

# Product Management & Continuous Innovation

## Introduction

After the product release, a new set of activities begins to maintain, improve, and adapt the product. Key activities include:

- Resolving customer issues.
  - Enhancing product features (e.g., UX, performance, security).
  - Continuously adding value with relevant features.
  - Adapting to changes in user needs, technology, and competition.
  - Expanding the product through open-source contributions, product lines, and targeting new segments.
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## Customer Support

### Key Principles for Effective Support:

- Make the product intuitive and high-quality to minimize support needs.
- Employ knowledgeable and empathetic staff to ensure customer satisfaction.
- Empower the support team to make decisions, such as issuing refunds.

### Examples of Excellent Customer Support:

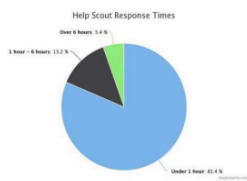
- **IBM:** Sent engineers on-site to resolve critical customer issues.
- **Buffer Inc.:** Achieved customer satisfaction through superior support, helping it market itself.

**Exercise:** Share an example of great customer service from your experience.

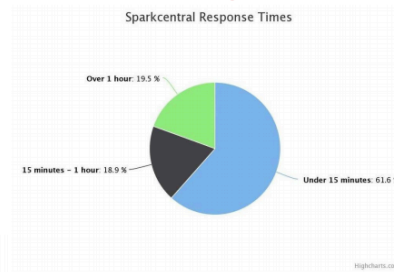
### Solution:

- **Example:** A telecom provider offering 24/7 support with rapid response times and issue resolution.

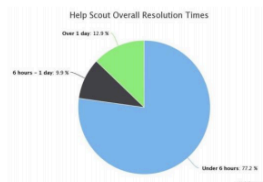
### Email responses



### Twitter responses



### Resolution time



## Support Channels

Support can be provided through:

- **Email, Twitter, Facebook, Phone, Remote Desktop, FAQ, Ticketing System, Bot.**
- High-touch support involves human interaction, suitable for mission-critical products like SAP, Navitaire, and Shopify.

### Optimizing Support:

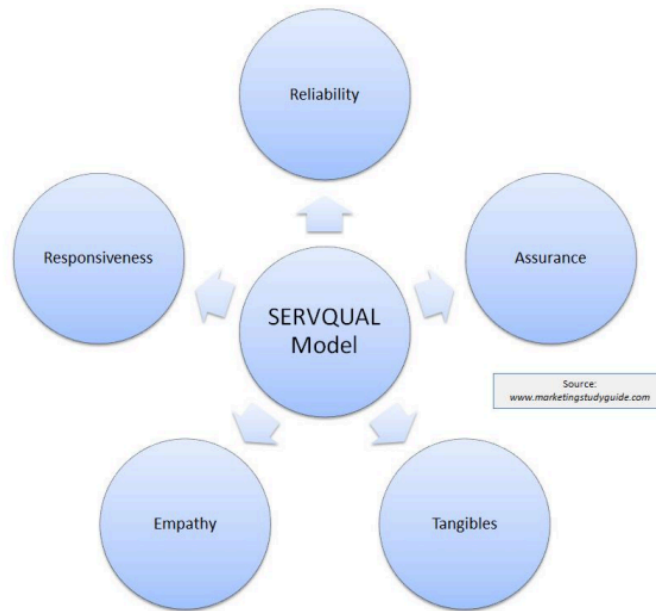
- Choose the right channel based on customer needs.
- **Example:** Wistia optimized support by focusing on educational content and FAQs; StudioPress offered extensive knowledge base articles.

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## Service Quality (SERVQUAL Model)

### SERVQUAL Characteristics

1. **Reliability:** Accuracy and dependability of service.
2. **Responsiveness:** Promptness in service delivery.
3. **Assurance:** Knowledge and courtesy of staff that builds trust.
4. **Empathy:** Personalized care for customers.
5. **Tangibles:** Physical facilities, equipment, and staff appearance.



**Exercise:** Match the service quality characteristic to the scenario:

- **Pleasing hotel room colors:** Tangibles.
- **Fixing one problem leads to another:** Reliability.
- **Network fixed within an hour:** Responsiveness.
- **Engineer clears all customer doubts:** Assurance.
- **Engineer goes the extra mile:** Empathy.

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## Product Improvements & Enhancements

### Enhancing Products

- Improve based on customer feedback, market trends, and competition.
- **Examples:**
  - **Slack:** Added email integrations and group chat functionalities.
  - **Postman:** Introduced API documentation and mocking features.

### Case Study: Salesforce

- Salesforce conducted extensive customer interviews to understand feedback before implementing improvements.
- Lessons learned: Analyze feedback effectively to ensure meaningful updates.

**Exercise:** Describe how customer feedback is analyzed in your organization.

### Solution:

- **Process:** Collect feedback, prioritize based on impact, and evaluate technical feasibility.
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## Situations Triggering Product Change

### Types of Changes

- **User Needs:** Adaptations like Amazon's Pay-on-Delivery or Ola's SOS button.
- **Regulations:** Compliance with laws like SOX or GST.
- **Technology:** Shifts like Amazon's move from monolithic to microservices architecture.

### Case Study: Adobe Creative Cloud

- Adobe transitioned from desktop software to cloud services to meet evolving customer demands.
  - **Challenges:** Data migration, new subscription models.
  - **Solutions:** Phased implementation and customer education.

[Insert Product Change Diagram here]

**Exercise:** What challenges have you faced in making major product changes?

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## Continuous Product Innovations

### Value-Driven Innovations

Continuous innovation adds value to clients and ensures the product remains relevant.

### Examples:

- **Netflix:** From DVD rental to streaming and original content.
- **Airbnb:** Launched virtual experiences during COVID-19.
- **BigBasket:** Introduced vending machines and delivery slot bookings.
- **Paytm:** Implemented Video KYC for onboarding.

[Insert Innovation Examples Diagram here]

**Exercise:** Identify an example of continuous innovation in your product.

### Solution:

- **Example:** Implementing AI-driven recommendations in an e-commerce app.
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## Software Product Lines

### Overview

A software product line involves creating a base product that can be tailored for different customer segments, improving time-to-market, cost efficiency, and quality.

### Examples:

- **SAP:** Caters to manufacturing, insurance, telecom, and retail sectors.
- **Telelink:** Developed inter-office email systems that supported multiple communication protocols.

[Insert Product Lines Diagram here]

### Case Study: Saturn Aviation Diagnostics

- **Problem:** Building a system that supports different helicopter models.
- **Solution:** Developed a flexible architecture with common components for diagnostics.
  - **Architecture:** Emphasized common elements and organizational structures to maintain consistency.

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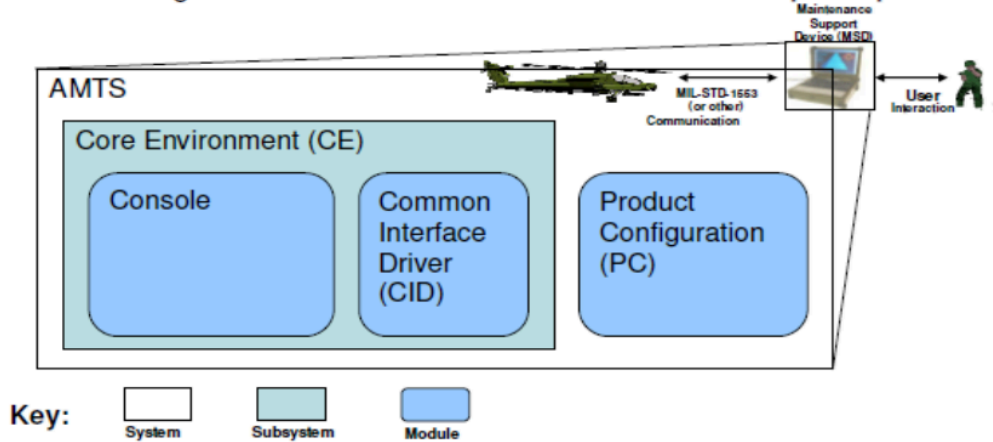
Platforms supported	Bus	Message handling
Helo	Type	Message analysis
Apache A	1553 (1553A, 1553B)	From text
Apache D	Ethernet	From XML
UH-60	1773	Message DB
Aircraft	ARINC (commercial aircraft)	XML translator
F-18	CAN? (automotive)	Read
C-17 (under discussion)	Architecture	Write (for sim/stim tool)
Ground vehicles	Single bus	Test level
M1A1 Abrams	Multiple bus	Operational
Variations within each by tail # or other vehicle feature	Single type	Intermediate
	Mixed type	Depot
	Nested (i.e., bus within bus; e.g., JTRS)	Development

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## AMTS Decomposition View

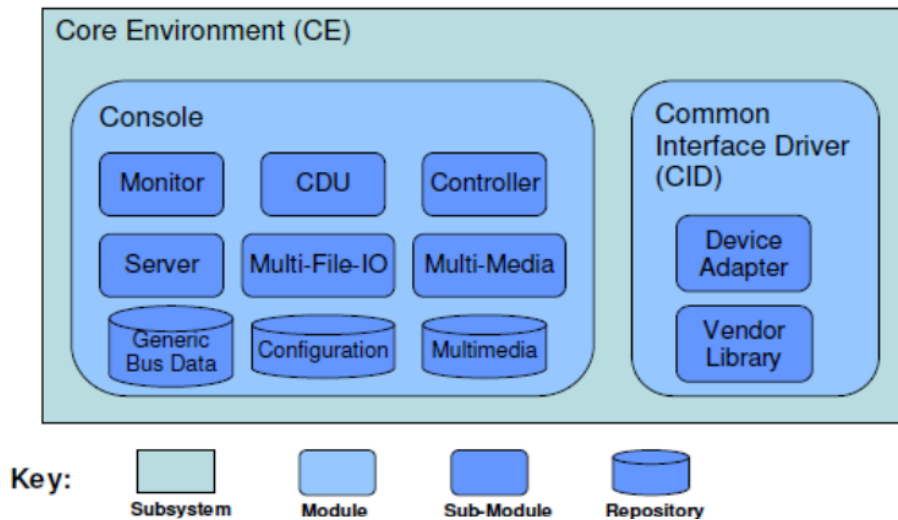
Core Environment - common modules across the product line

Product Configuration - modules that tailor core environment for specific platforms



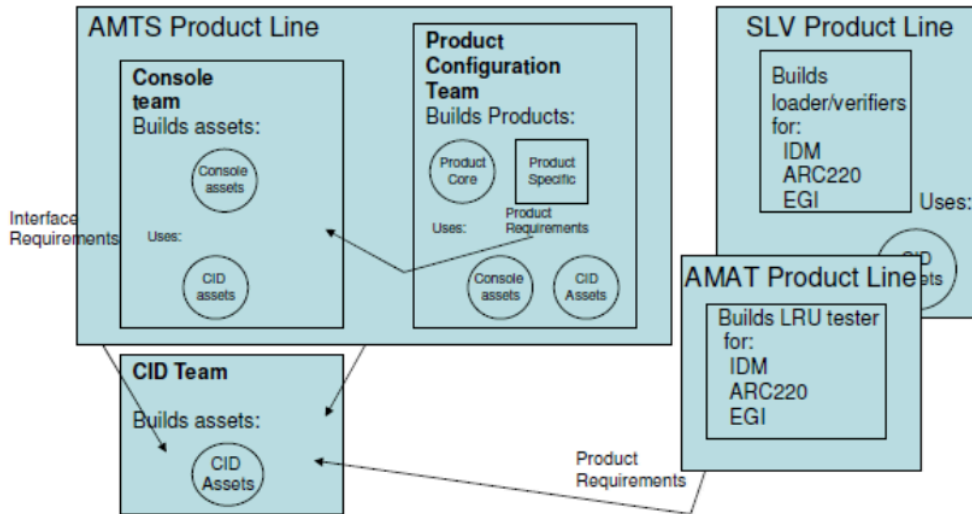
## Core Environment Decomposition View

Common assets for building testing systems for specific aviation platforms, systems, and subsystems



## Evolution – Product Line Growth

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**Exercise:** Describe a challenge faced in developing a product using the product line concept.

**Solution:**

- **Challenge:** Balancing commonality with customization for different segments.
- **Approach:** Adopt a modular design with configurable elements.