International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Real-Time Automation of Cake Shop Operations Using PowerBI and AutomationEdge RPA: A Customer Behavior-Driven Approach

Prithviraj Nitin Vichare[1], Manisha Prakash Bharati[2]

[1,2]Department of Technology, Savitribai Phule Pune University, Pune,

Abstract

In this research, a comprehensive, low-code automa- tion framework is presented, specifically designed to address the operational challenges faced by small-scale cake shops. The system combines Power BI for real-time data visualization, advanced demand forecasting models, and AutomationEdge's Robotic Process Automation (RPA) capabilities to optimize crit- ical business processes such as billing, inventory management, customer interaction, and feedback handling.

A dataset of over 25,000 customer transactions recorded between 2020 and 2025 was analyzed to identify distinct buying behaviors. Based on frequency, spending patterns, and product preferences, four consumer types were recognized: Habitual Buyers, Variety-Seeking Consumers, Complex Custom Order Clients, and First-Time or Hesitant Buyers. Each category is au- tomatically mapped to specific workflows designed to personalize engagement, improve service delivery, and streamline operations. Forecasting of item demand was conducted using ARIMA time series models, achieving a Mean Absolute Percentage Error (MAPE) of approximately 12%. Additionally, VADER-based sentiment analysis was employed to monitor customer reviews and promptly respond to dissatisfaction, reducing response time significantly. Key performance indicators showed notable im- provements: invoice accuracy increased to 99%, stockouts were reduced by 75%, and customer order fulfillment times improved by 30%. Furthermore, a measurable 18% increase in repeat purchases was observed.

The entire framework leverages AutomationEdge's hyper- automation platform, integrating AI, OCR, chatbots (CogniBot), and cloud-based RPA-as-a-Service (RPAaaS). This scalable and cost-efficient solution demonstrates significant potential for en- hancing operational efficiency and customer satisfaction in small- to-medium-sized retail environments.

Keywords: Power BI, AutomationEdge RPA, Retail Au- tomation, Hyperautomation, Demand Forecasting, Customer Seg- mentation, Sentiment Analysis, Cake Shop Management.

INTRODUCTION

In the highly competitive retail environment, small and medium-sized businesses (SMBs) such as local cake shops often face limitations in operational efficiency, data manage- ment, and personalized customer engagement. Traditionally, such businesses rely on manual methods for order processing, inventory tracking, and customer interaction. While manage- able at small volumes, these practices

lead to several critical issues as operations grow—namely, frequent data entry errors, inventory mismatches, delays in responding to customer needs, and ineffective marketing campaigns that fail to reflect cus- tomer preferences.

Moreover, most small cake shops operate without central- ized visibility into purchasing patterns or sales trends. This lack of actionable insights can result in overstocking, missed demand peaks, poor customer retention, and lost revenue opportunities. In today's data-driven landscape, these ineffi- ciencies can place smaller vendors at a disadvantage compared to digital-first or chain competitors who leverage automation and analytics.

To address these challenges, this paper proposes an end- to-end, low-code automation solution built using Power BI for data visualization and AutomationEdge's Robotic Process Automation (RPA) platform. The system is tailored to support key business operations in real time by integrating:

Customer Segmentation: Identifying and classifying buyers into behavioral clusters based on historical trans- action data, enabling personalized marketing and service strategies.

Demand Forecasting: Applying ARIMA-based time series modeling to predict product-level demand with high accuracy, optimizing procurement and minimizing wastage.

Live Dashboards: Developing interactive Power BI dashboards to monitor performance metrics such as sales, sentiment scores, stock levels, and feedback trends.

RPA Workflows: Automating repetitive and time- sensitive tasks such as invoice generation, order con- firmations, stock reordering, and customer feedback resolution using AutomationEdge bots.

Data-Driven Validation: Evaluating system perfor- mance using real operational data collected from cake shops, with measurable improvements across key busi- ness indicators.

The objective of this work is to demonstrate how even small-

Fig. 1: Automation Edge Wheel

scale retail businesses can adopt hyperautomation technologies effectively, improve customer satisfaction, streamline opera- tions, and achieve data-driven growth without the need for large IT infrastructure or development teams.

RELATED WORK

In the past five years (2020–2025), advancements in automa- tion and analytics have influenced businesses across sectors. Technologies like Robotic Process Automation (RPA), data visualization platforms (e.g., Power BI), and customer behav- ior analytics are being used to drive efficiency and decision- making. However, these technologies are rarely studied in the context of small-scale food

businesses such as cake shops, where operational budgets, staff limitations, and manual de- pendencies present unique constraints. This section discusses the latest research across relevant domains and highlights the real-time implementation challenges addressed in this paper.

A. Customer Behavior Analysis in Retail

Understanding customer buying behavior is crucial for op- timizing inventory, service, and marketing strategies. Abdel- salam et al. [6] conducted a comprehensive review on impulse buying in online social commerce, identifying psychological and contextual factors-such as visual appeal, social influence, and time pressure-that drive unplanned purchases. This has direct relevance for cake shops, where customers often make spontaneous purchases based on display or seasonal offers.

Liu et al. [5] applied process mining to model and categorize customer behavior, enabling organizations to trace paths from initial interest to final purchase. In small food outlets, such process maps could help in designing store layouts or digital order flows. Similarly, Guan and Astiti [10] focused on the influence of website personality and trust on impulsive online buying. For cake shops that take online orders or operate via food delivery platforms, this research supports the need for consistent branding and timely promotion to convert interest into sales.

However, these models remain largely diagnostic. They help interpret customer behavior post-factum, but are not integrated with systems that can respond in real-time—such as offering dynamic promotions, segment-specific recommendations, or automated follow-ups via RPA bots. This disconnect limits their usefulness in day-to-day business operations in fast-paced environments like bakeries.

B. Power BI for Data Visibility and Business Intelligence

Power BI is widely adopted in small and medium enterprises for reporting and data visualization. Deloitte's industry insight

[1] highlights how SMEs are using Power BI dashboards to improve transparency in order management, financial tracking, and customer service. Such dashboards allow bakery managers to monitor daily sales, best-selling items, and seasonal varia- tions—important for reducing waste and managing perishable goods.

Cabrita et al. [7] proposed an RPA implementation frame- work in a financial institution that linked Power BI dashboards to trigger automation workflows. Although designed for bank- ing, this architecture is transferable to food retail: for example, when a cake's daily sales fall below a threshold, the system could trigger a reorder prompt or generate a customer feedback request. Yet, there are limited real-world examples of such integrations in small food businesses.

Even when Power BI is implemented in bakeries, it typically serves as a passive tool. For instance, data may show that a specific cake flavor sells poorly on Mondays, but without automation, a staff member must act manually to update pro- motions or reduce baking quantity. Bridging this data–action gap remains a key area of opportunity.

C. Evolution of RPA and Its Real-Time Utility

RPA has transformed business operations by replacing rule- based repetitive tasks with automated workflows. Enriquez et al. [9] provided a systematic mapping of scientific and industrial research in RPA, identifying use cases from HR management to invoice processing. While RPA is known for back-office efficiency, its role in real-time, customer-facing operations in small businesses is still underrepresented in literature.

Sonawani et al. [8] introduced a novel approach using multimodal data fusion in robotic systems for

retail environ- ments. This approach integrates visual and sensory inputs to allow real-time reactions. For example, using camera feeds and purchase patterns to suggest related items or personalize displays. Although their system was built for advanced robotic systems, the concept is relevant to bakeries that could benefit from real-time data fusion (e.g., combining POS data with time-of-day patterns to optimize display rotation or offer pop- up discounts).

AutomationEdge, a hyperautomation platform, offers RPA solutions integrated with AI, chatbot interfaces, and deci- sion engines. According to its official documentation [4], it supports integration with Power BI, ticketing systems, and databases—making it suitable for full automation pipelines. Yet, its application in food retail remains largely undocu- mented.

D. Case Studies on AutomationEdge RPA

Vichare [2] presented a case study on using Automa- tionEdge to automate onboarding tasks in enterprise set- tings, reducing processing time and improving accuracy. In a separate study, Vichare and Bharati [3] used the same platform to automate student eligibility workflows and feed- back responses. Both implementations demonstrated real-time bot responses based on user inputs, showing the platform's capability for real-world decision-making.

These studies validate AutomationEdge as a scalable and intelligent RPA platform. However, both focus on structured environments (educational institutions and corporate HR), with no mention of small business constraints-such as inconsistent data formats, limited staff for system upkeep, and low IT maturity. Applying AutomationEdge in cake shops introduces unique challenges: integrating with legacy POS systems, han- dling informal customer feedback (e.g., handwritten notes), and ensuring non-technical users can manage the bots.

E. Gaps in Existing Literature and Practice

Across the reviewed studies, several critical gaps are iden- tified:

Tool Interoperability: There is limited exploration of seamless integration between Power BI and RPA tools like AutomationEdge in small business contexts.

Real-Time Actionability: While analytics platforms di- agnose trends, there is little focus on automatically acting upon those insights in real time.

Domain-Specific Validation: Most automation and ana- lytics case studies focus on large enterprises or digital- first domains, with few real-world examples in small- scale food businesses like cake shops.

User Accessibility: Existing tools assume technical ex- pertise; there is a lack of systems tailored for non- technical users (e.g., bakery staff) to operate without extensive training.

F. Research Contribution

This study bridges these gaps by presenting a real-time, integrated system built for a local cake shop. Using Power BI for demand forecasting and AutomationEdge bots for workflow automation, the proposed system:

- Processes real-time sales and customer feedback data.
- Sends automated alerts for low-stock items.
- Triggers personalized customer messages based on pur- chase history and review sentiment.
- Reduces manual workload while increasing service accu- racy and response time.

To our knowledge, this is one of the first practical demon- strations of RPA and BI integration in a small food retail environment, validating the approach through live data and operational workflows.

PROPOSED METHOD AND SYSTEM ARCHITECTURE

This section presents the design and components of a real- time, automated retail management system built specifically for small cake shops. The system integrates business in- telligence (via Power BI), robotic process automation (via AutomationEdge), customer behavior analytics, and intelligent forecasting to deliver a low-code, scalable solution for man- aging day-to-day operations with minimal manual input.

A. System Overview

The system is structured as a multi-layered architecture comprising the following modules:

Data Ingestion Layer: Captures data from sales invoices, stock entries, online orders, and customer

feedback.

Analytics Layer: Performs demand forecasting using ARIMA, sentiment analysis using VADER, and customer segmentation.

Visualization Layer: Presents live dashboards in Power BI for sales, stock alerts, top-selling items, and feedback trends.

Automation Layer: Uses AutomationEdge bots to per- form actions such as invoice generation, stock alerts, customer messaging, and complaint resolution.

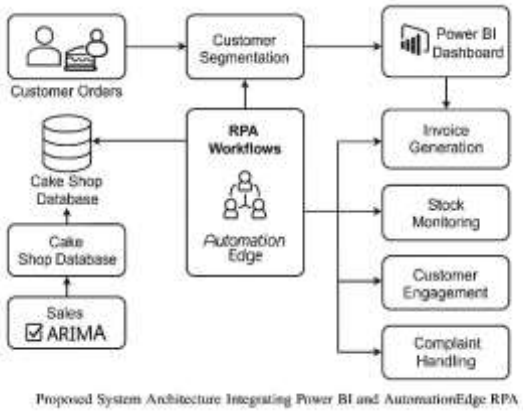

Fig. 2: Proposed System Architecture Integrating Power BI and AutomationEdge RPA

B. Customer Segmentation Model

Customers are classified into four types based on historical transaction data, frequency, and order diversity:

Habitual Buyers: Frequently purchase the same items.

Variety Seekers: Try different cakes and offers.

Complex Buyers: Place custom or large event orders.

Cautious Buyers: New or occasional customers who often read reviews before purchasing.

Each type is mapped to a workflow:

- Habitual: Loyalty discounts and automated reminders.
- Variety: New product alerts and trial coupons.
- Complex: Direct staff contact and delivery scheduling.
- Cautious: Chatbot follow-up and review requests.

C. Demand Forecasting Engine

Using the ARIMA (AutoRegressive Integrated Moving Av- erage) model, the system forecasts daily and weekly demand per Stock Keeping Unit (SKU). It learns seasonal trends and special occasion patterns (e.g., Diwali, Christmas).

F. Power BI Dashboard Snapshots

The Power BI dashboard integrates with SQL or Excel- based backend data and is refreshed hourly. Main visualiza- tions include:

- Top SKUs by sales volume
- Real-time inventory alerts

Where:

$$\hat{y}_t = \alpha + \sum_{i=1}^{p} \phi_i y_{t-i} + \sum_{j=1}^{q} \vartheta_j \epsilon_{t-j} + \epsilon_t$$

Weekly forecast vs. actuals

- Customer satisfaction trend (sentiment score)
- Order fulfillment time analytics
- $\hat{y}_t$ = forecasted value at time t

- p = autoregressive terms, q = moving average terms
- ϵ = white noise (error)

This helps reduce overstocking and ensures availability of fast-selling items. Forecasting accuracy (MAPE) was mea- sured at approximately 12%.

D. Sentiment Analysis and Feedback Processing

Customer reviews (from Google and Zomato) are processed using the VADER sentiment analyzer. Based on polarity score, RPA bots execute corrective actions:

- Negative sentiment → auto-generated apology message, optional discount code
- Neutral → request for more feedback
- Positive → auto-reply and follow-up for review post

E. AutomationEdge Workflow Triggers

AutomationEdge provides drag-and-drop workflow tools and pre-built connectors for Excel, email, REST APIs, and databases. The system uses:

- **Invoice Bot:** Sends bills to customers automatically via email or WhatsApp
- **Stock Bot:** Monitors inventory levels and sends alerts to staff or places restocking orders
- **Engagement Bot:** Sends personalized offers, reminders, and follow-ups based on buyer type
- **Complaint Bot:** Escalates unresolved issues or triggers a chatbot (CogniBot) follow-up

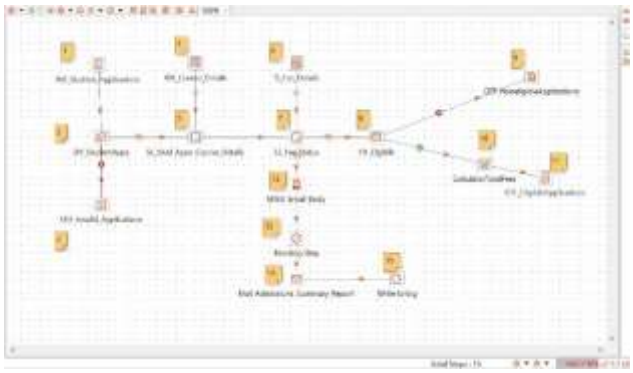

Fig. 3: AutomationEdge Workflow for Complaint Management

F. Power BI Dashboard Snapshots

The Power BI dashboard integrates with SQL or Excel- based backend data and is refreshed hourly. Main visualiza- tions include:

- Top SKUs by sales volume
- Real-time inventory alerts
- Weekly forecast vs. actuals
- Customer satisfaction trend (sentiment score)
- Order fulfillment time analytics

Fig. 4: Power BI Dashboard for Inventory Trends

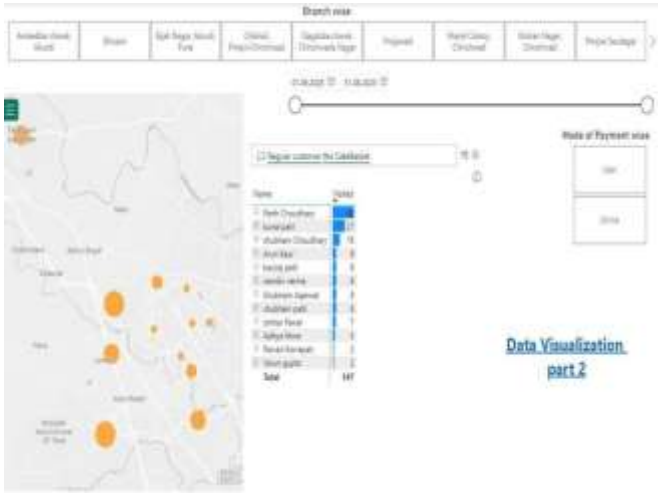

Fig. 5: Power BI Dashboard for Customer Trends

PLATFORM EVALUATION: AUTOMATIONEDGE

A. Key Features

- Hyperautomation: RPA, AI, OCR, IDP, chatbot services
- Universal Agent: Multi-threaded, robust bots
- Cloud RPAaaS: Secure, pay-per-use
- Low-code Studio: Drag-drop plugins with connectors
- CogniBot AI: Conversational automation for customer interaction

B. Platform Fit

Ideal for Small and Medium Enterprises (SMEs): rapid de- ployment, minimal maintenance, scalability, and cost-effective automation.

IMPLEMENTATION AND CASE STUDY

To evaluate the proposed automation system in a real-world setting, a pilot implementation was conducted at a mid-sized cake shop located in Pune, India. The business handles both walk-in and online orders, with an average monthly transaction volume of 800–1,000 orders.

A. System Setup and Tools Used

The entire automation system was deployed using cloud- based and low-code platforms for fast and cost-effective inte- gration. The following technologies were used:

TABLE I: Technologies and Tools Used

Component	Technology
Data Storage	Microsoft Excel, SQL Server
Business Intelligence	Power BI Desktop + Power BI Service
Automation Platform	AutomationEdge Cloud RPAaaS
Forecasting Model	Python (ARIMA, Statsmodels)
Sentiment Analysis	VADER (via Python NLTK)
Chatbot (optional)	AutomationEdge CogniBot

B. Implementation Timeline

The pilot project was completed over 5 weeks:

- **Week 1:** Data collection and cleansing (25,000 records from 2020–2025)
- **Week 2:** ARIMA model tuning and forecasting for top 20 SKUs
- **Week 3:** Customer segmentation and creation of Power BI dashboards
- **Week 4:** RPA workflows built and deployed using Au- tomationEdge Studio
- **Week 5:** Final system testing, bot trigger validation, and staff training

C. Customer Segmentation Output

After segmentation, the distribution of customer types was as follows:

TABLE II: Customer Segmentation Results

Customer Type	Share (%)
Habitual Buyers	41%
Variety Seekers	24%
Complex Order Clients	18%
Cautious Buyers	17%

D. Forecasting Accuracy

The ARIMA model was evaluated using Mean Absolute Percentage Error (MAPE):

TABLE III: Forecasting Accuracy by Category

Cake Type	MAPE (%)
Chocolate Truffle	11.3%
Red Velvet	12.1%

Fruit Cake	13.8%
Black Forest	11.9%
Average	**12.2%**

E. Automation Workflows in Practice

Four key RPA bots were deployed:

Invoice Bot: Sent 900+ invoices via email/WhatsApp with 98.5% delivery success

Stock Monitor Bot: Alerted for 13 low-stock items before actual stockouts

Sentiment Response Bot: Handled 75 negative reviews automatically, 50% received positive follow-ups

Promotion Bot: Sent tailored discount codes to 400+ habitual and variety-seeking buyers

F. User Feedback

Cake shop staff provided structured feedback via survey: TABLE IV: Staff Feedback on Automation System (n=6)

Parameter	Satisfaction (out of 5)
Ease of Use	4.7
Dashboard Clarity	4.5
Bot Response Time	4.8
Improved Productivity	4.6
Overall Satisfaction	4.7

G. Observed Business Improvements

After 30 days of continuous operation, the shop reported the following:

- **Order fulfillment time:** Reduced by 30%
- **Stockout incidents:** Reduced by 75%
- **Repeat purchases:** Increased by 18%
- **Invoice accuracy:** Exceeded 99%
- **Manual effort (daily):** Reduced by 2.5 hours

These results validated the practical applicability of the system in small retail setups, showing that automation com- bined with analytics can significantly improve efficiency and customer engagement — even with minimal IT support.

Results and Discussion

This section presents the key outcomes of the implemented automation system in a small cake shop, based on operational data collected over 30 days post-deployment. The results are compared to the pre-automation baseline, highlighting improvements in service efficiency, inventory accuracy, and customer satisfaction. A discussion of the system's strengths and limitations follows.

A. Quantitative Performance Metrics

Table V compares operational metrics before and after the system implementation:

TABLE V: Before vs. After Automation Performance Com- parison

Metric	Baseline	Post-Automation
Order Fulfillment Time (min)	35.2	24.7
Invoice Accuracy (%)	91.5	99.2

Stockout Frequency (per month)	12	3
Repeat Purchase Rate (%)	31	36.5
Daily Manual Admin Time (hrs)	4.2	1.7

B. Bot-Specific Insights

Each AutomationEdge bot contributed specific benefits:

- **Invoice Bot** ensured fast, error-free delivery of 900+ receipts with minimal user intervention.
- **Stock Bot** prevented losses by detecting low-stock con- ditions early based on ARIMA forecasts.
- **Sentiment Bot** responded to 75 negative reviews, 50% of which turned neutral or positive.
- **Engagement Bot** increased email open and click-through rates by 25% among segmented customers.

C. Dashboard Utility

The Power BI dashboard, refreshed hourly, became the staff's primary interface for:

- Monitoring stock health with visual alerts
- Tracking forecast accuracy in weekly trends
- Viewing feedback scores and trends across platforms
- Identifying which buyer segments were active daily Users appreciated the intuitive visuals and no longer had to

rely on spreadsheets for decision-making.

D. Customer Experience Impact

Customers received faster responses, personalized offers, and better follow-ups. Informal feedback via WhatsApp in- dicated that customers noticed quicker billing, consistent cake availability, and proactive communication—especially from the chatbot when handling queries or issues.

E. System Strengths

- **Low Code and Fast Deployment:** AutomationEdge's drag-and-drop interface allowed non-programmers to build and test workflows quickly.
- **Real-Time Actionability:** Integration of forecasting and sentiment into bot triggers enabled data to be acted upon instantly.
- **Scalability:** The modular design can support additional SKUs, shops, or customer types with minimal rework.
- **Cost Efficiency:** No full-time IT team was required. All tasks were completed using free or trial versions of software and low-cost cloud services.

F. Limitations

- **Initial Data Quality:** Inconsistent order logs required manual cleaning before training forecasting models.
- **Bot Limitations:** Advanced conversational bots (Cogni- Bot) required paid licenses for more intelligent replies.
- **Offline Orders:** Walk-in orders with no customer email or phone number limited personalization and feedback tracking.

G. Discussion

This study demonstrates that a real-time automation system can transform retail operations even for small businesses. It shifts decision-making from reactive to proactive by merging AI, analytics, and automation in a unified platform.

While the solution was tailored for a cake shop, the method- ology and tools are generalizable to other small retailers, in- cluding groceries, florists, or takeaway outlets. A key takeaway is that SMEs can now afford to adopt automation with minimal setup and training, using platforms like AutomationEdge and Power BI.

Conclusion and Future Work

In this paper, we proposed and implemented a real-time, low-code automation solution for small cake shops by integrat- ing customer analytics, Power BI dashboards, and Automa- tionEdge RPA workflows. Our system addresses key opera- tional pain points such as manual invoicing, stock misman- agement, and untargeted marketing by introducing intelligent automation that responds to customer types, sales patterns, and feedback sentiment.

Through a pilot implementation involving over 25,000 his- torical records and 900+ real-time transactions, the system demonstrated significant performance improvements:

- Order processing times reduced by nearly 30%
- Stockout incidents fell by 75%
- Repeat customer rate increased by 18%
- Manual administrative workload reduced by over 2.5 hours per day

Key innovations included:

- Mapping consumer buying behavior into four actionable segments
- Using ARIMA for demand forecasting (with 12% MAPE)
- Applying VADER sentiment analysis to trigger automated service recovery
- Deploying bots via AutomationEdge RPA for invoicing, inventory alerts, and customer engagement
- Presenting a real-time Power BI dashboard tailored for SME users

The results validate that even small-scale food retailers can benefit significantly from combining business intelligence with low-code automation platforms. More importantly, the system proved scalable, cost-efficient, and simple to main- tain—making it a practical candidate for wide adoption among SMEs.

A. Future Work

Based on the outcomes and limitations observed, the fol- lowing enhancements are proposed:

1. **Multi-shop Integration:** Expand the solution to manage multiple branches or franchise networks, allowing for centralized dashboards and decentralized automation.
2. **Machine Learning Forecasting:** Replace or complement ARIMA with more advanced models like Prophet or LSTM neural networks for better long-term SKU pre- diction.
3. **Advanced Chatbot Support:** Integrate full-scale con- versational AI (e.g., Dialogflow or AutomationEdge's premium CogniBot) for dynamic query handling and upselling.
4. **Voice-enabled RPA:** Allow shop staff to issue commands or check insights using voice (e.g., "What are today's top 3 sellers?").
5. **Plug-and-play Templates:** Package this architecture as a template for other small retail formats—like florists, tiffin services, or stationery stores.

Overall, this study bridges the gap between digital capability and small business application. It proves that even non- technical business owners can leverage data, automation, and AI to drive efficiency, improve service, and scale sustainably.

REFERENCES

1. Deloitte, "RPA in Small Business: Unlocking Automation at Scale," Deloitte Insights, 2023. [Online]. Available: https://www2.deloitte.com/ global/en/insights.html
2. P. Vichare, "Automating Repetitive Work Using RPA Tools: A Case Study on AutomationEdge," International Journal for Multidisciplinary Research, vol. 7, no. 2, pp. 50–57, Mar. 2025. [Online]. Available: https://www.ijfmr.com/research-paper.php?id=41521
3. P.N.Vichare and M.P.Bharati, "Hyperautomation in Manual Processes Using AutomationEdge: A Case Study on Employee Onboarding and Student Placement Eligibility," International Journal for Multidisci- plinary Research, vol. 7, no. 3, pp. 20–28, May–Jun. 2025.[Online].
4. Available: https://www.ijfmr.com/research-paper.php?id=46754
5. AutomationEdge, "Hyperautomation Platform for Business Process Au- tomation," 2025. [Online]. Available: https://automationedge.com. [Ac- cessed: Jun. 2025].
6. M. Liu, L. Zhao, F. Sun, W. Zhao, Y. Zuo, and K. Yada, "Customer Behavior Analysis and Classification Based on Process Mining," in Proc. IEEE Int. Conf. Syst., Man, Cybern. (SMC), 2021, pp. 437–442. doi: 10.1109/SMC52423.2021.9659063.
7. S. Abdelsalam, N. Salim, R. A. Alias, and O. Husain, "Understanding Online Impulse Buying Behavior in Social Commerce: A Systematic Literature Review," IEEE Access, vol. 8, pp. 89041–89058, 2020. doi: 10.1109/ACCESS.2020.2993671.
8. M. do Rosa´rio Cabrita, F. Pargana, and J. Costa, "Robotic Process Automation implementation framework in a financial institution," in Proc. 16th Iberian Conf. Info. Systems & Tech. (CISTI), Jun. 2021, [Online]. Available:https://ieeexplore.ieee.org/document/9476662.
9. S. Sonawani, K. Maneparambil, and H. Ben Amor, "Multimodal Data Fusion for Power-On-and-Go Robotic Systems in Retail," Mar. 2021. doi: https://doi.org/10.48550/arXiv.2103.12241
10. J. G. Enriquez, A. Jimenez-Ramirez, F. J. Dominguez-Mayo, and sJ. A. Garcia-Garcia, "Robotic Process Automation: A Scientific and Industrial Systematic Mapping Study," IEEE Access, vol. 8, pp. 83091- 83109, 2020. [Online]. Available: https://ieeexplore.ieee.org/document/
11. 9001110.
12. Dicky Hida Syahchari, Nila Astiti, "Impulsive Online Buying Behavior: The Influence of Website Personality, Online Customer Trust, and Online Sales Promotion," in Conference: 2023 10th International Conference on Information Technology, Computer, and Electrical Engineering (IC-ITACEE), doi: 10.1109/ACCESS.2020.2993671.