Original Article

# IMPLEMENTATION OF INTERNAL CONTROL PROCEDURES THAT ENABLE COST SAVINGS IN DEALING WITH THREATS CYCLES : REVENEU CYCLE: TRADIONAL VS DIGITAL ACCOUNTING INFORMATION SYSTEM ERA IN PHARMACEUTICAL SECTOR

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## Abstract

One of the applications of AIS is enterprise resources planning (ERP) in the e-revenue cycle where sales orders are needed CRM and SFA software serves for a more comprehensive analysis of receivables (not traditional), Internet Based Service in Credit Approval functions to reduce credit risk automatically. WMSs function to monitor the movement and storage of materials in the warehouse, and track the delivery of goods by using Web based tracking, EIPP and EBPP are web-based innovations to streamline the internet-based billing and payment processes. Online receivable service serves to automate the entire billing process. The e-revenue cycle has implications for internal control procedures with supervision carried out using electronic-based approach. The trend of ERP development in the future is towards BPMSs.

**Keyword:** e-revenue cycle, AIS, ERP system and BPMSs.

## Introduction

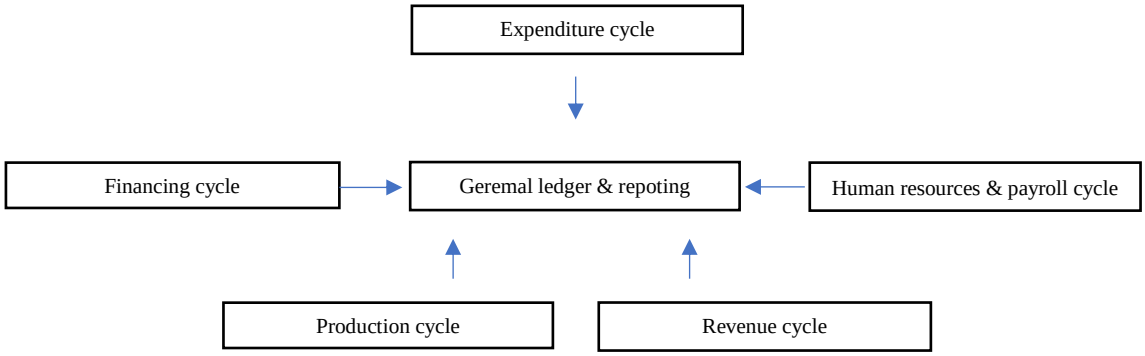
The role of AIS in the revenue cycle is very important (Trigo et al., 2016), general ledger and reposting system is characteristic of traditional accounting information systems (AIS) that function to collect, store data, turn data into information useful for management and as Internal control (Romney & Steinbart, 2003), however, in the digital era, the influence of Web using has changed the architecture and integration of enterprise application (Belfo & Trigo, 2013) as Web using in e-revenue cycle (Deshmukh, 2005), the change to digitization requires to change the architecture and integration of enterprise applications to answer accounting challenges, such as strategic analysis, trading, forecasting, internal audit, internal control, risk management, real-time reporting and non-financial data combinations (Belfo & Trigo, 2013, Nasution et al., 2022 ) from some literature explains that implementing ERP can provide solutions to problems in digital transactions, especially in the e-revenue cycle (Trigo et al., 2016). This presents how to implement the e-revenue cycle in the digital accounting information system and its implications for internal control procedures.

## Literature review

### Traditional AIS

Traditional AIS focuses on recording transactions that have economic value into five business cycles (Trigo et al., 2016), he explained the five business cycles, namely: first, the revenue cycle, is an activity that involves selling products and services to customers and collecting payments from customers; second, the spending cycle, is an activity that involves purchasing and paying products to vendors; Third, the human resource cycle or also called "payroll" is an activity that involves hiring and paying employees; fourth, the production cycle, is an activity that involves payment for converting raw materials into finished materials; Fifth, the financing cycle, is an activity that involves funding for business capital, debt payments, and dividends to investors (Sahputra et al., 2022). The recording of business transactions in the five business cycles is recorded and then stored in the AIS database, in addition to the function of recording and storing business transactions, AIS also serves to turn data into useful information for management decision making and provide adequate internal control to safeguard organizational assets (Romney & Steinbart, 2003).

Figure. 1 Traditional AIS Cycle, adapted from (Romney & Steinbart, 2003) and (Trigo et al., 2016)

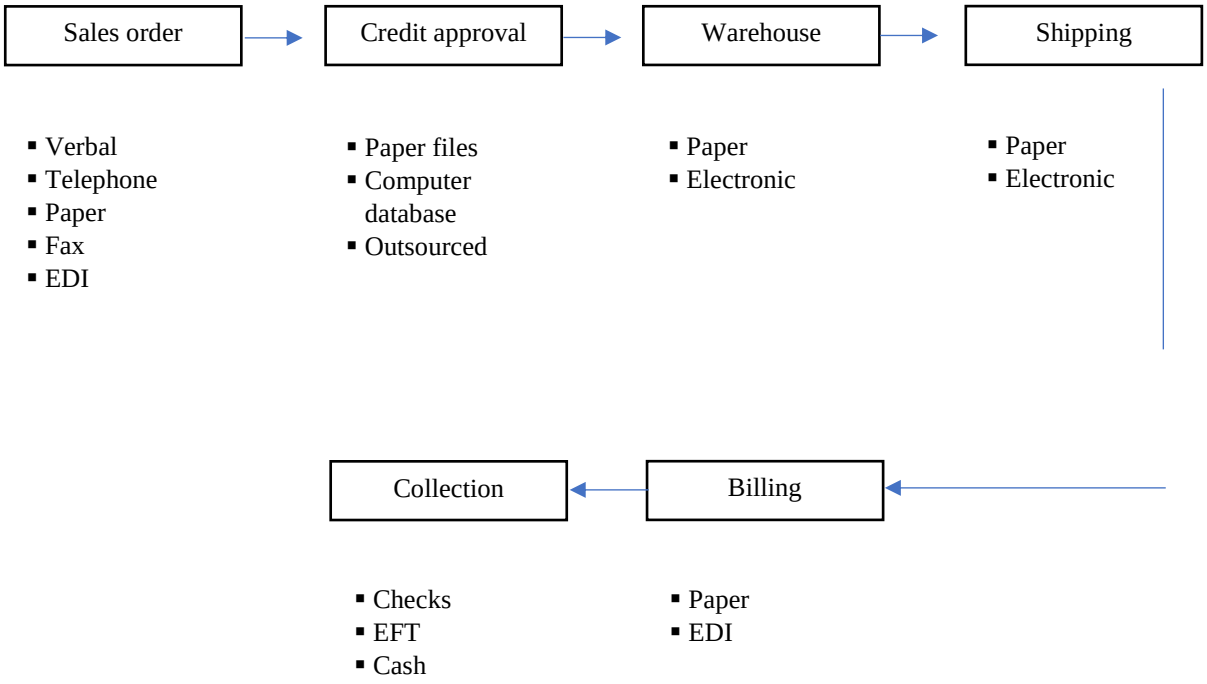



One of the applications of AIS is an enterprise resources planning (ERP) system which is a technology that integrates all the necessary business functions into one system with a shared database (Sadrzadehrafiei et al., 2013), however, the ERP system does not support reports and analysis such as budgeting, non-financial, external and management accounting, as well as cost allocation so that strategic enterprise management is needed (SEM) a system that supports the management accounting area (Varajão & Trigo, 2009), the use of ERP and SEM can be combined to complement each other (Belfo & Trigo, 2013).

### Revenue cycle activities

Revenue cycle is a series of business activities and information processing related to the provision of customer goods and services and the collection of receivables on sales (Susanto & Meiryani, 2019), similarly, the opinion of (Deshmukh, 2005) states that Revenue cycle is an activity related to the delivery of products or services to customers and cash receipts from customers. Argumentation (Deshmukh, 2005; Hall, 2019) argues that, the flow of transactions in the revenue cycle, includes: starting from sales orders from customers; The Credit Department approves the granting of credit: the warehouse section assesses and removes supplies; the delivery department carries out the delivery of goods; customers are billed based on sales orders and shipping documents; and then finally, Cash is collected from customers (Laurensius et al., 2021). That is show in Figure 2.

Figure. 2 the revenue cycle, adopted from (Deshmukh, 2005)



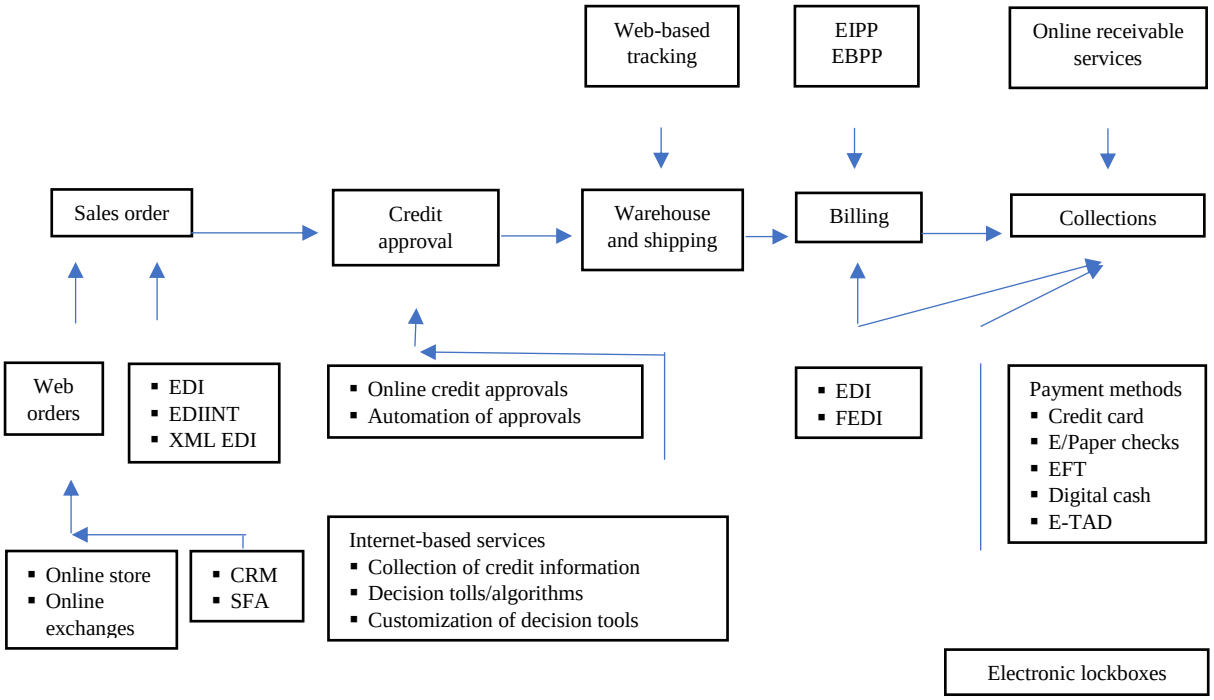

**Digital AIS**

ERP systems have now developed towards Business Process Management Systems abbreviated as BPMSs, which is a software platform that supports definition, implementation, as well as tracking through business processes (Grigori et al., 2004), BPMSs have features that have flexibility capabilities and can be configured with executable process models, and then interpreted by the internal workflow engine (Reijers, 2021), but the concept of BPMSs is still in the research area to be tested and is very likely to develop in the future (Belfo & Trigo, 2013) the concept of BPMSs is necessary, because currently an application is needed that describes explicitly the relationship of suppliers and customers is a part of the organization (Smith & Fingar, 2002), for this reason, it is necessary to adopt AIS based on BPMSs which have advantages and benefits, compared to traditional AIS (Trigo et al., 2016).

**Revenue cycle with digital AIS approach**

Internet and ERP technologies have provided many changes in the revenue cycle, for example, sales orders can arrive by using the Web via EDI, B2B, or B2C, online exchanges, CRM software or sales force automation (SFA) software, and automate credit approval processes quickly (Deshmukh, 2005). As for changes in the revenue cycle using the electronic approach served in figure 3.

Figure. 3 E-changes in the revenue cycle, adopted from (Deshmukh, 2005)




Digital AIS has the characteristics of an integrated enterprise architecture design of various applications to provide information freely, this is called enterprise application integration (EAI) (The Open Group, 2009). The integration of each application on the e-revenue cycle is presented in figure 3. Sales orders can arrive via the Web, electronic data interchange (EDI) and variants of EDI namely EDIINT and XML EDI, online exchange, as well as required CRM and SFA software, if there is an online order requires substantial integration of front-end systems with back-end accounting systems. Because the company needs coordination of credit approval, inventory availability and delivery of goods to customers appropriately. CRM functions intersect with accounting, in particular receivables analysis. CRM offers a non-traditional way of analysis, the use of extensible markup language (XML) in sales orders is a language for the exchange of business information required for business reporting (Belfo & Trigo, 2013). In credit approval, internet based service is needed which is a tool to collect information to obtain a credit rating, For example, credit risk score, comparison of business risk level with other businesses, business profile and other useful things, the use of internet based services can be adjusted to the size of a business (Saragih et al., 2022). For example, small, medium and large. In warehouse and shipping where warehouse management and picking processes are often managed by WMSs, in which WMSs function to control the movement and storage of materials in warehouses, and WMSs can be developed in manufacturing companies, transportation management, order fulfillment, and even accounting processes and WMSs can be combined with ERP.The process of electronic invoice presentment and payment (EIPP) and electronic bill presentment and payment (EBPP) on billing is web based transaction. EIPP for business-to-business (B2B) transactions and EBPP for business-to-consumer (B2C) transactions, EIPP and EBPP are web-based innovations to streamline the billing and payment process from paper-based to the internet. The main purpose of the creation of EIPP and EBPP is to provide facilities for customers, to receive, pay, verify, analyze and inquire about bills via the internet. In collections, the function of the online receivable service is to automate the entire process, such as the presentation of sales documents, collection of receivables, post-collection activities, and financial analysis.

**Internal control procedures**

Four basic activities in the revenue cycle, including order sales, shipping, receivables collection and cash collection require that the AIS be optimally designed on each activity in the revenue cycle, AIS must establish

adequate internal control procedures to mitigate issues such as billing errors, uncollectible sales, and asset loss and misuse namely inventory and cash (Susanto & Meiryani, 2019), if the use of the Web is carried out on e-revenue cycle, the use of technology in accounting in recording and monitoring transactions is easier, for example, e-accounting where data storage in electronic-based accounting applications and supervision is also carried out electronically based (Güney, 2014).

## Methods

Based on the formulation of this study problem, the research method uses systematic literature review (SLR) with a bibliometric approach, by collecting articles relevant to the theme of e-revenue cycle, accounting information systems (AIS), enterprise resources planning (ERP) systems, and business pocess management systems (BPMSs). Bibliometric analysis used to look at research trends and measure research progress by evaluating articles.

## Results and discussion

In sales orders, where Web, EDI, EDIINT, and XML EDI (as well as variants of EDI) have the main function of bringing sales orders online, The main focus of CRM with SFA software is on revenue cycle to help accountants in accounting for more comprehensive analysis of receivables (non-traditional), CRM is able to provide information about customer behavior and assess customer profitability.The goal of CRM is to improve customer service, increase efficiency and effectiveness in marketing networks, product sales, finding new customers, and increasing the profitability of existing customers. Credit approval requires internet-based service which is a tool to collect information to obtain credit ratings, and internet-based service serves to reduce credit risk automatically. In warehouse and shipping where warehouse management and picking processes are often managed by WMSs.Where WMSs function to monitor movements and storing materials in warehouses, and tracking the delivery of goods using Web based tracking. And WMSs can carry out the accounting process. EIPP and EBPP systems are Web-based innovations in the process of billing and paper-based payments to internet technology. The EIPP and EBPP systems provide facilities, to receive, pay, verify, analyze and inquire bills via the internet. The function of the Online Receivable Service in Collections is to automate the entire billing process, such as the presentation of sales documents, collection of receivables, post-collection activities, and financial analysis. computer technology serves to automate manual work and enable faster, more complete, and reliable presentation of reports, but problems such as billing errors,

In the computer technology-based procedure of the seller's ordering system based on the bookkeeping principle, in which the use of computer technology-assisted systems is the same as manual systems, computer technology serves to automate manual work, computer technology serves to automate manual work and enable faster, more complete, and reliable presentation of reports, but problems such as billing errors, uncollectible sales, as well as loss and misuse of assets, namely inventory and cash, are the main problems in internal control procedures (Susanto & Meiryani, 2019), If the use of technology in accounting in electronic-based recording and supervision of transactions, for example, e-accounting in which data storage in electronic-based accounting applications, supervision is also carried out electronically based (Güney, 2014).

The literature (Trigo et al., 2016) explains that ERP is developing towards BPMSs, the application of BPMSs has implications for internal audit, internal control and risk management, such as: establishing an internal audit that makes it possible to automatically alert or message management: the implementation of internal audits and risk management is carried out thoroughly; business activity monitoring (BAM) allows it to be applied in audits in a sustainable manner (Trigo et al., 2014, Atmanegara et al., 2022).

## Conclusion

The e-revenue cycle is characterized by automation by using internet technology, such as web orders, internet-based services, web-based tracking, online receivable services. And the e-revenue cycle can be used with ERP system applications by combining several systems, including CRM with SFA software, WMSs, as well as EIPP and EBPP systems. And there is a tendency, ERP is developing towards BPMSs-based, e-revenue cycle has implications for internal control procedures with supervision carried out using an electronic-based approach.

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