

1. Business Requirements

1.1 Background

Employees at the company Process Impact presently spend an average of 65 minutes per day going to the cafeteria to select, purchase, and eat lunch. About 20 minutes of this time is spent walking to and from the cafeteria, selecting their meals, and paying by cash or credit card. When employees go out for lunch, they spend an average of 90 minutes off-site. Some employees phone the cafeteria in advance to order a meal to be ready for them to pick up. Employees don't always get the selections they want because the cafeteria runs out of certain items. The cafeteria wastes a significant quantity of food that is not purchased and must be thrown away. These same issues apply to breakfast and supper, although far fewer employees use the cafeteria for those meals than for lunch.

1.2 Business Opportunity

Many employees have requested a system that would permit a cafeteria user to order meals (defined as a set of one or more food items selected from the cafeteria menu) online, to be picked up at the cafeteria or delivered to a company location at a specified time and date. Such a system would save employees time, and it would increase their chance of getting the items they prefer. Knowing what food items customers want in advance would reduce waste in the cafeteria and would improve the efficiency of cafeteria staff. The future ability for employees to order meals for delivery from local restaurants would make a wide range of choices available to employees and provide the possibility of cost savings through volume discount agreements with the restaurants.

1.3 Business Objectives

BO-1: Reduce the cost of cafeteria food wastage by 40% within 6 months following initial release.

[This example shows the use of Planguage to precisely state a business objective.]

Scale: Cost of food thrown away each week by cafeteria staff

Meter: Examination of Cafeteria Inventory System logs

Past: 33% (2013, initial study)

Goal: Less than 20%

Stretch: Less than 15%

BO-2: Reduce cafeteria operating costs by 15% within 12 months following initial release.

BO-3: Increase average effective work time by 15 minutes per cafeteria-using employee per day within 6 months following initial release.

1.4 Success Metrics

SM-1: 75% of employees who used the cafeteria at least 3 times per week during Q3 2013 use the COS at least once a week within 6 months following initial release.

SM-2: The average rating on the quarterly cafeteria satisfaction survey increases by 0.5 on a scale of 1 to 6 from the Q3 2013 rating within 3 months following initial release and by 1.0 within 12 months.

1.5 Vision Statement

For employees who want to order meals from the company cafeteria or from local restaurants online, the Cafeteria Ordering System is an Internet-based and smartphone-enabled application that will accept individual or group meal orders, process payments, and trigger delivery of the prepared meals to a designated location on the Process Impact campus. Unlike the current telephone and manual ordering processes, employees who use the Cafeteria Ordering System will not have to go to the cafeteria to get their meals, which will save them time and will increase the food choices available to them.

1.6 Business Risks

RI-1: The Cafeteria Employees Union might require that their contract be renegotiated to reflect the new employee roles and cafeteria hours of operation. (Probability = 0.6; Impact = 3)

RI-2: Too few employees might use the system, reducing the return on investment from the system development and the changes in cafeteria operating procedures. (Probability = 0.3; Impact = 9)

RI-3: Local restaurants might not agree to offer delivery, which would reduce employee satisfaction with the system and possibly their usage of it. (Probability = 0.3; Impact = 3)

RI-4: Sufficient delivery capacity might not be available, which means that employees might not always receive their meals on time and could not always request delivery for the desired times. (Probability = 0.5; Impact = 6)

1.7 Business Assumptions and Dependencies

AS-1: Systems with appropriate user interfaces will be available for cafeteria employees to process the expected volume of meals ordered.

AS-2: Cafeteria staff and vehicles will be available to deliver all meals for specified delivery time slots within 15 minutes of the requested delivery time.

DE-1: If a restaurant has its own online ordering system, the Cafeteria Ordering System must be able to communicate with it bidirectionally.

2. Scope and Limitations

2.1 Major Features

FE-1: Order and pay for meals from the cafeteria menu to be picked up or delivered.

FE-2: Order and pay for meals from local restaurants to be delivered.

FE-3: Create, view, modify, and cancel meal subscriptions for standing or recurring meal orders, or for daily special meals.

FE-4: Create, view, modify, delete, and archive cafeteria menus.

FE-5: View ingredient lists and nutritional information for cafeteria menu items.

FE-6: Provide system access through corporate intranet, smartphone, tablet, and outside Internet access by authorized employees.

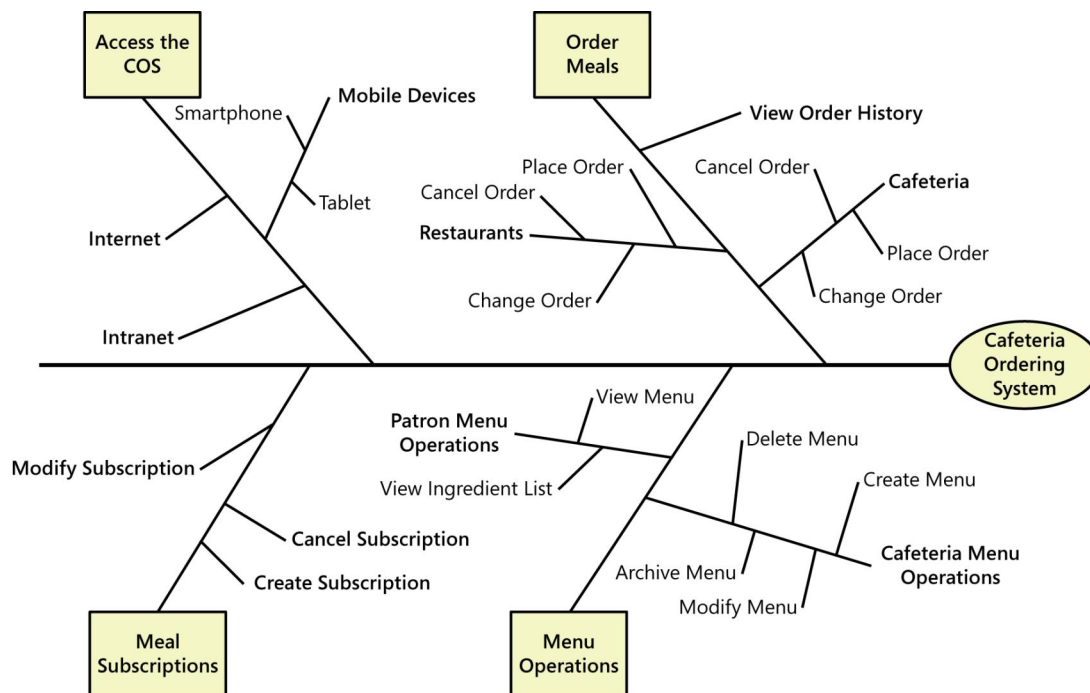


FIGURE C-1 Partial feature tree for the Cafeteria Ordering System.

2.2 Scope of Initial and Subsequent Releases

Feature	Release 1	Release 2	Release 3
FE-1, Order from cafeteria	Standard meals from lunch menu only; meal orders for delivery can be paid for by payroll deduction only	Accept credit and debit card payments	Accept meal orders for breakfasts and suppers
FE-2, Order from restaurants	Not implemented	Delivery to campus locations only	Fully implemented
FE-3, Meal subscriptions	Not implemented	Implemented if time permits	Fully implemented
FE-4, Menus	Create and view menus	Modify, delete, and archive menus	
FE-5, Ingredient lists	Not implemented	Fully implemented	
FE-6, System access	Intranet and outside Internet access	iOS and Android phone and tablet apps	Windows Phone and tablet apps

2.3 Limitations and Exclusions

LI-1: Some food items that are available from the cafeteria will not be suitable for delivery, so the delivery menus available to patrons of the COS must be a subset of the full cafeteria menus.

LI-2: The COS shall be used only for the cafeteria at the Process Impact campus in Clackamas, Oregon.

3. Business Context

3.1 Stakeholder Profiles

Stakeholder	Major value	Attitudes	Major interests	Constraints
Corporate Management	Improved employee productivity; cost savings for cafeteria	Strong commitment through release 2; support for release 3 contingent on earlier results	Cost and employee time savings must exceed development and usage costs	None identified
Cafeteria Staff	More efficient use of staff time throughout the day; higher customer satisfaction	Concern about union relationships and possible downsizing; otherwise receptive	Job preservation	Training for staff in Internet usage needed; delivery staff and vehicles needed
Patrons	Better food selection; time savings; convenience	Strong enthusiasm, but might not use it as much as expected because of social value of eating lunches in cafeteria and restaurants	Simplicity of use; reliability of delivery; availability of food choices	Corporate intranet access, Internet access, or a mobile device is needed
Payroll Department	No benefit; needs to set up payroll deduction registration scheme	Not happy about the software work needed, but recognizes the value to the company and employees	Minimal changes in current payroll applications	No resources yet committed to make software changes

Stakeholder	Major value	Attitudes	Major interests	Constraints
Restaurant Managers	Increased sales; marketing exposure to generate new customers	Receptive but cautious	Minimal new technology needed; concern about resources and costs of delivering meals	Might not have capacity to handle order levels; might not all have menus online

3.2 Project Priorities

Dimension	Constraint	Driver	Degree of freedom
Features	All features scheduled for release 1.0 must be fully operational		
Quality	95% of user acceptance tests must pass; all security tests must pass		
Schedule			Release 1 planned to be available by end of Q1 of next year, release 2 by end of Q2; overrun of up to 2 weeks acceptable without sponsor review
Cost			Budget overrun up to 15% acceptable without sponsor review
Staff		Team size is half-time project manager, half-time BA, 3 developers, and 1 tester; additional developer and half-time tester available if necessary	

3.3 Deployment Considerations

The web server software will need to be upgraded to the latest version. Apps will have to be developed for iOS and Android smartphones and tablets as part of the second release, with corresponding apps for Windows Phone and tablets to follow for the third release. Any corresponding infrastructure changes must be in place at the time of the second release. Videos no more than five minutes in length shall be developed to train users in both the Internet-based and app-based versions of COS.