



SELINUS UNIVERSITY
OF SCIENCES AND LITERATURE

**RGSI Lux: Web-Based E-Commerce
System Software For Rodstark
Global Solutions Innovations**

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A DISSERTATION

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ABSTRACT

The study facilitated by the adoption of RGSi Lux, the transition from a guided to a digital approach in automated represents a full-scale advancement aimed at solving critical challenging situations and optimizing operational efficiency. This perspective used a complex methodology combining qualitative and quantitative processes to capture the multifaceted nature of this transition. Insights from stakeholders, consisting of enterprise managers, equipment analysts, programmers, and excellent verification, revealed key issues, including the need for standardized techniques, the time-consuming nature of manual tasks, and issues around statistics protection. Quantitative survey data provided an in-depth study to user, usage patterns and perceived impacts, enabling fully evidence-based selection. The agile model played a vital role, enabling the gradual delivery of capabilities, fostering stakeholder alignment and facilitating timely feedback and continuous development. RGSi Lux's assessment demonstrated its effectiveness as an e-commerce answer with high scores in performance, usability, capabilities and assistance, albeit with room for development in terms of protection. Key features such as product management, inventory tracking, order processing, price integration and client control have received super ratings, underscoring the gadget's comprehensive skills. The transition to RGSi Lux guarantees accelerated operational efficiency, increased factual accuracy and simplified strategies, but also presents challenges in training, upfront investment, compatibility and protection. Addressing these challenges through comprehensive training programs, robust security features, and r assistance is essential for a successful integration.

Keywords: Agile Model, E-Commerce, Order Processing, Payment Integration, Data Protection, Digital Transform

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KEYWORDS

RGSI	Rodstark Global Solutions Innovations
IT	Information Technology Professional
PC	Personal Computer

CHAPTER I

INTRODUCTION

RGSI Lux is proposed as a cutting-edge web-based e-commerce system intended to be developed by Rodstark Global Solution Innovation (RGSI). This innovative software aims to revolutionize online retail, providing a seamless and efficient platform for businesses to thrive in the digital marketplace (Li & Zhang, 2021). Currently, RGSI relies on traditional pen and paper methods for their transactions. The proposal for RGSI Lux comes as a solution to address these challenges. With its user-friendly interface and advanced features, RGSI Lux offers comprehensive solutions for companies seeking to establish a robust online presence. From managing inventory to processing transactions and enhancing enterprise, RGSI Lux aims to elevate the online business experience. Embracing RGSI Lux signifies embracing the future of digital commerce with confidence in the market.

Company Background

Rodstark Global Solutions Innovations (RGSI) is a forward-thinking technology company that has recently unveiled its groundbreaking product, RGSI Lux—an innovative web-based e-commerce system specifically designed for computer stores and similar businesses. The company's journey began with humble origins, relying on traditional pen and paper methods, along with basic Excel records to manage their operations. As the business experienced rapid growth it is evident that it will upgrade the necessary to adapt the demand of the digital generation and to ensure the integrity of the data.

Headquarters in the tech hub of RGS is the strategically located at the innovation the company was founded with a clear vision to empower the computer stores and to the related

business with its cutting edge solutions that is only meet the current need but also pave the way for a more efficient and to the streamline future with the portfolio embodies to the technological tool that marks as a significant steps towards the modernization of the computer related to the business cutting edge solutions that not only meet the current needs but into a more efficient and streamlined future.

Mission and Vision

RGSI mission is to innovate and transform solution into empower business and to thrive into the digital age which envision a future where a computer stores are seamless navigate the complexities of the market leverage by the advance technologies and to enhance the operation and customer experience developing the company aims that will contribute to the success of the clients offering a user-friendly and to the technological advanced e-commerce system.

Business Overview

RGSI operates in the technology and software development sector, specializing in creating solutions for computer stores and related businesses. The company's commitment to staying at the forefront of technological advancements has driven them to continually innovate and adapt to the evolving needs of their clients. The proposed RGSI Lux would be a testament to this commitment, offering a sophisticated platform that aims to revolutionize the operational landscape for computer stores.

Departments

RGSI various department collaborate to the seamlessly drive of the innovation and to deliver the exceptional products in the forefront that will constantly explore the emerge technologies and industry to the trends to integrate into the solutions the Software Development

team also translate the insight into the tangible products with a focus on the user friendly interfaces and to the cutting edge functionalities. The sales and marketing department was also ensure the RGSi lux reaches it to the target audience and to the communication of value proposition effectively.

Work Processes

The early state of the RGSi Journey relied on the manual record keeping methods that each transactions, Order and inventory update were recorded on the paper with excel spreadsheets and serving as a basis of digital aid while this approach was manageable initially the business expanded and it became clear to a more sophisticated efficient system as needed.

The transformative journey towards RGSi Lux began with a detailed analysis of the existing processes. The R&D department collaborated with key stakeholders to understand the pain points, challenges, and requirements of computer stores in managing their operations. The transition from pen and paper to a fully digital system involved the creation of a comprehensive database that could handle large volumes of data efficiently.

The Software Development team played a crucial role in designing RGSi Lux to be user-friendly and intuitive. The system was crafted to automate various aspects of the business, including order processing, inventory management, and customer relationship management. Advanced algorithms and data encryption mechanisms were implemented to ensure the security and integrity of the data.

The Sales and Marketing department actively engaged with potential clients, showcasing the benefits of RGSi Lux and how it could transform their business operations. Training programs were conducted to familiarize clients with the new system, ensuring a smooth transition from manual processes to the advanced features offered by RGSi Lux.

Simultaneously, the Customer Support department was equipped to provide ongoing assistance, addressing any concerns or queries from users. Regular updates and improvements were rolled out based on user feedback, ensuring that RGSi Lux evolved in tandem with the changing needs of computer stores in the dynamic market.

Statement of the Problem

The transition from manual record-keeping to the implementation of RGSi Lux, a web-based e-commerce system by Rodstark Global Solutions Innovations, within a computer store presents a complex set of challenges. The current reliance on pen and paper for managing transactions and inventory in the computer store may lead to inefficiencies, potential errors, and limited scalability. Introducing digital processes through RGSi Lux requires addressing issues related to data migration, integrating the new system into existing operations, and ensuring that store personnel can adeptly navigate and leverage the features of the web-based platform. Resistance to technological changes, potential disruptions during the transition period, and the need for comprehensive training programs emerge as critical elements in successfully navigating this shift. This statement of the problem aims to identify and analyze the multifaceted challenges associated with transitioning from manual to digital processes within the unique operational context of a computer store, setting the stage for strategic solutions and a smooth integration of RGSi Lux.

Problem Statement

The transition from manual record-keeping to the integration of RGSi Lux, a web-based e-commerce system developed by Rodstark Global Solutions Innovations, within a computer store introduces a series of complex challenges. Currently relying on traditional pen-and-paper

methods, the computer store faces potential inefficiencies in transactional processes, inventory management, and customer interactions. The shift to a digital platform necessitates addressing issues such as the migration of existing data, seamless integration of RGSi Lux into the store's operations, and comprehensive training programs for staff to ensure effective utilization of the new system. Moreover, potential resistance to technological changes, the likelihood of disruptions during the transition period, and the need for clear communication strategies further contribute to the intricacy of the problem.

As technology continues to evolve, the computer store's ability to adapt to digital advancements becomes imperative for maintaining competitiveness and providing an enhanced customer experience. This problem statement aims to underscore the multifaceted challenges associated with the transition from manual to digital processes within the unique operational context of a computer store, emphasizing the need for a strategic and comprehensive approach to successfully implement RGSi Lux and optimize the store's overall efficiency and performance in the digital age.

Objectives

The objectives of implementing RGSi Lux, the web-based e-commerce system by Rodstark Global Solutions Innovations, within the computer store are multifaceted. Firstly, the transition aims to streamline and digitize manual record-keeping processes, enhancing overall operational efficiency, accuracy, and scalability. Secondly, the adoption of RGSi Lux seeks to optimize inventory management, transaction processing, and customer interactions, thereby improving the overall shopping experience (Wei et al., 2019). Additionally, the objectives include successful data migration, seamless integration of the new system into existing operations, and the provision of comprehensive training programs to ensure that store personnel

can proficiently utilize RGSi Lux. Lastly, the transition aims to foster a positive organizational culture that embraces technological advancements, minimizing resistance and disruptions during the shift from manual to digital processes within the computer store.

Significance of the Study

The study holds significant implications for both the computer store industry and the broader landscape of e-commerce. By investigating the transition from manual to digital processes through the adoption of RGSi Lux, the web-based e-commerce system developed by Rodstark Global Solutions Innovations, this research contributes valuable insights into the challenges and opportunities associated with incorporating innovative technologies into traditional business models. The findings of this study can inform industry practices, guiding computer stores and similar businesses in optimizing their operational processes, enhancing customer experiences, and staying competitive in the evolving digital marketplace. Furthermore, the study's significance extends to the broader discourse on digital transformations, offering practical implications and recommendations for businesses seeking to leverage advanced e-commerce systems for improved efficiency and success in the digital age.

Initial Analysis

The initial analysis of transitioning from manual to digital processes within the computer store, particularly through the adoption of RGSi Lux, reveals several critical insights. Initially, it's apparent that manual record-keeping methods are inefficient and prone to errors. The reliance on pen and paper, coupled with basic Excel spreadsheets, poses significant challenges in terms of managing inventory, processing transactions, and delivering optimal customer experiences. The adoption of RGSi Lux presents an opportunity to address these

inefficiencies by offering features like streamlined inventory management, efficient transaction processing, and enhanced customer interactions.

However, the transition to RGSi Lux may not be without its challenges. One primary concern is the process of data migration from existing manual records to the new digital platform. Ensuring the accuracy and integrity of data during this transition phase is crucial to avoid discrepancies and potential loss of information. Additionally, integrating RGSi Lux seamlessly into existing workflows and systems within the computer store may require time and effort. Staff members will also need to undergo training and familiarization with the new digital platform, which could temporarily disrupt operations and productivity.

To address these challenges, RGSi could consider several alternative solutions and workarounds:

Gradual Implementation

Instead of a sudden shift from manual to digital processes, RGSi could opt for a phased approach. They could begin by implementing RGSi Lux in specific departments or functionalities within the computer store, allowing staff members to gradually adapt to the new system without overwhelming them.

Refer to Table 1.1 for the Pros and cons of Gradual Implementation

Table 1.1 Gradual Implementation

Gradual Implementation	
Pros	Cons

Minimize the disruption to the daily operations that provides time for staff training and adjustment.	Extend transition period that may delay the realization of the benefits from the LGSI Lux potential inconsistencies in the data management during the transition phase.
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Data Migration Assistance

RGSI could offer comprehensive support and assistance during the data migration process. This could include providing tools and resources to ensure the accurate transfer of data from manual records to RGSI Lux, as well as offering guidance on data cleanup and validation procedures.

Refer to Table 1.2 for the Pros and Cons of Data Migration Assistance

Table 1.2 Data Migration Assistance

Data Migration Assistance	
Pros	Cons
Reduce the risk of the data loss and discrepancies ensuring smooth transition to the new digital platform.	Requires additional resources and support from RGSI which may lead to prolong the implementation of the timeline.

Customization and Integration Services

RGSI could offer customization and integration services tailored to the specific needs and workflows of the computer store. This could involve customizing RGSI Lux to align with existing processes and systems, as well as integrating with other software solutions used by the store.

Refer to Table 1.3 for the Pros and Cons of Customization and Integration Services

Table 1.3 Customization and Integration Services

Customization and Integration Services	
Pros	Cons
Enhances compatibility and interoperability with existing systems, minimizes disruptions to workflow.	Requires in-depth understanding of the computer store's operations and systems, may incur additional costs for customization and integration services.

Proposed Solution

RGSI Lux is a state-of-the-art web-based e-commerce system developed by Rodstark Global Solutions Innovations (RGSI). It serves as a comprehensive solution for computer stores and similar businesses, aiming to revolutionize online retail operations. RGSI Lux streamlines various aspects of e-commerce, including inventory management, transaction processing, and customer engagement, offering a seamless and efficient platform for businesses to thrive in the

digital marketplace.

The scope of RGSi Lux

Refer to table 1.4 for the feature of RGSi Lux E-Commerce. This table consist of a parent and child features and functionalities which are the child feature;

Table 1.4 RGSi Lux System Features

Parent Feature	Child Feature
<i>Dashboard</i>	
<i>Admin Module</i>	
	User Masterfile
	Company Information
	System Features
	System Modules
	Security Levels
	Audit Logs
<i>Masterfile Displays</i>	
	Position Masterfile

	Status Masterfile
	Supplier Masterfile
	Shipment Schedule
	Method of Payments
<i>Product Display</i>	
	Product Masterfile
	Category Masterfile
	Customer Cart
	Product Sales
<i>Reports</i>	
	Customer-Product Evaluation Report
	Product Sales Quota Report
	Product Summary Per Supplier
	Product Supplier Evaluation Report
	Inventory Status Report
<i>RGSi Lux Chat</i>	

	Customer Support
<i>Web-Based Website</i>	
<i>Email Integration</i>	
<i>Two-Factor Authentication</i>	
<i>RGSI Lux Service Hub</i> <i>(Developer Control Center)</i>	

RGSI Lux Limitations

Refer to Table 1.5 for the limitations of RGSI Lux. The table consist of several limitations or disadvantages of RGSI lux and a brief description that provides general discussion about each Limitations.

Table 1.5 RGIS Lux System Limitations

Limitations	Description
Unfamiliar	Users unfamiliar with RGIS Lux experience e learning curve as they adapt to the new setting based on the interface features, workflows and temporarily impact productivity and efficiency.
Dependent on the Internet	RGSI Lux is a web application that is dependent on the Internet.

RGSI User	RGSI lux is a client based and can only be used for RGSI
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Project Specification of RGSI Lux

RGSI Lux encompass the cutting edge of web-based e-commerce system that prioritized the exceptional customer experience through user-friendly interfaces, secure payment gateways and personalized features placing the customer in the forefront design.

Refer to Table 1.6 for the system features of RGSI

Table 1.6 RGSI Project Specification

Specification	Description
C #	Programming Language for building RGSI Lux web application.
Visual Basic .NET	Programming Language for building the RGSI Lux Service Hub software application.
Bootstrap 5	Front-end framework for building responsive and mobile-first websites and web applications.
Microsoft SQL Server 2022	Relational database management system for storing and managing data in a structured format.
SQL Server Management Studio 19	SQL Server Management Studio 19 is a robust tool for database administration and development.

RGSI Lux Service Hub

The RGSI Lux Service Hub is a centralized platform designed to streamline customer support and enhance user experience within the RGSI Lux e-commerce ecosystem. Serving as a comprehensive hub for assistance and communication, it provides users with access to a wide range of support services, including troubleshooting, inquiries, and guidance on utilizing RGSI Lux effectively. Through the Service Hub, users can submit support tickets, engage in live chat sessions with support representatives, access knowledge base articles, and receive timely updates on system improvements and enhancements. With a focus on responsiveness and efficiency, the RGSI Lux Service Hub aims to ensure that users receive the assistance they need promptly, contributing to a seamless and satisfying experience within the RGSI Lux environment.

The service will include the following utilities;

- Database Creator
- Test Database Environment Creator
- Database Migrator (RGSI Lux Database)
- Database Updater
- Website Creator
- Database Purging Utility
- Encryption/Decryption Utility

RGSI Lux Hardware Specification

The RGSI Lux hardware specifications are tailored to support the robust functionality

and performance requirements of the web-based e-commerce system. Built on a scalable infrastructure, RGSi Lux requires servers equipped with sufficient processing power, memory, and storage capacity to handle large volumes of data and concurrent user interactions. The hardware configuration typically includes high-performance processors, ample RAM for efficient multitasking, and fast storage solutions such as solid-state drives (SSDs) for rapid data access. Additionally, network connectivity is crucial to ensure seamless access to the RGSi Lux platform, with provisions for redundant network links and load balancing to optimize performance and reliability. Furthermore, robust security measures, including firewalls, intrusion detection systems, and data encryption capabilities, are implemented at the hardware level to safeguard sensitive information and protect against cyber threats. By adhering to stringent hardware specifications, RGSi Lux delivers a stable and responsive e-commerce environment, enabling businesses to operate efficiently and securely in the digital marketplace.

Refer to Table 1.8 shows the hardware specification of the server and client devices to run RGSi Lux

Table 1.7 RGSi Hardware Specification

ITEM	SERVER CLIENT
Processor	4x 1-6 GHz CPU 2x 1 GHz CPU RAM 32 GB RAM 1GB RAM
HDD	320 GB-8 TB Any
OSS	Microsoft Windows Server Any
Virtual Machine	Basic Language VM Basic Small VM

Table 1.7 outlines the hardware specifications for both the server and client components of the RGSi system. The server is equipped with four processors ranging from 1 to 6 GHz each, coupled with 32 GB of RAM and a storage capacity between 320 GB to 8 TB. In contrast, the client system features two processors clocked at 1 GHz, 1 GB of RAM, and a flexible hard disk drive configuration. Both server and client run on Microsoft Windows Server operating system, with the server supporting a Basic Language virtual machine while the client utilizes a Basic Small virtual machine.

Progress Measurement

Progress measurement is a systematic approach used to assess the advancement of tasks, projects, or initiatives towards predefined goals and objectives. It involves tracking key performance indicators (KPIs), milestones, and other relevant metrics to gauge the level of achievement and identify areas for improvement. Progress measurement encompasses various methods, including quantitative analysis of data, qualitative assessments, and feedback mechanisms. By continuously monitoring progress, stakeholders can gain insights into project status, identify potential risks or bottlenecks, and make informed decisions to optimize resource allocation and ensure timely completion of objectives. Effective progress measurement facilitates transparency, accountability, and alignment with organizational goals, ultimately contributing to successful project outcomes and continuous improvement efforts.

The proponent used the following metrics to measure the project progress;

1. Project Timeline Progress

Regularly assessing progress against the project timeline, comparing planned milestones and activities with actual completion dates.

2. Survey Results Analysis

Analyzing feedback from surveys conducted during project implementation to gauge user satisfaction, identify areas for improvement, and measure progress in meeting project objectives.

3. Output Evaluation

Evaluating the quality and quantity of project outputs generated, such as reports, software prototypes, or deliverables, to ensure alignment with project goals and stakeholder expectations.

4. Number of Disconnections

Tracking the frequency and duration of disconnections or disruptions in project activities, such as network outages or resource unavailability, to assess their impact on project progress.

5. Budget Expenditure vs. Allocation

Monitoring actual expenditures against the budget allocated for various project activities and phases to ensure financial discipline and identify potential cost overruns or savings.

6. Quality Assurance Metrics

Assessing metrics related to product quality, including defect rates, adherence to technical specifications, and customer satisfaction scores, to measure progress in delivering high-quality project outcomes.

Project Success

The proponent would consider the project success if the evaluation results of

the system shows either of the following;

- Targeting 90% or higher satisfaction rating from employee feedback surveys and aiming for 80% or higher user engagement rate within six months.
- Striving for a Net Promoter Score (NPS) of 9 or above and aiming for 85% or higher positive feedback from customer satisfaction surveys.
- Targeting at least a 50% reduction in manual data entry and aiming to eliminate 75% of paper-based workflows within the first year.
- Striving for a minimum of 20% increase in overall operational efficiency and aiming for at least a 10% reduction in task completion time for key processes.