



**Department of Electrical,
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<i>Assignment/Lab Number:</i>	2
<i>Assignment/Lab Title:</i>	Mini Case Study

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Case Study: IT in eCommerce (Online Grocery Store)

Narrative

ECommerce has been one of the leading and constantly developing systems used worldwide. It has revolutionized the way we shop, bringing in new privacy measures and convenience to their customers. As the digital era beckons, online grocery stores emerge as a beacon of progress in the online shopping sector. With the use of machine learning and artificial intelligence (AI) algorithms, the grocery store is able to offer a personalized shopping experience, tailoring products and recommendations to individual customers.

Furthermore, the online grocery store adopts secure payment gateways and data encryption technologies to protect customer information, which will build trust and loyalty. In the backdrop of the online grocery store, logistics and supply chain management become pivotal to ensure a quick and accurate delivery for the customers. The IT systems in place help the company achieve real-time inventory management management and accurate order tracking.

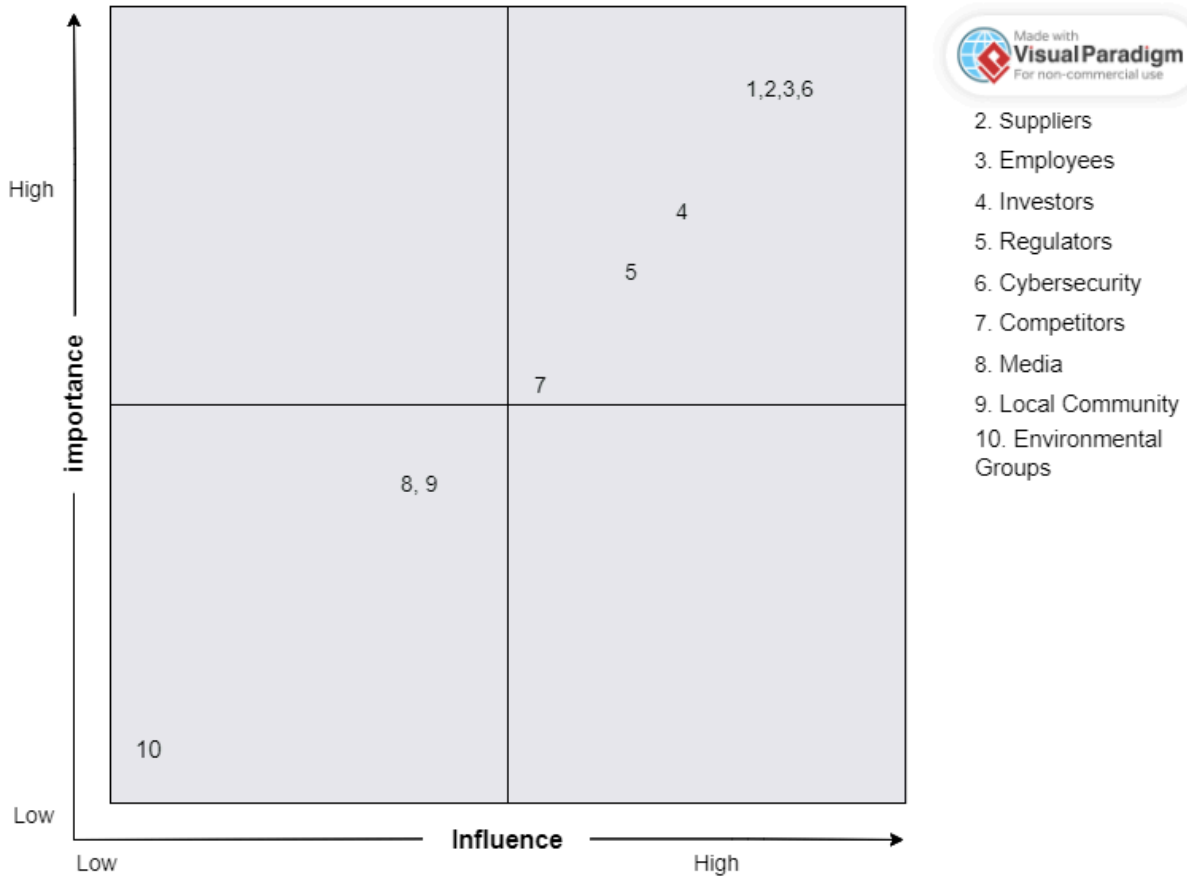
As the online grocery store grows, its commitment to leveraging IT to enhance customer satisfaction and operational efficiency remains the top priority. This mini-case study narrates not just the stakeholders, requirement elicitation and quality, but the overall vision and reshaping of the eCommerce landscape, tailored to the modern digital age.

Part I: Stakeholder Analysis

Stakeholders	Interests	Likely Impact of Project	Priority
Customers	Convenient shopping experience, quality products, competitive prices	High (Directly affected by the project)	High
Suppliers	Timely payments, long-term partnerships, efficient logistics	High (Supply chain reliability)	High
Employees	Job security, fair wages, work-life balance	High (Operational success)	High
Investors	Profitability, growth potential	High (Financial returns)	High
Regulators	Compliance with food safety and labour laws	High (Legal implications)	High
Cybersecurity	Data security, protection for both the store, and their customers	High (Privacy and Protection)	High
Competitors	Market share, differentiation	Medium (Indirect impact)	Medium
Media	Public perception, brand reputation	Medium (Amplifies impact)	Medium
Local Community	Availability of fresh produce, employment opportunities	Medium (Community well-being)	Medium

Environmental Groups	Sustainable practices, waste reduction	Low (Indirect influence)	Low
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Interest/power Matrix



Key Primary and Secondary Stakeholders

Primary Stakeholders:

- Customers
 - Customers are directly affected by the online grocery store
- Suppliers
 - They are the key to the supply chain reliability
- Employees

- Employees are essential to the operation of the online grocery store
- Investors
 - Profitability and growth
- Cybersecurity
 - Ensure safety and data protection for both customers and the online grocery store.
- Regulators
 - Ensures everything is compliant with law and regulations

Secondary Stakeholders:

- Competitors
 - Indirect impact
- Media
 - Influence public perception
- Community
 - Possible employment opportunities and services
- Environmental Groups
 - Sustainable Practices

Part II: Requirement Elicitation and Questionnaire

Customers:

1. Can you describe your ideal experience when shopping for groceries online?
2. How important is the price of groceries to you on a scale from 1 (not important) to 5 (very important)?
3. We are planning to introduce a same-day delivery option. How likely are you to use this service?
4. Could you explain what features in our current online shopping platform could be improved?

For Suppliers:

1. What are the key challenges you face with online grocery stores as a supplier?
2. On a scale from 1 to 5, how would you rate the importance of having a dedicated supplier portal for ease of transactions?
3. How do you manage orders and inventory levels, and how can we assist in streamlining these processes for you?
4. Can you provide more details on how payment terms affect your operations and supply chain?

For Employees:

1. In your role, what tools or systems would help you serve our customers better?
2. Do you feel that the current work schedule provides a good work-life balance? (Yes/No)

3. We are considering flexible working hours to improve employee satisfaction. Do you think this will enhance your productivity?
4. What specific aspects of the job do you think need immediate improvement for better efficiency?

Responses:

Stakeholders	Question Numbers	Responses				
Customers	1	I prefer an easy-to-navigate website with detailed product information.	I value quick delivery times and fresh produce above all.	Having personalized shopping suggestions would be great.	I want a hassle-free return process.	I'd like to see more discounts and loyalty rewards.
	2	5	4	5	5	5
	3	Very likely	Likely	Somewhat likely	Not at all likely	Likely
	4	The checkout process could be more streamlined.	The search functionality needs improvement.	Product categories are sometimes confusing.	The payment options are limited.	Customer service response times could be faster.
Suppliers	1	Inconsistent order volumes make planning difficult.	Lack of communication regarding stock levels is challenging.	Delayed payments affect our cash flow.	Varying quality standards can be hard to meet.	The need for quick turnaround times is sometimes unreasonable.
	2	2	4	4	2	3
	3	We use a mix of software and manual tracking,	Currently, we manually check against forecasts,	We have an automated system, but integration with the store's system would	We rely on email communication, which is not always	Inventory is tracked through our internal system, but real-time data

		which can be inefficient.	which is error-prone.	help.	reliable.	from the store would be beneficial.
	4	Shorter payment terms would help us manage our finances better.	We could use more predictable order patterns.	Better forecasting from your end would help us prepare the stock.	Understanding your sales trends could help us align our production.	More collaborative planning would help us meet demand more effectively.
Employees	1	A more user-friendly point-of-sale system would help.	Access to real-time inventory would improve efficiency.	Customer relationship management tools could enhance service.	Training in new technology would be beneficial.	Better scheduling tools to manage shifts and breaks.
	2	Yes, it's balanced.	No, it could be better.	It's mostly good, but there are busy seasons where it's not.	I'm neutral, as I am comfortable with the current schedule.	It varies depending on the time of year.
	3	Definitely, it would greatly help.	Possibly, but it depends on the hours.	I'm not sure, I would need more information.	Unlikely, I prefer a consistent schedule.	Not at all, I don't think it would help.
	4	The inventory management system often glitches.	Communication between departments could be improved.	Training for new hires needs to be more comprehensive.	We need more staff during peak hours.	The current software we use is outdated and slow.

Part III:

Section 1- Functional Requirements

Customer - The system must:

- Provide an easy-to-navigate user interface.
- Ensure quick delivery options, including same-day deliveries.
- Offer personalized shopping suggestions based on the customer's preferences.
- Include a streamlined checkout process.
- Offer multiple payment options and methods.

Supplier- The system must:

- Include a dedicated supplier portal for efficient transaction management.
- Be capable of integrating with the supplier's inventory and order management system, ensuring efficiency.
- Provide real-time updates and data-sharing capabilities with the supplier.
- Support automated and manual tracking of orders and the level of inventory.

Employee - The system must:

- Offer user user-friendly point-of-sale interface.
- Provide access to real-time inventory data.
- Ensure effective communication between the departments.
- Include a customer relationship management system/tool.

Section 2- Non-Functional Requirements

Customer - The system must:

- Maintain a high level of performance, especially during high-peak hours.
- Ensure data integrity and security for customer data and information.
- Provide a high level of availability especially during high-peak hours.

Supplier- The system must:

- Ensure timely data synchronization between the online grocery store and the supplier.
- Provide secure access controls for suppliers through the supplier portal.
- Ensure a high level of reliability to avoid possible errors in orders and inventory.

Employee - The system must:

- Have the scalable capabilities to support the onboarding of new employees and the expansion of services
- Include an efficient and intuitive interface to minimize training time and errors.
- Provide a flexible and feasible work environment by supporting remote access capabilities.

Part IV: Quality of Requirements

Requirement	Completeness	Clarity	Consistency	Verifiability	Relevance	Traceability	Non-duplication	Modifiability
Easy-to-navigate UI	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Quick delivery options	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Personalized shopping suggestions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Streamlined checkout process	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multiple payment options	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Dedicated supplier portal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Integration with supplier systems	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Real-time data sharing with suppliers	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Automated/manual tracking of orders/inventory	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
User-friendly POS interface	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Access to real-time inventory data	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Customer relationship management tools	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Effective communication between departments	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
High performance during peak traffic	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Data privacy and security	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
High level of availability	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Timely data synchronization	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Secure access controls for supplier portal	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
High reliability to avoid errors	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Scalability for new employees/services	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Intuitive interface for minimal training	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Flexible work environment with remote access	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes