enterprises. *International Review of Management and Marketing*, *6*(2), 233–236.

Ettingshause, C. R. D. F. von. (2009). *Benchmarking the implementation of E-Commerce A Case Study Approach*.

Fagbemi, T. O., & Olaoye, J. A. (2016). An evaluation of accounting information system and performance of small-scale enterprises in Kwara State, Nigeria. *DBA Africa Management Review*, *6*(1), 1–16.

Fan, Y. (2001). *Fundamental of Workflow Management Technology*. Springer-Verlag, New York.

Fan, Y. S. (2001). *Fundamental of Workflow Management Technology*. Springer-Verlag, New York.

Francis, B. (2017). *The Information Environment of the Firm and IPO Underpricing (Doctoral dissertation, Rensselaer Polytechnic Institute)*.

Ghobakhloo, M., Hong, T. S., & Standing, C. (2015). B2B E-commerce success among small and medium-sized enterprises: A business network perspective. *Journal of Organizational and End User Computing*, *27*(1), 1–32. https://doi.org/10.4018/joeuc.2015010101

Ghobakhloo, M., & Tang, S. H. (2013). The role of owner/manager in adoption of electronic commerce in small businesses: The case of developing countries. *Journal of Small Business and Enterprise Development*, *20*(4), 754–787.

Giaglis, G. M., & Paul, R. J. (1996). It's time to Engineer Re-engineering: Investigating the potential of Simulation modelling in Business process Redesign. In *In Business Process Modelling* (pp. 313–332). Springer-Verlag.

Gresty, M. (2013). What Role Do Information Systems Play in the Knowledge Management Activities of SMEs? *Business Information Review*, *30*(3), 144–151. https://doi.org/https://doi.org/10.1177/0266382113507377

Gunasekaran, A., & Kobu, B. (2002). Modelling and analysis of business process reengineering. *International Journal of Production Research*, *40*(11), 2521–2546. https://doi.org/10.1080/00207540210132733

Hall, A. (2007). *Accounting Information System* (Fifth Edit). Thomson South Western.

Hall, J. A. (2011). *Accounting Information Systems* (Seventh ed). Cengage Learning.

Hamdan, M. . (2012). The impact of accounting information systems (AIS) development life cycle on its Effectiveness and critical success factors. *European Scientific Journal, ESJ*, *8*(6).

Hammer, M., & Champy, J. (1993). *Reengineering the Corporation: a Manifesto for Business Revolution*. Brealey.

Haryono, T., Handayani, R., Khoiriyah, S., & Sugiarti, R. (2016). AKSELERASI BISNIS KONVEKSI BATIK MELALUI MANAJEMEN INDUSTRI KREATIF DI SURAKARTA. *Cakra Wisata*, *17*(1), 1–19.

HASHIM, N. A. (2012). *E-commerce Adoption By Malaysian SMES* (Issue March).

Havey, M. (2005). *Essential Business Process Modeling*. O'Reilly Media, Inc.

Hirschheim, R., & Klein, H. K. (1994). Realising Emancipatory Principles in Information Systems Development: The Case for Ethics. *MIS Quarterly*, *18*(1), 83–109. https://doi.org/https://doi.org/10.2307/249611

Hlupic, V., & Robinson, S. (1998). Business Process Modelling and analysis using discrete-event simulation. *In Proceedings of the 1998 Winter Simulation Conference*, 1364–1369.

Ichdar, A. F., Nawi, S., & Abbas, I. (2022). Akibat Hukum Dari Wanprestasi Dalam Perjanjian Jual Beli Mobil Dalam Kontrak Pre Order Melalui Layanan Internet. *Journal of Lex Generalis (JLS)*, *3*(11), 1861–1872.

Irani, Z., Hlupic, V., & Glaglis, George, M. (2002). Guest Editorial : Business

Process Reengineering : An Analysis Perspective. *The International Journal of Flexible Manufacturing Systems*, *14*, 5–10. https://doi.org/10.1023/A

Kale, V. (2019). *Enterprise Process Management Systems Engineering Process-Centric Enterprise Systems using BPMN 2.0* (Vol. 4, Issue 1). CRC Press Taylor & Francis Group.

KPMG Insights. (2019). *Global Business Services at a Crossroads: Results from the KPMG/HFS Research State of Operations Survey, Boston*.

Lonchamp, J. (1993). A structured conceptual and terminological framework for soft- ware process engineering. *In Proceedings of the Second International Conference on the Software Process,*.

Manik, T. (2018). Analisis Peranan Sistem Informasi Akuntansi Dalam E-Commerces Terhadap Pengendalian Bisnis Online. *Jurnal Ilmiah Akuntansi Dan Finansial Indonesia*, *1*(2), 51–64. https://doi.org/10.31629/jiafi.v1i2.1244

Martin, L. M., & Matlay, H. O. (2001). Innovative Use of the Internet in Established Small Firms: The Impact of Knowledge Management and Organisational Learning in Accessing New Opportunities. *Qualitative Market Research: An International Journal*, *6*(1), 18–26.

Mbatha, B. (2013). Exploring the Potential of Electronic Commerce Tools in South African SME Tourism Service Providers. *Information Development*, *29*(1), 10–23.

Monk, E. F., & Wagner, B. J. (2013). *Concepts In Enterprise Resource Planning* (Fourth Edi). Course Technology Cengage Learning.

Mudjahidin, M. (2004). Siklus Bisnis Pada Sistem Informasi Akuntansi. *JUTI: Jurnal Ilmiah Teknologi Informasi*, *3*(2), 93–100. https://doi.org/10.12962/j24068535.v3i2.a261

Muhamad Syarif, & Wahyu Nugraha. (2020). Pemodelan Diagram Uml Sistem Pembayaran Tunai Pada Transaksi E-Commerce. *Jurnal Teknik Informatika Kaputama (JTIK)*, *4*(1), 64–70. http://jurnal.kaputama.ac.id/index.php/JTIK/article/view/240

Mwakujonga, J., & Bwana, K. . (2013). The practice of preparing and using financial information in financial decisions: A survey of SMEs in Tanzania. *European Journal of Business and Management*, *5*(9), 161–169.

Ningtiyas, R. K., Pulansari, F., & Hayati, K. R. (2018). Penerapan Business Process Management (BPM) (Studi Kasus: Proses Bisnis Mengeksekusi dan

Mengelola Rencana Penjualan di Divisi Niaga PT PJB Services). *Jurnal Teknologi*, *11*(2008), 65–71.

Nuryahya, E., Ichsana, Y., & Andini, K. M. (2019). Perilaku Pengguna Sistem Informasi Akuntansi E-Commerce. *Jurnal Akuntansi Multiparadigma*, *10*(3), 502–515. https://doi.org/10.21776/ub.jamal.2019.10.3.29

Orf, L. E. (2012). A Typology of Situations of Accounting Systems Integration. *Journal of Accounting Systems Integration*, *11*, 455–483.

Osijo, I. U., & Sudarmiatin. (2023). Implementation Provider Business Strategies Service Tour (Literature Study of SMEs Travel Bureau Malang City). *Indonesian Journal Of Business Analytics (IJBA)*, *3*(2), 321–334.

Osinowo, O. (2018). *The impact of online accounting software as a credit management tool on small business cash flow*. [Cardiff Metropolitan University. Thesis]. https://doi.org/https://doi.org/10.25401/cardiffmet.21070201.v1

Permata, I. R., Daga, R., & Pendahuluan, I. (2016). Analisis Bisnis Model Kanvas Produk Hijab Online Shop (Studi Kasus @ Needhijab . Mks). *Cakra Wisata*, *17*(1), 1–19.

Plugge, A., Nikou, S., & Bouwman, H. (2020). The revitalization of service orientation: a business services model. *Business Process Management Journal*, *27*(8), 1–24. https://doi.org/10.1108/BPMJ-02-2020-0052

Pool, P. W., Parnell, J. A., Spillan, J. E., Carraher, S. and, & Lester, D. L. (2006). Are SMEs Meetings the Challenge of Integrating E-commerce into Their Businesses? A Review of the Development, Challenges and Opportunities. *International Journal Information Technology and Management*, *5*(3), 97–113.

Poon, S., & Jevons, C. (2017). Internet-enabled International Marketing: A Small Business Network Perspective. *Journal of Marketing Management*, *13*, 29–41.

Romney, M. B., & Steinbart, P. J. (2015). *Accounting Information System* (Thirteenth). Pearson Education Limited.

Sari, D. (2013). Telisik Perlakuan Teori En- titas Usaha Mikro, Kecil dan Menengah. *Jurnal Akuntansi Multiparadigma*, *4*(2), 188–197. https://doi.org/https://doi.org/10.18202/jamal.2013.08.7192 Sarens, G., Everaert, P.,https://doi.org/10.18202/jamal.2013.08.7192

Saxena, K. B. C. (1996). Re-engineering public administration in developing countries. *Long Range Planning*, *29*(5), 703–711.

Setiyani, L., Liswadi, G. T., & Maulana, A. (2022). Proses Pengembangan Proses

Bisnis Transaksi Penjualan pada Toko Erni Karawang. *Jurnal Interkom: Jurnal Publikasi Ilmiah Bidang Teknologi Dan Komunikasi*, *16*(04), 39–45.

Stiglitz, J. . (2017). *The Revolution of Information Economics: The Past and the Future* (NBER Working Paper No. w23780).

Sugiyono. (2019). *Metode Penelitian & Pengembangan Research and Development*. Penerbit Alfabeta.

Sweet, P. (2001). Time for a return. *CONSPECTUS*, 2–4.

Tran, L. T. T. (2021). Managing the Effectiveness of e-commerce Platforms in a Pandemic. *Journal of Retailing and Consumer Services*, *58*. https://doi.org/DOI:10.1016/j.jretconser.2020.102287

Tumay, K. (1996). Business Process Simulation. *In Proceedings of the 1996 Winter Simulation Conference*, 93–98.

Völkner, P., & Werners, B. (2000). Decision support system for business process planning. *European Journal of Operational Research*, *125*, 633–647. https://doi.org/10.1016/S0377-2217(99)00273-8

Wilkinson, J. W., & Cerullo, M. J. (1997). *Accounting Information Systems: Essential Concepts and Applications*. John Wiley.

Yen, B. P. C., & Ng, E. 0. S. (2001). The migration of Electronic Commerce (EC): from planning to assessing the impact of EC on supply chain. *Proceedings of the International Conference on Supply Chain Management and Information Systems in the Internet Age*, 493–504.

Yuscintara, B. A., & Hendrani, A. (2022). Pengaruh e-commerce dan sistem informasi akuntansi terhadap efektivitas kinerja keuangan pada pelaku UMKM di Tangerang. *Fair Value: Jurnal Ilmiah Akuntansi Dan Keuangan*, *5*(1), 257–263. https://doi.org/10.32670/fairvalue.v5i1.2265