Nine Novel Tactics for Software Product Management in the New Digital Age

By embracing data-driven, Agile and user-centric product management best practices, high-tech companies can more effectively collaborate or cocreate innovative solutions that gain mind and market share in the ever-expanding digital world.

Executive Summary

The hyper-connected world’s influence on the technology product space is perhaps second only to its much wider impact on global socioeconomics. The Internet, together with cloud and mobile technologies, has fundamentally altered the ways in which:

- Customers and users learn about software products.
- Software is selected and bought.
- Software is sold and delivered.
- Products are used, integrated, maintained, supported and replaced.

The product management function in any product venture involves strategic, technical and market-facing activities. However, one of the key indicators of successful product management is the ability to continuously position products in front of market needs.

This white paper explores select best practices of building and exploiting the networked ecosystem required to propel software – indeed, all technology products and services – ahead of the competition, by proactively addressing the market and consumer needs (as illustrated in Figure 1, next page).

Embracing and Enacting Product Management Best Practices

Based on our experience serving the high technology industry, we’ve developed the following tried and true practices – spanning user-centricity, social media strategy, integrated ecosystems, fast-track experimentation and more – to help our clients successfully navigate the accelerating networked product space.

Focus on Creating User Value that Complements Business Value

User communities are more powerful and influential than ever in today’s new digital age. Traditionally, the focus of product management has been on creating business value and meeting the needs of the overall company. However, digital models have reoriented business to “user-centricity.” Similarly, product management needs to focus on creating direct user value rather than pure business functionality (see Figure 2, next page).

Today’s connected digital ecosystem demands intensive attention from product managers when designing compelling user experiences. This is more influential in the success of the product than pure business value.
Integrate Essential Digital Marketing Elements into the Product

Word-of-mouth marketing is driving the acquisition of new customers in today's software market like never before. Such viral marketing is playing an ever-increasing role in converting prospects to customers. Embedding marketing elements into the product depends on the function of the product and the target user community. With a financial accounting software product for small and medium-sized businesses (SMB), for example, accountants and tax consultants would be included as part of its user community, whether they serve as influential advocates or as direct users of the software. Recognizing the impact of user value creation and the influence of user communities on a product's success in the digital space is essential.

A product manager's higher-level goal is to deliberately equip product with digital marketing elements that can improve the viral ratio. This can be defined as the number of new users signed up from promotion by existing users, divided by the number of existing users.

If the viral ratio of the product is greater than one, it indicates the potential for exponential growth. Though a product's viral ratio cannot remain greater than one forever – due to market saturation – product strategy should aim to maximize this ratio and keep it above one for as long as possible.

Track Key Product Metrics and Monitor Product Usage

There are numerous Web metrics that indicate product acceptability, growth and viral-loop-effectiveness (see Figure 3). The first step is to define the key metrics that can help monitor the product's business health. This list should include:

- Unique visitors, new vs. returning users, page views, top regions, etc.
- Top referrers, net promoter score.

Sample Google Analytics Dashboard for Monitoring User Responses to Product/Feature

Source: Google Analytics

Figure 3
• Click density (and the impact of UI changes).
• Sales funnel conversion metrics such as lead to trial, trial to paid.
• Technical performance indicators – such as up time, page load time and transaction turnaround time.
• Business performance metrics such as life time value (LTV) of a customer, average revenue per customer (ARPC) and cost of acquiring a new customer (CAC).

Product managers should derive meaningful and relevant insights from metrics, and track them as a time series. This requires a focus on trends and market changes – e.g., assessing upside potential and targeting stable gains in the medium to long term. Cohort analysis (panel studies) helps assess the improvement post feature launch or measures the effectiveness of a new campaign.

**Build a Social Media Strategy for the Product**

Positive social media references and ratings are necessary ingredients to success in today’s digital age. Often vital to product success is a comprehensive social media strategy that covers customers, end users, developers, domain advocates and other related ecosystem players. Besides spreading the word about the product and its differentiating features, social media tools can be effective in capturing the true voice of users, users’ perceptions about the product vs. competitive offerings, and support and service issues from the field. It can also serve as a good source of product innovation ideas.

Building communities and driving traffic to the community sites are the focus areas to start with. However, social media effectiveness depends much on fostering active interactions, and it will need dedicated efforts from product marketing management to both respond to end-user concerns and propagate the right messages.

Conversations in social networks can generate value. There are many “listening” tools to help derive insights from social media conversations. However, it is essential to define the product goals with respect to each target social community and develop a conceptual measurement framework to assess the true “return on objectives” from social initiatives.

For example, a product management team for a financial and accounting software product targeting the SMB market can have different goals for their target communities:

- **Community of users**: Significant percentage improvement in the net promoter score or significant reduction in compliance-related issues reported and discussed in forums.
- **Community of accountants and financial consultants**: Percentage improvement in positive references and positive sentiment levels.

### Mapping Social Objectives with Listening Modalities

![Diagram](Figure 4)
An effective approach to execute the above strategy is to implement a staged, top-down methodology that identifies business objectives, maps key performance indicators (KPIs) that effectively reflect such objectives, and prescribes measurement tools and methodologies to continuously track and monitor the social pulse of stakeholders (see Figure 4).

Once the framework is ready, with KPIs and measurements defined, appropriate tools can be integrated to provide a social media dashboard for the product line.

Integrate UI Wire-Framing Skills into Product Management

There are two primary reasons why UI wire-framing skills are becoming essential for product managers:

- Increasing adoption of Agile methodology for product development.
- The greater influence of user interfaces in determining desired business outcomes or key performances metrics used to evaluate business success.

A significant number of product development and enhancement initiatives are already adopting Agile methods and the number of product organizations adopting Agile/Scrum frameworks is trending up. In the agile world of digital product development, long-winded market requirement documents (MRDs) and product requirement document (PRDs) are dead; short lists of specs or user stories with wireframes, whiteboards and wikis are essential tools for recording and refining requirements in the new digital age. Most product initiatives run like start-ups, with less focus on stringent process to allow for operational agility.

In the new digital age, UI can dramatically influence key business metrics. Good examples of that include an e-commerce marketplace or a SaaS solution aimed at a global market that features relatively limited training and change management support.

Strong UI wire-framing capabilities (accessible to product managers) will greatly help in getting it right early and often (see Figure 5). This includes the following:

- Conceptual design.
- Interaction, flow and navigation design.
- Visual design, wire frames and mock-ups.
- Functional prototypes.
- Usability testing and user feedback analysis.

The Criticality of UI Design

What most people focus on during UI

Visual Design
Interaction Design
Information Architecture
Conceptual Design

What good product managers think about

Envision the Impact of Mobility, Connected Devices and Evolving Screen Culture

Rapid strides in technology coupled with changing millennial consumer behaviors reinforce the need for product managers to envision goods that meet future market requirements. Factors that shape behavior patterns include:

- Mobile penetration at a level beyond television.
- Growth in smart phones and mobile broadband.
- Growth in connected devices.
- Rapidly increasing use of tablets and other “interactive and intuitive” screens that can connect to anything and everything.
- Evolving screen interaction - touch, voice, gestures, etc.

The impact of delivering an optimal solution for such complex user interactions is dramatic; every product investment needs to strike a balance in meeting the needs of its user irrespective of the channel or the front-end consumer.

Envision Ecosystem Positioning and Platform Play

Successful products in the new digital age evolve into a platform of choice that can aggregate several services and solutions in the relevant ecosystem. Conventionally, product managers try to achieve this by adding and integrating complementary products and solutions in their portfolio, leveraging network effects, and driving collaboration and participation from users, enterprises, developer communities, students, domain advocates and service providers. This is essential to increase product reach and acceptance among customer communities.
However, data is the new asset in the digital age. Systems of records generate data. Systems of digital engagement generate much more subtle contextual data. Systems of intelligence unlock the business value from data. Machine learning and artificial intelligence (AI) systems help us scale up this process in ways that most product managers could not even imagine in the past.

Successful product managers envision this by:

- Accurately positioning the product in the business ecosystem.
- Adding complementary products and integrating with other ecosystem players.
- Offering a platform that enables multiple parties to create value using the platform in the ecosystem.
- Imagining “X + AI as a service” on a platform for the target ecosystem, with X being the product or service in the conventional sense.

Continuous Delivery: Iterate Quickly, Prioritize Often and Elaborate Progressively

Shorter release cycles, Agile development methodologies and highly automated continuous build and release are the keys to high-tech product management success in the new digital age. For traditional product managers accustomed to long-winded MRDs and PRDs in a release cycle that spans several months or perhaps years, these trends take some getting used to. This mandates a top-down reorganization of product management practices to fit Agile methodology. Key considerations include:

- Faster ways of feature identification and prioritization.
- Organizing and delivering product requirements in Agile Sprints.
- A proven method for continuously assessing social feedback and incorporating suggested improvements in subsequent iterations.

Models to prioritize feature requirements help to objectively decide the scope of iterations and to select competing features given the limited time and resources available for development. Basic factors to consider in this prioritization scheme include:

- User satisfaction with a product feature (or its absence).
- Competitive product features.
- Importance of the business need.

Prioritization and continuous improvement are essential to keep pace with buyer behavior and the competition. Effective feedback loops that deliver accurate signals on new feature acceptability and the impact on overall product pick-up are also crucial for agile product management decision-making in the new digital world.

Figure 6 illustrates a simple model to prioritize features. An organization may require a more sophisticated quantitative model that calculates the return from the feature with metrics relevant to the business model - such as the expected increase in sign-up page yield and registration completion. While this is a classic product management challenge, in the new digital age of continuous release and perpetual beta, application of the right model - accepted by all stakeholders - becomes essential for managing often competing priorities.

Assessing Prioritization vs. Differentiation

![Figure 6](image-url)

Collaborate, Cocreate and Win

A key aspect of product management is that it combines several inward- and outward-looking functions. Product management also spans the product family lifecycle. It is therefore essential that the product management function covers everything. This includes ideation and conceptualization, market research, business strategy, competition analysis and technology assessment, as well as requirements management, Agile development methodologies, product introduction techniques, market entry strategies, marketing and business support functions. Such a broad mandate requires product managers to collaborate across functional teams and manage inputs from different stakeholders - and ultimately, to be the single source of truth for the product.
It is important for product managers to obtain access, rather than ownership, to resources from an array of suppliers both inside and outside the company that can complement their understanding, skill set and domain knowledge.

Global collaboration and cocreation in the product management function is one of the essential ingredients for success in the above context. A “collaborate and cocreate” approach can bring tremendous benefits such as:

- Insight into global and emerging technology product markets.
- Validation of the technology product and features in diverse customer business domains.
- Faster turnaround times, in a distributed Agile development environment.
- Cost benefits associated with right-sourcing.
- Flexible capacity with a combination of diverse capabilities and services.

Opportunities to Collaborate and Cocreate with Partners

Looking Ahead: The Product Manager’s Journey

For high-tech product companies, change is not an end but a fresh beginning for a new chapter in product management. The key for product managers is to apply the aforementioned best practices to ensure their companies stay relevant amid marketplace disruptions that are having a profound impact on the way technology products are conceived, built, sold, consumed and serviced. Key considerations include:

- **Technology advancements** in Internet, cloud and connected devices.
- **Evolving business models:** imagine anything-as-a-service, global sourcing and ecosystem-based models.
- **Changing consumer behaviors:** on-the-go, time-shifting, mobile and social.

The product management function must reinvent the art and science of product design, development and distribution to ensure sustainable competitive advantage in the networked world - which is rapidly becoming increasingly virtual, mobile, social and global. Ignoring these developments could be detrimental to high-tech companies’ well-being over the short- and long-term.
About the Author

Omanakuttan Namboodiri (Kuttan) is a Director of Consulting within Cognizant’s Communications and Technology business unit. He has more than 15 years of experience in software product management, development, consulting and global services and has worked with leading software and high-tech organizations in product management, product business support, business transformation and IT strategy. Kuttan holds a post-graduate diploma in plant engineering from National Productivity Council, India, and a B.Tech. degree from University of Calicut, India. He can be reached at Omanakuttan.Namboodiri@cognizant.com.

About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting, and business process services, dedicated to helping the world’s leading companies build stronger businesses. Headquartered in Teaneck, New Jersey (U.S.), Cognizant combines a passion for client satisfaction, technology innovation, deep industry and business process expertise, and a global, collaborative workforce that embodies the future of work. With over 100 development and delivery centers worldwide and approximately 255,800 employees as of September 30, 2016, Cognizant is a member of the NASDAQ-100, the S&P 500, the Forbes Global 2000, and the Fortune 500 and is ranked among the top performing and fastest growing companies in the world. Visit us online at www.cognizant.com or follow us on Twitter: Cognizant.