Chapter 8
Auditing a POS System

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ABSTRACT

This chapter examines the structure, auditing, management, and business impact of point-of-sale (POS) systems. With the increasing use of payment cards, POS systems have become indispensable in various industries. Ensuring the security and efficiency of these systems is crucial. Emphasizing access control and user roles, this study highlights the importance of safeguarding sensitive data and maintaining data integrity. Compliance with regulations for personal information and credit card transactions is vital to protect consumer data. Frameworks like SANS Institute-CIS Security Controls and PCI-DSS are analyzed for fortifying POS systems. Implementing these frameworks ensures adherence to strict information security standards and seamless operations. Through an in-depth analysis of POS systems and associated frameworks, this research provides valuable insights into their structure, functionality, and security measures. Practical recommendations strengthen POS system security, protecting data and optimizing efficiency.

AUDITING A POINT-OF-SALE (POS) SYSTEM

Auditing is a systematic evaluation of information systems procedures that ensures efficient operations, regulatory compliance, and adherence to governance criteria and policies (Berner et al., 2005). It constitutes a systematic evaluation of information systems procedures, instrumental in corroborating efficient operations, endorsing regulatory compliance, adhering to governance criteria, and corresponding policies (Davis, 2020). It ensures adequate levels of confidentiality, integrity, and accessibility of information as delineated in the "CISA Review Manual. Vol. 27" (2019). Auditing

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encompasses risk identification for enterprises and the application of controls to achieve objectives, thereby mitigating potential risks or threats.

Point of Sale (POS) systems are digitalized terminals that enable secure, efficient, and expedient payment transactions, integrating hardware and software components (Berner et al., 2005). These systems signify the location or juncture where a sales transaction transpires between a vendor and a customer upon the acquisition of a product or service. This mechanism, referred to as a "POS system", is essentially a digitalized terminal where hardware and software coalesce to engender a POS device for processing payment transactions. The primary controller, interconnected with checkout terminals, is implemented to amplify the efficacy of the payment process, enabling credit cards to be processed in a secure, expeditious, and efficient manner. The Point-of-Sale (POS) system is integral to retail and service sectors, recording sales transactions and payments at the time of purchase. Despite variations in complexity and design, all POS systems consistently maintain an audit trail, a definitive record of financial transactions within the system. These systems employ a host of interconnected devices such as keyboards, bar code scanners, payment terminals, displays, and receipt printers. These facilitate the system's core operations, namely registering sales and payments in the audit trail, and producing transaction evidence for authorized parties, dictating a data flow from the input devices to the audit trail, and then to output devices. Security is vital for POS systems, given their financial role. A secure POS system, supplemented by a security audit trail, ensures the integrity and appropriate confidentiality of data flows and the audit trail, while providing reliable functionality to users. Appropriate confidentiality is based on user roles, each with different access levels. User roles include customers, operators responsible for transactions, financial managers for data extraction, and administrators overseeing installation, security, and system maintenance. Each role interacts differently with the system, affecting access to devices and information. For system integrity, it's assumed each user assumes only one role at a time, enhancing access control and security for transactions processed via the POS system.

In this research, our aim is to examine, comprehend, and elucidate how point-of-sale systems are structured, audited, managed, and contribute significantly to business objectives. Given the escalation in the usage and user-friendliness of payment cards, the prevalence of POS systems in contemporary business operations is undeniable. These systems are ubiquitous across a multitude of industries, including but not limited to retail, food services, event venues, airports, and any sector requiring on-site transaction processing. Our exploration extends to encompass an identification of potential threats and vulnerabilities, leveraging specific controls to augment the efficiency and security of business operations. Security is vital to ensure the integrity and confidentiality of data flows and the audit trail, with different user roles having different access levels (Dewi et al., 2021). The preservation of consumer