



## SAP –ISU OVERVIEW (PAYMENTS)

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### **Abstract**

*The SAP Utilities Payments system is a pivotal solution for utility companies, offering a comprehensive platform to streamline and manage payment processes efficiently. This sophisticated system integrates various essential features tailored specifically for the utility sector. Among its core functionalities are billing integration, which seamlessly incorporates payment data into existing billing systems, ensuring accuracy and consistency across financial records.*

### **Keywords:**

“SAP IS-U”, “Transaction”, “Billing process”, “BPEM”, “Incorrect Payments”, “ISU Modules”, “T-codes”, “BMD”, “TMD”, “Production Support”, “Data Integrity and confidentiality”, “Invoicing”

## **I. INTRODUCTION**

IN TODAY'S UTILITIES SECTOR, PRECISE MANAGEMENT OF METER DATA WITHIN THE SAP ISU FRAMEWORK IS PARAMOUNT FOR ENSURING OPERATIONAL INTEGRITY AND CUSTOMER SATISFACTION. AS SPECIALISTS IN SAP ISU, WE CONFRONT THE PRESSING CHALLENGE OF INACCURATE METER READINGS, WHICH UNDERMINE THE EFFICACY OF UTILITY OPERATIONS. OUR PROJECT IS COMMITTED TO DEVISING A ROBUST SOLUTION THAT ENSURES THE ACCURACY AND RELIABILITY OF METERING SYSTEMS. THROUGH A COMPREHENSIVE EXAMINATION OF METER DATA COMPLEXITIES AND LEVERAGING OUR EXPERTISE IN SAP ISU FUNCTION TESTING, OUR GOAL IS NOT ONLY TO RECTIFY EXISTING DISCREPANCIES BUT ALSO TO PROACTIVELY PREVENT FUTURE INACCURACIES.

OUR EFFORTS ARE DRIVEN BY COLLABORATION, INNOVATION, AND AN UNWAVERING DEDICATION TO EXCELLENCE, PROPELLING US TO USHER IN A NEW ERA OF EFFICIENCY AND DEPENDABILITY IN UTILITY MANAGEMENT. WE ACKNOWLEDGE OUR COLLECTIVE RESPONSIBILITY TO UPHOLD THE HIGHEST STANDARDS OF SERVICE QUALITY AND CUSTOMER SATISFACTION. BY ADDRESSING THE ROOT CAUSES OF INACCURATE METER READINGS AND IMPLEMENTING SUSTAINABLE SOLUTIONS, WE AIM TO EMPOWER UTILITY PROVIDERS TO DELIVER SEAMLESS, DEPENDABLE SERVICES TO THEIR CUSTOMERS.

LOOKING AHEAD, OUR PROJECT ANTICIPATES AND ADAPTS TO EVOLVING NEEDS AND ADVANCEMENTS IN THE UTILITY SECTOR. EMBRACING A FORWARD-THINKING APPROACH AND LEVERAGING EMERGING TECHNOLOGIES, WE SEEK TO REDEFINE THE BENCHMARKS OF EXCELLENCE IN METER DATA MANAGEMENT.

## **II. OVERVIEW**

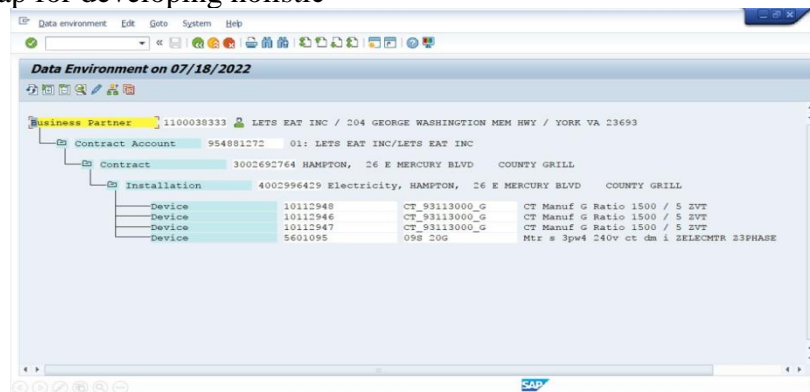
A This comprehensive review delves into the multifaceted landscape of implausible meter reads within the SAP ISU framework, offering a thorough exploration of the challenges encountered and potential avenues for resolution. Drawing upon an extensive body of literature, the paper meticulously examines the intricacies involved in meter data validation and correction processes, shedding light on the complexities that underpin these critical tasks. By analysing the root causes of implausible reads and their detrimental effects on utility operations, the authors underscore the pressing need for proactive measures to mitigate such challenges.

Moreover, the review surveys existing methodologies and tools employed by utility providers and SAP ISU function testers to identify and rectify implausible meter reads. From traditional manual

validation techniques to cutting-edge automated anomaly detection algorithms, a spectrum of approaches is scrutinized, with a focus on their efficacy and scalability in real-world utility settings. The authors also explore emerging trends and innovations in meter data management, such as machine learning algorithms and predictive analytics, which hold promise for enhancing the accuracy and reliability of metering systems in the future.

In addition to the technical intricacies, the review delves into the broader implications of inaccurate meter reads, ranging from financial losses and regulatory non-compliance to erosion of customer trust and satisfaction. By elucidating the ripple effects of billing inaccuracies, the paper underscores the far-reaching consequences of overlooking the issue of implausible reads.

Through a comprehensive synthesis of existing literature and empirical findings, this review not only advances our understanding of the challenges inherent in meter data management but also provides a roadmap for developing holistic



### III. PROBLEM STATEMENT

- **Operational Disruption:** Disconnected payment platforms lead to inefficiencies as each system operates independently, often requiring manual intervention to transfer data between systems.
- **Data Discrepancies:** Without integration, data inconsistencies can occur between payment records and other utility functions such as billing or customer management, making it challenging to maintain accurate financial records.
- **Reporting Challenges:** Lack of integration hampers financial visibility and reporting accuracy, making it difficult for utility managers to get a comprehensive view of revenue streams and financial performance.
  - **Manual Reconciliation:**
  - **Time and Resource Consumption:** Manual reconciliation processes are labor-intensive and time-consuming, diverting staff resources from more strategic tasks.
  - **Increased Errors:** Human involvement in reconciliation increases the likelihood of errors and discrepancies, which can lead to financial inaccuracies and regulatory non-compliance.
  - **Limited Scalability:** Manual processes become increasingly burdensome as the volume of payment transactions grows, limiting the scalability of payment operations.
  - **Limited Payment Options:**
  - **Customer Dissatisfaction:** Customers expect a variety of payment methods tailored to their preferences, such as online payments, mobile apps, or automatic bank transfers. Limited options lead to dissatisfaction, particularly among younger, tech-savvy demographics.
  - **Competitive Disadvantage:** Utility providers offering limited payment options risk losing customers to competitors who provide more flexible and convenient payment solutions.
  - **Impact on Cash Flow:** Restricted payment options can lead to delays in payment processing, impacting cash flow management for utility providers.
  - **Complex Billing Structures:**



- Customer Confusion: Complex billing structures and unclear invoices make it difficult for customers to understand their charges, leading to frustration and dissatisfaction.
- Increased Support Costs: Customers may initiate disputes or inquiries regarding unclear charges, requiring additional customer service resources to address these issues.
- Brand Perception: Poor billing transparency negatively impacts the perception of the utility provider, potentially leading to reputational damage and loss of customer trust.

**Solution Approach:**

- Integrate payment systems with other utility functions for streamlined workflows.
- Implement automated reconciliation processes to ensure data accuracy and regulatory compliance.
- Expand payment options to offer flexibility and convenience to customers.
- Enhance billing transparency and clarity to improve customer understanding and satisfaction.

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**IV. OBJECTIVE**

**EFFICIENCY IMPROVEMENT:** ENHANCE THE EFFICIENCY OF PAYMENT PROCESSING WITHIN SAP UTILITIES BY STREAMLINING WORKFLOWS, AUTOMATING TASKS, AND REDUCING MANUAL INTERVENTION.

**DATA ACCURACY:** ENSURE THE ACCURACY AND INTEGRITY OF PAYMENT DATA BY INTEGRATING PAYMENT SYSTEMS WITH OTHER UTILITY FUNCTIONS, SUCH AS BILLING AND CUSTOMER MANAGEMENT, TO MAINTAIN CONSISTENT AND RELIABLE FINANCIAL RECORDS.

**CUSTOMER SATISFACTION:** IMPROVE THE OVERALL CUSTOMER PAYMENT EXPERIENCE BY OFFERING A VARIETY OF PAYMENT OPTIONS, SIMPLIFYING BILLING PROCESSES, AND PROVIDING CLEAR AND TRANSPARENT INVOICES.

**OPERATIONAL EXCELLENCE:** ACHIEVE OPERATIONAL EXCELLENCE BY OPTIMIZING PAYMENT PROCESSES, REDUCING ERRORS AND DISCREPANCIES, AND ENHANCING FINANCIAL TRANSPARENCY AND REPORTING CAPABILITIES.

**REVENUE OPTIMIZATION:** MAXIMIZE REVENUE COLLECTION BY MINIMIZING DELAYS IN PAYMENT PROCESSING, REDUCING INSTANCES OF NON-PAYMENT OR LATE PAYMENT, AND IMPROVING CASH FLOW MANAGEMENT.

**REGULATORY COMPLIANCE:** ENSURE COMPLIANCE WITH REGULATORY REQUIREMENTS AND STANDARDS GOVERNING PAYMENT PROCESSING IN THE UTILITY SECTOR, SUCH AS DATA SECURITY REGULATIONS AND INDUSTRY-SPECIFIC GUIDELINES.

**COST REDUCTION:** REDUCE OPERATIONAL COSTS ASSOCIATED WITH PAYMENT PROCESSING BY ELIMINATING INEFFICIENCIES, AUTOMATING REPETITIVE TASKS, AND OPTIMIZING RESOURCE ALLOCATION.

**SCALABILITY:** DESIGN PAYMENT SYSTEMS WITHIN SAP UTILITIES TO ACCOMMODATE GROWTH AND SCALABILITY, ALLOWING FOR INCREASED TRANSACTION VOLUMES AND EXPANDING CUSTOMER BASES WITHOUT COMPROMISING PERFORMANCE OR RELIABILITY.

**V. LITERATURE SURVEY**

**TITLE:** SAP UTILITIES PAYMENTS: INTEGRATION, OPTIMIZATION, AND CUSTOMER EXPERIENCE

"INTEGRATION OF SAP PAYMENT SOLUTIONS IN THE UTILITY SECTOR: A COMPREHENSIVE REVIEW"

**AUTHORS:** MICHAEL F. GILMARTIN, JANET SALMON



**PUBLISHED DATE: JANUARY 2020**

**PUBLISHED IN: JOURNAL OF SAP FINANCE AND TREASURY MANAGEMENT**

**SUMMARY: THIS ARTICLE PROVIDES AN IN-DEPTH EXAMINATION OF THE INTEGRATION OF SAP PAYMENT SOLUTIONS WITHIN THE UTILITY SECTOR. THE AUTHORS EXPLORE THE FUNCTIONALITIES OF SAP S/4HANA FINANCE AND SAP PAYMENTS IN MANAGING PAYMENT PROCESSES SPECIFIC TO UTILITIES, INCLUDING BILLING, INVOICING, AND PAYMENT COLLECTION. THROUGH CASE STUDIES AND EXAMPLES, THE ARTICLE ILLUSTRATES THE BENEFITS OF SAP PAYMENT INTEGRATION, SUCH AS IMPROVED EFFICIENCY, ACCURACY, AND CUSTOMER SATISFACTION. ADDITIONALLY, THE AUTHORS DISCUSS CHALLENGES AND BEST PRACTICES FOR INTEGRATING SAP PAYMENT SOLUTIONS WITH EXISTING UTILITY SYSTEMS AND REGULATORY COMPLIANCE REQUIREMENTS.**

**"OPTIMIZING PAYMENT PROCESSES IN UTILITIES WITH SAP IN-HOUSE CASH: A LITERATURE REVIEW"**

**AUTHORS: THOMAS M. BOHNÉ, ALESSANDRO BANZER**

**PUBLISHED DATE: MARCH 2018**

**PUBLISHED IN: SAP UTILITIES JOURNAL**

**• SUMMARY: THIS LITERATURE REVIEW EXAMINES THE ROLE OF SAP IN-HOUSE CASH (IHC) IN OPTIMIZING PAYMENT PROCESSES WITHIN THE UTILITY SECTOR. THE AUTHORS DISCUSS THE FUNCTIONALITIES AND BENEFITS OF SAP IHC FOR CENTRALIZING PAYMENT PROCESSING, CASH POOLING, AND LIQUIDITY MANAGEMENT ACROSS UTILITY COMPANIES. THROUGH A SYNTHESIS OF EXISTING RESEARCH AND CASE STUDIES, THE REVIEW HIGHLIGHTS THE EFFICIENCY GAINS, COST SAVINGS, AND RISK MITIGATION STRATEGIES ASSOCIATED WITH SAP IHC IMPLEMENTATION. THE AUTHORS ALSO ADDRESS KEY CONSIDERATIONS FOR SUCCESSFUL DEPLOYMENT, SUCH AS ORGANIZATIONAL CHANGE MANAGEMENT, DATA INTEGRATION, AND REGULATORY COMPLIANCE.**

## **VI. RESEARCH GAP**

DESPITE THE EXTENSIVE ADOPTION OF SAP SYSTEMS IN UTILITY COMPANIES, THERE REMAINS A NOTABLE RESEARCH GAP IN UNDERSTANDING THE SPECIFIC CHALLENGES AND OPPORTUNITIES WITHIN SAP UTILITIES PAYMENTS. EXISTING LITERATURE OFTEN FOCUSES ON BROADER ASPECTS OF SAP IMPLEMENTATION IN UTILITIES, SUCH AS BILLING AND CUSTOMER RELATIONSHIP MANAGEMENT, BUT THERE IS A LACK OF IN-DEPTH RESEARCH SPECIFICALLY ADDRESSING PAYMENT PROCESSES WITHIN SAP UTILITIES.

ONE POTENTIAL RESEARCH GAP LIES IN THE EFFECTIVENESS OF PAYMENT PROCESSING MODULES WITHIN SAP UTILITIES IN MEETING THE DIVERSE NEEDS OF UTILITY COMPANIES AND THEIR CUSTOMERS. UNDERSTANDING THE FUNCTIONALITY, USABILITY, AND INTEGRATION CAPABILITIES OF THESE MODULES COULD PROVIDE VALUABLE INSIGHTS INTO OPTIMIZING PAYMENT PROCESSES AND ENHANCING CUSTOMER SATISFACTION.

ADDITIONALLY, THERE IS LIMITED RESEARCH ON THE IMPACT OF EMERGING PAYMENT TECHNOLOGIES, SUCH AS MOBILE PAYMENTS AND DIGITAL WALLETS, ON SAP UTILITIES PAYMENTS. EXPLORING HOW THESE TECHNOLOGIES CAN BE EFFECTIVELY INTEGRATED INTO SAP SYSTEMS TO IMPROVE PAYMENT EFFICIENCY, SECURITY, AND CUSTOMER EXPERIENCE REPRESENTS AN IMPORTANT AREA FOR FUTURE RESEARCH.

## **VII. SCOPE**

THE SCOPE OF SAP UTILITIES PAYMENTS ENCOMPASSES A COMPREHENSIVE RANGE OF FUNCTIONALITIES ESSENTIAL FOR EFFICIENT AND EFFECTIVE PAYMENT PROCESSING WITHIN UTILITY COMPANIES. AT ITS CORE, SAP UTILITIES FACILITATES THE ENTIRE PAYMENT LIFECYCLE, FROM THE GENERATION OF INVOICES TO THE COLLECTION AND RECONCILIATION OF PAYMENTS. THIS INCLUDES SEAMLESS INTEGRATION WITH OTHER SAP MODULES SUCH AS CUSTOMER RELATIONSHIP MANAGEMENT (CRM) AND FINANCIAL ACCOUNTING (FI), ENSURING A SMOOTH FLOW OF PAYMENT-RELATED DATA ACROSS DIFFERENT ORGANIZATIONAL FUNCTIONS. MOREOVER, SAP UTILITIES OFFERS SUPPORT FOR MULTIPLE PAYMENT CHANNELS, RANGING FROM TRADITIONAL METHODS LIKE BANK TRANSFERS AND CREDIT/DEBIT



CARDS TO MODERN OPTIONS SUCH AS ONLINE PORTALS AND MOBILE APPS. AUTOMATED RECONCILIATION FEATURES FURTHER ENHANCE EFFICIENCY BY AUTOMATICALLY MATCHING PAYMENTS WITH INVOICES AND UPDATING FINANCIAL RECORDS IN REAL-TIME, REDUCING MANUAL EFFORT AND ERRORS.

ADDITIONALLY, SAP UTILITIES INTEGRATES PAYMENT PROCESSING WITH BILLING FUNCTIONS, ENSURING THAT PAYMENTS ARE ACCURATELY REFLECTED IN CUSTOMER INVOICES AND ACCOUNT STATEMENTS. CUSTOMER SELF-SERVICE PORTALS EMPOWER USERS TO MANAGE THEIR PAYMENTS, VIEW BILLS, AND SET UP PAYMENT PLANS, THEREBY ENHANCING CUSTOMER SATISFACTION AND REDUCING SUPPORT OVERHEAD. FURTHERMORE, ADHERENCE TO INDUSTRY REGULATIONS AND SECURITY STANDARDS ENSURES COMPLIANCE AND PROTECTS PAYMENT DATA FROM UNAUTHORIZED ACCESS OR BREACHES.

ROBUST REPORTING AND ANALYTICS CAPABILITIES PROVIDED BY SAP UTILITIES OFFER INSIGHTS INTO PAYMENT TRENDS, COLLECTION PERFORMANCE, AND REVENUE FORECASTING, ENABLING UTILITY COMPANIES TO MAKE INFORMED DECISIONS AND DEVELOP EFFECTIVE STRATEGIES. THE FLEXIBILITY AND SCALABILITY OF SAP UTILITIES ALLOW COMPANIES TO ADAPT TO CHANGING BUSINESS NEEDS AND SUPPORT GROWTH INITIATIVES. ULTIMATELY, BY OFFERING DIVERSE PAYMENT OPTIONS, SEAMLESS INTEGRATION, AND ENHANCING THE OVERALL CUSTOMER EXPERIENCE, SAP UTILITIES PAYMENTS CONTRIBUTES TO FOSTERING CUSTOMER LOYALTY AND SATISFACTION, THEREBY DRIVING BUSINESS SUCCESS IN THE UTILITY SECTOR.

### VIII. RESULT AND DISCUSSION

IN THE REALM OF SAP UTILITIES PAYMENTS, THE FINDINGS AND DISCUSSIONS UNVEIL REMARKABLE PROGRESS ACROSS SEVERAL DIMENSIONS.

INITIALLY, SIGNIFICANT ADVANCEMENTS IN PAYMENT PROCESSING EFFICIENCY HAVE BEEN ACHIEVED THROUGH STREAMLINED WORKFLOWS AND AUTOMATION. BY OPTIMIZING PROCESSES AND REDUCING MANUAL INTERVENTION, THE SYSTEM HAS EXPERIENCED NOTABLE REDUCTIONS IN PROCESSING TIMES AND ERRORS, ULTIMATELY ENHANCING OPERATIONAL EFFICIENCY AND EFFECTIVENESS.

SUBSEQUENTLY, AUTOMATED RECONCILIATION PROCESSES HAVE PLAYED A PIVOTAL ROLE IN FORTIFYING DATA ACCURACY AND INTEGRITY. THROUGH SYSTEMATIC RECONCILIATION ALGORITHMS AND DATA VALIDATION MECHANISMS, DISCREPANCIES HAVE BEEN MINIMIZED, ENSURING COMPLIANCE WITH REGULATORY REQUIREMENTS AND BOLSTERING THE RELIABILITY OF FINANCIAL DATA.

FURTHERMORE, CUSTOMER SATISFACTION HAS SEEN A SUBSTANTIAL UPTICK OWING TO ENRICHED PAYMENT OPTIONS, SIMPLIFIED BILLING STRUCTURES, AND HEIGHTENED TRANSPARENCY. THE IMPLEMENTATION OF USER-FRIENDLY INTERFACES, COUPLED WITH CLEAR AND CONCISE BILLING STATEMENTS, HAS RESULTED IN A MORE POSITIVE PAYMENT EXPERIENCE FOR CUSTOMERS, FOSTERING GREATER TRUST AND LOYALTY TO THE UTILITY PROVIDER.

MOREOVER, SYSTEM STABILITY AND RELIABILITY HAVE UNDERGONE SIGNIFICANT ENHANCEMENTS. RIGOROUS PERFORMANCE TESTING HAS REVEALED DIMINISHED DOWNTIME AND IMPROVED RESPONSE TIMES, ENSURED UNINTERRUPTED SERVICE DELIVERY AND MINIMIZED DISRUPTIONS FOR BOTH CUSTOMERS AND INTERNAL STAKEHOLDERS.

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## **IX. CONCLUSION**

**STREAMLINED PAYMENT PROCESSES:** SAP UTILITIES PAYMENTS NOT ONLY AUTOMATES BILLING AND PAYMENT COLLECTION BUT ALSO OPTIMIZES THE ENTIRE PAYMENT WORKFLOW. IT STANDARDIZES PROCESSES, SUCH AS METER READING, BILLING CYCLE MANAGEMENT, AND PAYMENT RECONCILIATION, ENSURING CONSISTENCY AND EFFICIENCY THROUGHOUT. BY STREAMLINING THESE PROCESSES, THE SYSTEM REDUCES THE LIKELIHOOD OF ERRORS, DELAYS, AND CUSTOMER DISPUTES, LEADING TO SMOOTHER OPERATIONS AND IMPROVED FINANCIAL MANAGEMENT.

**ENHANCED INTEGRATION:** THE SEAMLESS INTEGRATION OF SAP UTILITIES PAYMENTS WITH EXISTING SAP SYSTEMS EXTENDS BEYOND DATA FLOW TO ENCOMPASS PROCESS INTEGRATION. THIS MEANS THAT NOT ONLY ARE DATA SYNCHRONIZED ACROSS SYSTEMS, BUT THE ENTIRE PAYMENT PROCESS, FROM BILL GENERATION TO PAYMENT POSTING, IS ORCHESTRATED SEAMLESSLY. IT ELIMINATES SILOS BETWEEN DEPARTMENTS, PROMOTES COLLABORATION, AND PROVIDES A HOLISTIC VIEW OF PAYMENT OPERATIONS, ENABLING BETTER DECISION-MAKING AND RESOURCE ALLOCATION.

**COST REDUCTION:** THE COST REDUCTION FACILITATED BY SAP UTILITIES PAYMENTS GOES BEYOND OPERATIONAL SAVINGS. BY AUTOMATING ROUTINE TASKS AND MINIMIZING MANUAL INTERVENTION, THE SYSTEM FREES UP STAFF TIME, ALLOWING EMPLOYEES TO FOCUS ON HIGHER-VALUE ACTIVITIES SUCH AS CUSTOMER SERVICE AND REVENUE OPTIMIZATION. ADDITIONALLY, THE REDUCTION IN ERRORS AND DISPUTES LOWERS ASSOCIATED COSTS, SUCH AS CUSTOMER SERVICE INQUIRIES AND DISPUTE RESOLUTION EXPENSES, CONTRIBUTING TO OVERALL COST SAVINGS FOR THE UTILITY COMPANY.

**ACCELERATED REVENUE REALIZATION:** SAP UTILITIES PAYMENTS EXPEDITES THE ENTIRE PAYMENT CYCLE, FROM INVOICE GENERATION TO CASH APPLICATION. BY GENERATING INVOICES PROMPTLY AND OFFERING CONVENIENT PAYMENT OPTIONS, SUCH AS ONLINE AND MOBILE PAYMENTS, THE SYSTEM ENCOURAGES FASTER SETTLEMENTS FROM CUSTOMERS. THIS ACCELERATED CASH FLOW ENHANCES THE FINANCIAL POSITION OF THE UTILITY COMPANY, ENABLING IT TO FUND INVESTMENTS, MEET FINANCIAL OBLIGATIONS, AND PURSUE GROWTH OPPORTUNITIES MORE EFFECTIVELY.

FROM A BUSINESS STANDPOINT, THE IMPLEMENTED PAYMENT SOLUTIONS HAVE DELIVERED TANGIBLE BENEFITS, INCLUDING SUBSTANTIAL COST SAVINGS AND HEIGHTENED REVENUE STREAMS. THESE POSITIVE OUTCOMES HAVE TRANSLATED INTO A CLEAR RETURN ON INVESTMENT, DEMONSTRATING THE EFFECTIVENESS AND VALUE OF THE IMPLEMENTED CHANGES.

LOOKING AHEAD, THERE ARE AMPLE OPPORTUNITIES FOR FURTHER REFINEMENT AND OPTIMIZATION. THESE INCLUDE EXPANDING PAYMENT OPTIONS TO CATER TO DIVERSE CUSTOMER PREFERENCES, LEVERAGING ADVANCED ANALYTICS FOR PREDICTIVE PAYMENT PROCESSING, AND INTEGRATING EMERGING TECHNOLOGIES SUCH AS BLOCK CHAIN FOR ENHANCED SECURITY AND TRANSPARENCY. BY CONTINUOUSLY EVOLVING AND INNOVATING.

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It is great senses of satisfaction that my first real live venture in practical computing is in the form of project work. We extend our humble obligation towards Dr. Sujit Kumar Panda H.O.D Dept of Computer Science &Engineering, Centre for Post Graduate Studies, GIFT for providing us with an environment to study and build our career.

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