

**VISION@WORK**

MORE THAN JUST ADVICE: RESULTS

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**Program Code:** 1372

**Course Code:** INFO8687

**Course Section:** Fall 2024 - Section 7

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**Due Date:** 11/14/24

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| --- | --- | --- |
| **Version History** | | |
| **Version #** | **Description** | **Worked by** |
| **Ver. 1.01** | ROI Analysis | Jerry, Nafna, Cathy |
|  | Solution Evaluation Criteria | Pooja, Cathy |
|  | Solution Recommendation | Sherin |
|  | Risk Log | Moiz |
|  | Implementation Strategy/Deployment Strategy | Cathy |
|  | Test Strategy and Approach | Sherin |
|  | Appendices | Nafna |
|  | Consolidation and Document Review | Nafna, Cathy, Sherin |
| **Ver. 1.02** | Final Draft | Sherin, Cathy |

# ROI Analysis

## Solution 1: Outsourcing

**Assumptions:**

Increased Revenue:

* + Click and collect and home delivery solutions to attract 10% more customers
  + Average spends per customer: $30.
  + Target customer base: 100,000 annually

Estimated Additional Revenue:

* + Additional Customers: 10% of 100,000 = 10,000
  + Additional Revenue = 10,000 customers × $30 = $300,000 annually

**Cost Savings:**

* Operational Efficiency

Estimated savings from reduced customer service calls (due to the AI Chatbot) and better inventory management: **$100,000** annually

**Total Annual Benefits:**

Total Annual Benefits = Additional Revenue + Cost Savings

Total Annual Benefits = $300,000 + $100,000 = **$400,000**

**Total Cost:**

Total Cost of Investment = Total HW/SW Costs + Total Outsourcing Fee

Total Cost of Investment = $118,000 + $134,500 = **$252,500**

**ROI Calculation:**

ROI = (Total Benefits - Total Costs) / Total Costs x 100

ROI = ($400,000 - $252,500) / $252,500 x 100

ROI = $147,500 / $252,500 x 100 ≈ **58.42% (1 year)**

## Solution 2: In-house Development

**Assumptions:**

Increased Revenue:

* + Click and collect and home delivery solutions to attract 10% more customers
  + Average spends per customer: $30.
  + Target customer base: 100,000 annually

Estimated Additional Revenue:

* + Additional Customers: 10% of 100,000 = 10,000
  + Additional Revenue = 10,000 customers × $30 = $300,000 annually

**Cost Savings:**

* Operational Efficiency

Estimated savings from reduced customer service calls (due to the AI Chatbot) and better inventory management: **$100,000** annually

**Total Annual Benefits:**

Total Annual Benefits = Additional Revenue + Cost Savings

Total Annual Benefits = $300,000 + $100,000 = **$400,000**

**Total Cost:**

Total cost of investment = Total HW/SW Costs + Total In-house development cost

Total cost of investment = $118,000 + 336,000 = $454,000

In-house development cost:

Required # of resources = 5

Cost of the additional resource computation: $35x8x5x240 = **$336,000 annually**

**ROI Calculation:**

ROI = (Total Benefits - Total Costs) / Total Costs x 100

ROI = ($400,000 - $454,000) / $454,000 x 100

ROI = $147,500 / $454,000 x 100 ≈ **-11.89% (1 year)**

## Solution 3: Do Nothing

*Projected Revenue Without Changes:*

Year 1: 100,000 \* (1 + 0.05) = 105,000

Year 2: 105,000 \* (1 + 0.05) = 110,250

Year 3: 110,250 ∗ (1 + 0.05) = 115762.5

*Total Revenue Over 3 Years Without Changes:*

Year 1: $105,000

Year 2: $110,250

Year 3: $115,762.5

**Total: $331,012.5**

*Projected Costs Without Changes*

Assuming costs remain stable (though they might increase, we are keeping them constant for this exercise):

Year 1: $80,000

Year 2: $80,000

Year 3: $80,000

**Total: $240,000**

*Net Profit Without Changes over 3 Years:*

Year 1: $105,000 – 80,000 = 25,000

Year 2: $110,250 – 80,000 = 30,250

Year 3: $115,762.5 – 80,000=35,762.5

**Total Net Profit: 25,000+30,250 + 35,762.5 = 91,012.5**

ROI Calculation for the Do-Nothing Approach

ROI Formula: ROI = (Net Profit / Cost of Investment) x 100

In this case, the investment cost is zero since there is no changes in investment. Thus, the ROI of doing nothing is not directly computable with a numerical value since no investment is made, but it is essentially the status quo performance.

This analysis illustrates that if no investment is made, the company can expect a gradual increase in revenue and profit driven by organic market growth. However, it is crucial to recognize that the company may miss out on potential revenue enhancements and efficiencies that could significantly increase profits by not investing.

**Table 1.0: ROI Analysis for Years 1-5**

|  |  |  |  |
| --- | --- | --- | --- |
| **ROI Years** | **Outsourcing** | **In-House Development** | **Do-Nothing** |
| Year 1 | 58.42% | -11.89% | NA (status quo) |
| Year 2 | 116.84% | -23.78% | NA (status quo) |
| Year 3 | 175.26% | -35.67% | NA (status quo) |
| Year 4 | 233.68% | -47.56% | NA (status quo) |
| Year 5 | 292.1 % | -59.45% | NA (status quo) |

# Solution Evaluation Criteria

## Business Evaluation Criteria Matrix

**Table 2.0: Business Evaluation Criteria Matrix**

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation Parameter** | **Outsourcing** | **In-House Development** | **Do Nothing** |
| % of ROI | 50% | 23% | 400% |
| Is there a contract? Y/N | Y | N | N |
| # of Licenses or Subscription on a yearly basis | 5 | 10 | 0 |
| # of months (time) to develop | 6 months | 12 months | NA |
| # of resources needed | 0 (Vendor-managed) | 5-6 resources | 0 |
| % of users choosing click-and-collect option for online order | 20% | 20% | 0% |
| % of delivery options to use Uber or Instacart | 30% | 30% | 0% |
| # of days for orders to be ready for pickup | 1 day | 1 day | 2-3 days |
| Is same-day delivery or pickup available? | Y | Y | N |
| % of the time the AI chatbot is available for customer inquiries | 95% | 95% | 0% |
| % of users successfully schedule a callback with an agent | 100% | 100% | 80% |
| % of AI responses that correctly address user queries | 90% | 90% | 0% |
| How easily users can locate and select the home delivery option (Rate 1-10) | 8 | 8 | 0 |
| Average time for Uber and Instacart to delivery | 2hrs – 1 day | 2hrs – 1 day | 1-3 days |

## IT Evaluation Criteria Matrix

**Table 2.1: IT Evaluation Criteria Matrix**

|  |  |  |  |
| --- | --- | --- | --- |
| **Evaluation Parameter** | **Outsourcing** | **In-House Development** | **Do Nothing** |
| Performance – Average time taken for the system to respond | 2-5 secs | 2-5 secs | 5-10 secs |
| Availability - % of the time the system is up and operational | 99.9% | 99.9% | 99.9% |
| Scalability - Can it scale up or down? (Y/N) | Y | Y | N |
| Security - Does it comply with ISO? (Y/N) | Y | Y | Y |
| Disaster Recovery – Is there a DR plan? (Y/N) | Y | N | N |
| Portability – Is the solution easy to move across different systems or environments? (Y/N) | Y | N | N |
| Maintainability – How easy is it to maintain and update the system (rate 1-10) | 8 | 8 | 6 |
| Usability – Measure overall user experience (rate 1-10) | 10 | 10 | 8 |
| Reliability – Is feature or function validated (Y/N) | Y | Y | N |
| Accessibility – Other devices supported (Y/N) | Y | Y | Y |
| Supportability – Evaluate the quality of the technical support (rate 1-10) | 10 | 8 | 8 |

## Solution Recommendation:

Outsourcing presents a practical and scalable solution for Dollarama’s e-commerce enhancement, addressing the need for advanced features without the substantial internal investment required for in-house development. By leveraging third-party expertise, Dollarama can quickly integrate critical functionalities like Click-and-Collect, home delivery, and AI chatbots into its platform, enhancing customer satisfaction and meeting evolving retail demands. Outsourcing provides access to specialized vendors for platform development, cloud infrastructure, API management, and logistics coordination, enabling seamless integration across all components with scalability.

The cloud service providers manage infrastructure, allowing Dollarama to scale the system dynamically during peak times, mitigating the risk of downtime and improving overall reliability. Furthermore, outsourcing supports a modular design with integration specialists (e.g., MuleSoft partners), facilitating efficient API management, data transformation, and real-time system interactions. Logistics partners streamline order fulfilment and tracking, thus improving operational efficiency and reducing errors.

Although there are short-term challenges, such as staff training and managing vendor coordination, these are mitigated by establishing service level agreements (SLAs) and a structured change management plan. Outsourcing minimizes capital expenses on hardware upgrades and avoids the complexities of custom AI development. Overall, outsourcing allows Dollarama to focus on its core operations while rapidly deploying a state-of-the-art e-commerce platform, providing a cost-effective way to maintain a competitive advantage in digital retail.

# Risk Log

**Fig 3.0: Risk Log**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Risk ID** | **Risk Description** | **Solution Option(s) Affected** | **Impact (1-5)** | **Likelihood (1-5)** | **Mitigation Approach** |
| R1 | Delays in-home delivery integration  With Uber and Instacart partners. | In-House Custom Development | 4 | 3 | Engage third-party vendors early in the process. Implement phased integration with thorough testing at each stage |
| R2 | System downtime during migration or deployment | Cloud Migration | 5 | 3 | Perform extensive pre-deployment testing. Schedule deployment during low-traffic periods, with contingency plans to minimize downtime |
| R3 | Scalability issues during high traffic (e.g., peak shopping periods) | Cloud Migration, In-House Custom Development | 5 | 4 | Conduct load testing to assess system capacity. Use autoscaling tools to manage traffic spikes effectively |
| R4 | Potential data security breaches (e.g., customer payment info or AI chatbot conversations) | Cloud Migration, In-House Custom Development | 5 | 3 | Implement encryption for sensitive data. Regularly audit security systems and ensure compliance with data privacy regulations (e.g., GDPR) |
| R5 | Customer resistance to new features (e.g., reluctance to adopt Click-and-Collect or AI chatbots) | In-House Custom Development | 4 | 4 | Run customer education campaigns. Offer incentives (e.g., discounts) to drive the adoption of new features |
| R6 | Budget overruns due to unexpected Costs (e.g., third-party fees or hardware upgrades) | Cloud Migration, In-House Custom Development | 4 | 3 | Regularly review the budget and maintain contingency funds. Ensure vendor contracts are clear to avoid unexpected costs. |
| R7 | Operational disruptions from staff adjusting to new features (e.g., training store staff on Click-and-Collect processes) | In-House Custom Development | 4 | 3 | Provide comprehensive staff training ahead of system deployment. Ensure they are fully equipped to manage new processes |
| R8 | Integration challenges with inventory systems not syncing with added features | In-House Custom Development | 5 | 2 | Examine existing systems in detail to find integration issues. Plan updates to ensure smooth system integration |
| R9 | Failure to meet project deadlines due to technical complexities in implementing AI chatbot | Cloud Migration, In-House Custom Development | 5 | 2 | Set clear project timelines with defined milestones. Identify potential bottlenecks early and adjust timelines as needed |
| R10 | Dollarama lost its competitive edge for not implementing digital initiatives like click-and-collect or home delivery | Do Nothing | 5 | 4 | Monitor competitors and customer feedback closely. Be ready to implement gradual updates to stay competitive |
| R11 | Customer discontent with outdated E-Commerce platform (e.g., lack of home delivery and Click-and-Collect) | Do Nothing | 4 | 3 | Regularly track customer feedback. If needed, introduce incremental changes to improve the customer experience and retain market share |
| R12 | Challenges in data migration of order transactions and inventory data to the cloud | Cloud Migration | 5 | 3 | Conduct data migration dry runs, verify data integrity, and ensure no data loss during the cloud conversion process |

# Implementation Strategy/Deployment Strategy

The implementation strategy outlines the approach for deploying a comprehensive Dollarama’s Omnichannel E-commerce solution, including Click and Collect, Home Delivery integration, and an AI Chatbot, over two months using a phased approach. This strategy aims to manage risks, provide more flexibility to respond to unexpected challenges, ensure seamless integration, and improve user experience.

The deployment will follow a phased approach with overlapping stages to ensure continuity and minimize disruptions. There will be three stages in the phased approach, with each phase focusing on the three project initiatives, starting with the click and collect, followed by home delivery integration with Uber and Instacart partners, and finally, deploying the AI chatbot. Each phase will consist of pre-deployment setup and training, project initiative deployments, testing and acceptance, go live, and post-deployment monitoring and support.

Below is the breakdown of the implementation strategy in a Gantt chart layout:

**Fig 4.0: Implementation strategy timeline**

A screenshot of a computer

Description automatically generated

# Test Strategy and Approach

**Table 5.0: Test Strategy and Approach**

|  |  |  |  |
| --- | --- | --- | --- |
| **Testing Type** | **Justification** | **Method** | **Exit Criteria** |
| Unit Testing | Ensures that each component functions correctly, reducing the risk of issues during integration. | Manual/Automated | Execution %: 100% |
| Pass %: 95% |
| Defects Allowed:  2 Critical, 5 Major, 5 Minor |
| System Integration Testing (SIT) | Validates that all components work together smoothly, ensuring a seamless user experience across systems. | Manual/Automated | Execution %: 100% |
| Pass %: 90% |
| Defects Allowed:  1 Critical, 3 Major, 5 Minor |
| User Acceptance Testing (UAT) | Confirms that the end-to-end process meets user expectations and is intuitive to navigate. | Manual | Execution %: 95% |
| Pass %: 95% |
| Defects Allowed:  0 Critical, 2 Major, 10 Minor |
| Regression Testing | Ensures that new features do not impact existing functionalities, maintaining overall platform stability. | Automated | Execution %: 100% |
| Pass %: 98% |
| Defects Allowed:  0 Critical, 1 Major, 5 Minor |
| Performance Testing | Assesses system responsiveness and stability under high demand, ensuring readiness for peak usage. | Automated Load Testing | Execution %: 100% of peak load scenarios |
| Pass %: 99% uptime, <5s response time |
| Defects Allowed:  0 Critical, 1 Major, 3 Minor |

**Defect Definitions**

* Critical - Defects that need to be fixed immediately.
* Major - Defect impacts the websites/application's main features.
* Minor - Causes minimal deviation from the requirement.

**Fig 5.0: Defect Management**

A diagram of a process

Description automatically generated

# Appendices

**AI** – Artificial Intelligence

**API** – Application Programming Interface

**B2C** – Business to Consumer

**CRM** – Customer Relationship Management

**IT** – Information Technology

**NLP** – Natural Language Processing

**POS** – Point of Sale

**ROI** – Return on Investment

**SIT** – System Integration Testing

**UAT** – User Acceptance TestingReferences