

Product Development Structure for Competitive Advantage

Overview

We intend to utilize product development (PD) as a competitive advantage feature. We want to do this by creating a PD structure that meets three goals:

- The ability to quickly respond to market/customer needs
- Place constant pressure on "copycat" competitors to keep up
- Go from "development complete" to full scale production deployment and sales/marketing in a minimal amount of time.

The key to meeting our three goals and leveraging PD as a competitive advantage is two fold:

- The PD steering committee
- Cycles and cadence

The Steering Committee

The goal of the steering committee (SC) is to gather a team of people from all segments of the company and create a unified vision and direction for the PD efforts of the organization. It is important to have SC members from all facets of the organization, because each group will bring to the table their perspective, sense of priorities, and potentially unique information feeds that could affect the company as a whole.

Ex: An obvious SC member example is sales and marketing. They talk to the customers and keep an eye on the "pulse" of the market as part of their operational functioning. As such they can bring perspective on items such as on customer pain points that can be turned into profitable feature and products, reasons to lost sales or customer dissatisfaction, and new incumbents into the market space that should be neutralized if possible.

Ex: Another SC member example is operations. This group for instance has insight into overall system stability (which can directly affect customer satisfaction), new technologies that can be implemented to meet customer needs, technical debt that must be paid down to progress further, and other items that might affect the company's ability to compete and meeting customer needs profitably.

Once the various group's perspectives and priorities are blended together it is possible to create a road map of where the company should move next with product development that maintains market dominance, meets painful customer needs, and keeps the organization's technological base current and stable.

SC Members

Initially the SC member pool will be made up of team members from the following areas:

- Product Management
- Sales
- Marketing
- Development
- Operations
- Regulatory
- Security

As the organization matures this may change. Other teams/individuals may be invited as deemed fit. The SC population should be a flexible, dynamic affair that promotes a cross pollination of ideas, perspectives, and business needs rather than some static, ponderous affair with a set membership.

SC Duties

The SC will in short plan and coordinate the projects/initiatives/etc that will be developed and implemented in future cycles. It will do this by taking into account the "wish list" of its members; reviewing each of the "wish list" items against the company's drive to profitability, growth, and market dominance; and then prioritize and schedule "wish list" items into the master schedule.

The SC will also spin off sub meetings which will report back to SC in order to supplement effective planning and choosing of "wish list" items. The sub meetings will primarily be related to:

- Development timelines
- Capacity planning
- Regulatory planning
- Sales and marketing efforts

For example, the development group may meet to determine an educated estimation of the time required to develop a new product that targets a newly identified profitable customer pain point. At the same time the sales and marketing team needs to determine a rough time line and level of effort for evangelization, advertising, branding, etc. for the new product. Additionally

the regulatory department would need to assess the burden on the company to meet compliance, validation, documentation, etc. requirements.

As each of these teams complete their analysis and report back to the SC a more complete picture of what a particular “wish list” item will entail should emerge. The analyzed “wish list” items can then be compared against one another, a return on investment decision can be made, and those items with a higher return/lower overall cost to implement can be prioritized.

Additionally, once a “wish list” item is slated for product development it should be easy for each department to properly plan resource allocation to meet the project's needs based on the sub meeting findings. It also short circuits a new product/feature coming down the pipeline that sales/marketing wasn't aware of, which then results in a product pushback delay from lack of branding, customer awareness, pricing model, etc.

Cycles and Cadence

Earlier the word “cycles” was used to describe PD activities. A cycle is a unit of time—usually between two and four months—in which the company works on defined projects as prioritized and scheduled by the SC. At the end of each cycle another round of product development occurs, and the new cycle will either continue an existing longer-term project or start on a new project.

It is important that cycles be long enough to allow for focused work, but also short enough to provide organizational “pivots” as market/customer/business conditions change. Cycle length also facilitates process metrics; while it may be difficult to measure progress on a one year project, no such challenge occurs when progress can be checked every two to four months. If a slippage occurs the organization can mitigate it early on rather than six plus months down the road when it's too late.

- Development occurs in cycles of 2-4 months.
- Each cycle some number of feature teams focus on target features/products/R&D/etc.

Software Development Organization

The Feature Team

The software development department (SD) is built in cross functional, agile software development “units” which will be referred to as “feature teams.” As the organization scales up

one or more feature teams will be added to the SD to increase capacity and meet the company's strategic growth goals.

A feature team is typically comprised of:

- Dedicated UI and back end developer
- Dedicated QC
- Shared project manager
- Shared sys admin
- Shared QA
- Shared product manager
- Shared security engineer

A feature team's goal is to develop a fully complete item of work over one or more cycles. An item of work might be a new feature, a new product, enhancements to an existing system, refactoring an existing system for efficiency, and so forth.

A full complete item means the code/software, quality control, security, and quality assurance/regulatory assets required for that item to operate in a production environment and pass audits by clients/outside agencies.

The feature team has between three and four dedicated individuals who work on the team's goals full time; primarily software developers and quality control. The other team members—who likely won't be needed full time for that particular feature team's needs—are split between multiple feature teams.

Ex: A product manager may be managing/driving multiple features/products. As such the PD would then be part of multiple feature teams, and might interact w/ those feature teams to answer requirement questions, provide scoping guidance, etc. for the current cycle.

Feature Team Coordination

Feature teams coordinate via a daily stand up meeting called a "scrum." The scrum is attended by all team members, and covers briefly:

- What team member did yesterday and what they'll do today
- Anything that is blocking their progress

After the scrum—which should last ten to fifteen minutes—the team can breakout and resolve any blocking issues or other items that warrant discussion.

The overall collective of feature teams also coordinates with a weekly “sync up” meeting. The attendees of this sync up meeting are the team lead of each feature team, members of the project management team, and members of the product management team at a minimum. Others may attend/be invited as appropriate.

The sync up meeting allows meeting’s participants to meet, check overall progress with the cycle’s business goals, work collectively to remove blocking issues, and so forth. The statuses of these meetings are also fed upstream into the SC to be taken into account when cycle planning.

Other Operational Teams

The following discusses the other operational teams that don’t have as much of a direct impact on product development as a competitive advantage, but instead play more of a support role.

Help Desk and Customer Support

Customers will initially contact their solutions team member to ask for help, report bugs, etc. Anything the solutions team member can’t resolve they will collaborate on with the support feature team(s).

Initially there will be one or two support feature teams to deal w/ bugs and other customer issues requiring code fixes. Feature team consists of:

- A dedicated UI and back end developer
- A dedicated QC
- Shared system administrator
- Shared project manager

Issues that are unable to be fully resolved by the support feature teams will be escalated to the development feature teams for collaboration and resolution.

The support feature teams also manage client setup and configuration requests.

System Administration

This team takes care of internal and external server systems including:

- Instantiation and provisioning of new client systems
- Backups; OS patches, upgrades, etc.
- Feature team support

Project Management

Initially we should only require one or two of these team members. They will act like scrum masters for the feature teams. The feature teams should be using agile software development methodologies for the cycle goals, so they should be self managing as far as daily/weekly/cycle tasks, burn downs, etc.

PMs should mostly be there for guidance on breaking down the cycle goals correctly, overall burn down tracking, reporting to the SC, etc.

Deployment Manager

Controls deployment all new code, features, products, fixes, configurations, etc. to production systems. Also needs to ensure all QA requirements have been met as well. This position in effect a gatekeeper who

Product Development—Initial Ramp-Up Headcount

Summary

- Two feature teams w/ supporting personnel.

Initial actions

- On board, establish culture, shakedown organization structure and functioning
- Add more feature teams and support personnel as funding, sales and business drivers dictate
- Roll help desk on after the current teams have dealt with support for a short spin up period of time, so everyone understands what involved, can appreciate the challenges, knows how it works, etc.

Role	Count	Est. Cost
UI developer	2	
Backend developer	2	
Quality control engineer	2	
Product manager	2	
Project manager	1	
System administrator	2	
Quality assurance engineer	1	

Security engineer	1	
Totals	13	\$xx.xx