WHITE PAPER

BROADCOM®

Digital Product Management

Go Beyond Traditional Projects to Product-Focused Planning

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Overview

This document defines the term digital product management to help project portfolio stakeholders and business executives effectively transition from traditional projects and programs to modern product-centric work. We will specifically discuss how to manage investments in this new construct.

The Broadcom® Clarity™ solution is the first and only solution designed for digital product management with many of the features that have been developed over the past few years built specifically to support this transformation.

Today, innovative organizations are already reaping the benefits of managing sustainable products in Clarity, the fastest way to digital transformation.

It Starts with Value

Let us take a look at your own personal financial portfolio filled with stocks, bonds, and mutual funds. Would you ever manage all those assets in a daily spreadsheet? Every day you would look up and enter each investment price to see the overall portfolio value.

Or would you rather turn to an investment app, such as Google Finance or Microsoft Money, where you have real-time portfolio information fused with news, events, and alerts right at your fingertips?

If these tools are available to optimize your personal investments, why would you not want the same for your corporate and product investments? Would you want to manage people, work, and money in a spreadsheet? That is what your competitors are doing.

Now, if you have a financial advisor taking care of your personal investments, do you think they use spreadsheets? Professional financial advisors use state-of-the-art investment solutions. In the corporate world, the financial advisor is replaced by a Project Management Office or Strategy Realization Office, and they expect the very best solution for managing investment information.

Business

Global 2000 enterprises face disruptive competitors and discerning customers every day.

Challenge

In search of success, companies attempt to transform their use of digital technologies to pivot with market changes, satisfy new customer demands, and maximize business value. But digital transformations are hard; only 14% of companies are happy with the results.

Solution

Clarity is the first and only solution built for digital product management. Go beyond traditional projects to product-based investment planning. Instead of managing one-off initiatives, continuously fund digital products, such as logistics apps, employee portals, and e-commerce sites.

Benefit

Enterprises switching to digital product management have experienced the following benefits:

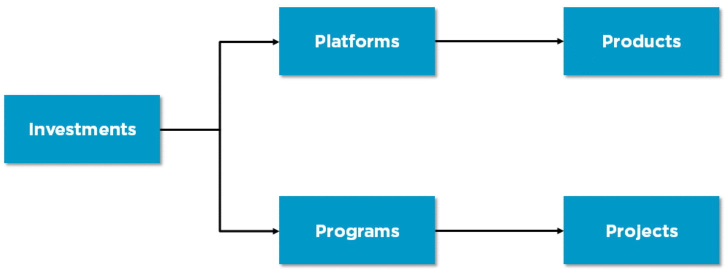
- 75% boost in people utilization
- 70% better business-IT alignment
- 66% less project cost overrun
- 50% improvement in product quality

In a world of escalating change and complexity, you need a competitive edge. You need real-time intelligence for making smart investment decisions based on the right data, from the right place, at the right time.

That is what Clarity is, your solution for planning, managing and executing business strategy, including pivoting between investments to reach your strategic goals.

Digital Product Management

Figure 1: Investment Strategies Are Evolving



A recent Gartner keynote highlighted the change in how companies look at their businesses. Investment strategies are evolving to include funding of initiative-based work, such as programs and projects, as well as sustained assets, like platforms and products.

Project and programs are well-known work vehicles and have the following characteristics:

- Projects require you to build a business case, establish scope and estimates, fund the plan, staff the work, and execute against plan. At the end, there is an expected outcome that maps to the funding provided.
- Programs have an overarching governance responsibility for many underlying projects.

More companies are beginning to look at project and program investments as sustained assets, which we broadly can lump together under the generic term *products*.

A lot of analysts talk about this change as the move from projects to products. This is not really a move from one to the other, but more of a shift in financial focus, a recognition that these assets need to be thought of differently. For most companies, projects and programs will continue to exist, but we will see more products emerge.

What Is a Product?

The question is analogous to the conversation many organizations have had over the past two decades; *what is a project*? Figuring out what a product is in an organization can be just as tricky.

That said, we have determined based on customer research that a product has the following characteristics:

- A product is a sustained asset that has an indeterminate life.
  - Some products may be short-lived, while others may outlive expectations. However, most of the time you do not know how long the lifespan will be when you begin.
  - These investment vehicles can last for years or even decades.
- A product delivers something of value that can be articulated in reasonable business terms. When you are describing the value of a product, it should be obvious to the audience that the product has value. Examples of products include logistics apps, HR portals, and e-commerce sites.
- A product receives explicit funding in the form of money or people, through some channel. This characteristic explicitly differentiates products, which fall into the realm of investment decision making, from implicit products, which deliver value to people, but never fall into the realm of investment decision-making. An example of an implicit product might be a wiki site that people like to use. The site is a sustained asset that has an indeterminate life and delivers value that can be reasonably described, but it may be maintained by a generous individual as part of their other daily responsibilities. One key question that can be asked is whether certain implicit products should be made explicit, and thus become a part of investment decisions.
- An application may or may not be a product. On the other hand, a product could potentially consist of many applications, with components running in multiple data centers, and being enhanced by multiple business units.

The Need to Speak the Language of the Organization

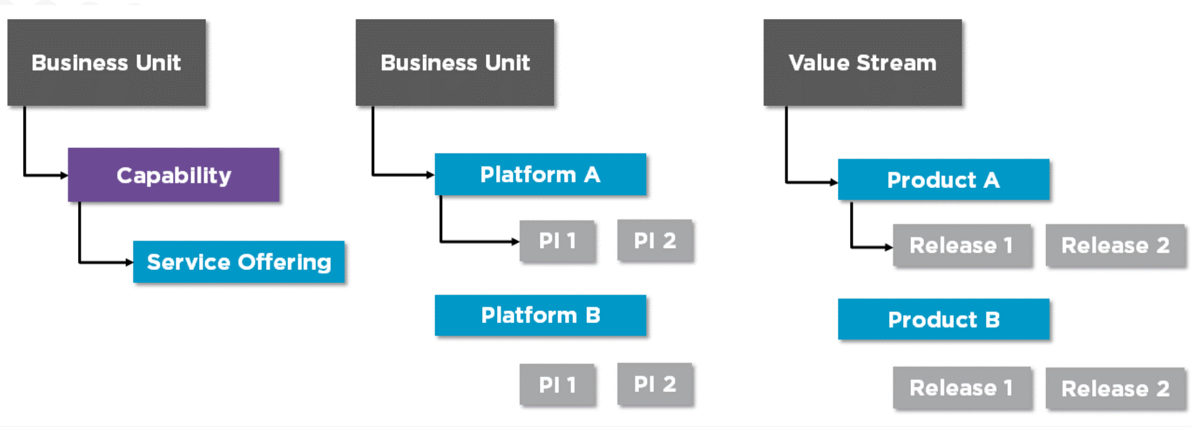
Unlike traditional project management, which is defined in a consistent way for most of the industry, product hierarchies are different, and tend to reflect the company's go-to-market strategy and the types of offerings being delivered to the market. The word product may fit perfectly in some companies. However, in other companies technology may be rapidly changing or so complex investments are referred to as capabilities or platforms.

Based on what the funding vehicle delivering enhancements to the sustained asset is called, the work hierarchy might also change. Companies want to be more granular about what they fund rather than just the overall product. Granularity is necessary to take advantage of research and development taxation credits and depreciation. Instead of traditional projects, companies could be funding release trains, releases, value streams, or epics.

If a solution cannot adjust to a company's product hierarchy and go-to-market strategies, our experience shows that people simply won't use it.

We have seen many other examples with different terms that reflect the offerings and the work hierarchy of specific organizations. The following figure shows how some customers set up their product hierarchy.

Figure 2: Product Hierarchy Examples



Later in this document, we will explain why Clarity is uniquely positioned to capitalize on this transformation to digital product management and why other vendors in the project portfolio space are not.

New Challenges to Face when Managing Products

With this new paradigm comes significant opportunities to help transform the industry. Customers ask us the following questions:

- How do you plan and articulate the product strategy?
- How do you prioritize, measure, and fund products?
- How can you get to the total cost of a product?
- How do you measure the performance of the teams maintaining the product?
- How do you manage the commercial aspect of a product (go-to-market activities)?
- How can I do all of this, while collaborating with the business and maintaining control of my data and delivery of my investment outcomes?

The Foundation Is Product Management

For product managers to stay aligned to their assets, they must complete the following tasks:

- Understand the business the product serves
- Maintain accountability to the stakeholders providing the funding
- Manage the long-term vision of the product

They must understand the entire picture: new capabilities, upgrades, defects, and support, as well as the impact new features will have on customers and the market.

Two Common Pitfalls Related to the Foundational Element

1. Even organizations that have begun their transition from projects to products will fail to identify the need for product managers as opposed to project managers. Since organizations do not articulate the need, they try to move forward without the right skills sets in place to succeed.
2. Organizations often confuse product owners and product managers, thinking both perform same role; they do not. Both roles are necessary to successfully run a product organization.
   - Product owners are typically more technically oriented and embedded with their development teams. They understand the day-to-day progress on particular features and are conversant in the specific details of those capabilities. They are often responsible for taking features defined by product managers and decomposing them into deliverable chunks or stories, that actually can be worked on.
   - Product managers are business oriented and do not embed with teams. They focus on customer requirements and communication as well as market-sensing activities to set the direction and roadmap for the product as a whole.
   - A high-level of trust between product managers and product owners is required for work to run well. Both roles are required since very different skill sets are needed to perform each role.

Articulate Strategy and Vision

A product needs to be maintained, enhanced and transformed. Each product should have a manager or leader with the following responsibilities:

- Understand the product and its feature and functions
- Know the product's stakeholders and market
- Define the strategy for the product going forward

All those elements should be considered the minimum requirements for continued funding of the asset. To change funding, a product manager often needs to articulate the following information:

- What it took to sustain this asset in previous years
- What the strategic direction is
- What impact continuing, adjusting, or discontinuing funding will have on the business and stakeholders

This product strategy informs funding decisions the same way a business case justifies funding for a project. In project-based funding, stakeholders review a business case and fund a specific outcome to be delivered in a specified time frame, usually in a specified manner. Furthermore, the outcome itself, if in the form of a deliverable, is generally treated as a separate operational asset once it is delivered.

In a product environment, the stakeholders review a business case and fund a specific outcome. The time frame and method of delivery is generally left to the discretion of the product manager. The product manager owns the product through not only the creation and launch phase, but also throughout the product's operational life.

This means the product manager has to understand cost, go-to-market delivery, and potentially capital depreciation. Very often a product lifecycle will have one or more project lifecycles contained within it, but the product itself endures through all of those changes.

Products will obviously be compared as leaders work to optimize their investments. Failure occurs when funding teams do not understand what is being delivered and how it is impacting the success of the product.

Defining Product Strategy in Roadmaps

One of the most important tools for a product manager is a product roadmap. In Clarity, roadmapping is a powerful planning tool that enables product managers to develop and communicate long-term product plans to business managers, engineering, and other stakeholders. It also helps them align planned work to the following strategies:

- Overall product strategy
- Customer impact
- Business strategy

It is not enough to align with your product strategy, you also need to show why your work is relevant to your stakeholder's strategy. This is one area where Clarity is better for roadmapping than other commercial tools. You are not just mapping work to your strategy, you also have to be relevant to the organization's or division's overall strategy. Those two strategies can be very different. Strategies cannot just exist with no relation to reality. Tying strategy to all delivery and outcome efforts, not just development, is critical.

When defining the product strategy, it is best to keep in mind that the level of detail should be at a higher than feature level; each roadmap item should be large enough and important enough that the business can understand what is to be delivered, and when it is needed. What your business calls this process is up to you. The product strategy should not be a list of features or capabilities, but a grouping of them. Remember, neither timeline nor iron scope is needed, this is not a project.

It is at this level finance can ascertain a rough annual capital draft plan based on the notional plan, along with the product's prior performance and mix. The annual capital investment plan's value, feasibility, and sustainability come from the same notional plan.

Figure 3: Product Roadmap Aligned to Product Strategy

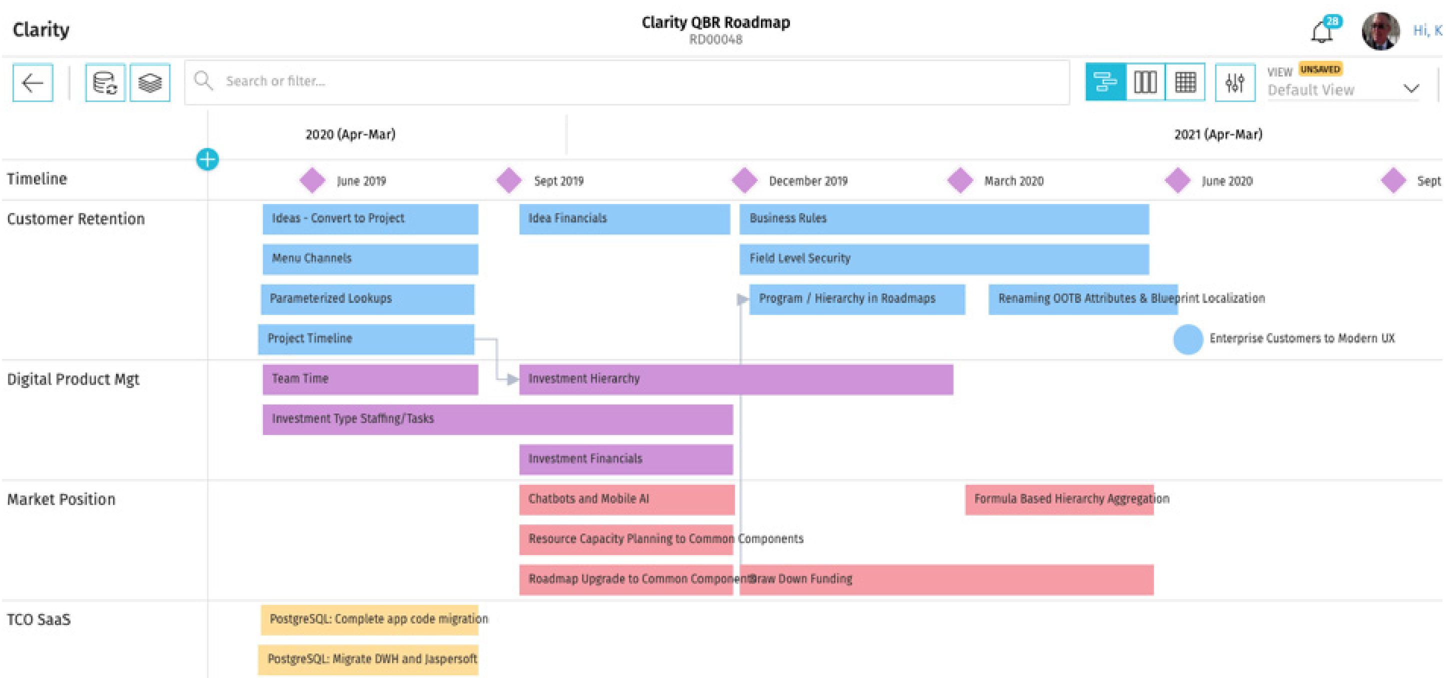
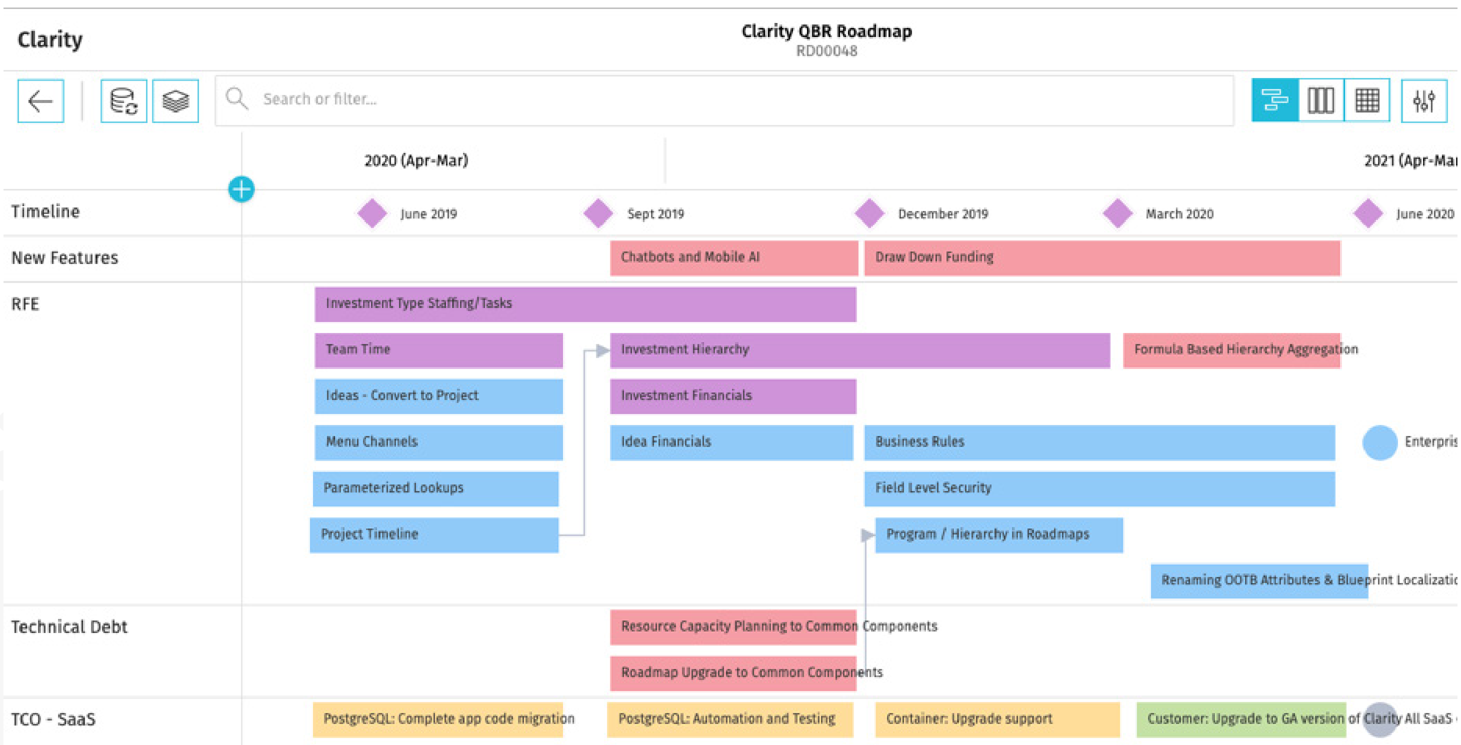


Figure 4: The Same Product Roadmap, Aligned to Investment Categories



Clarity roadmaps provide some very unique capabilities for digital product management. We believe the following items are unique to Clarity and valuable to digital product managers:

- Connecting planning to results: Product managers can build a top-down plan and connect all the details. If you are mapping investments to a roadmap, for example, you can automatically sync the budget and actual spend to your roadmap. As work progresses, you always know your financial positions well as other importable metrics, such as accepted story-points and team allocation.
- Aligning your planning with your fiscal calendar: A planning tool should understand that your planning year begins in April, for example. Surprisingly, most roadmap tools do not do that. Clarity lets you plan in fiscal years, quarters, and customized periods.
- Planning involves alternatives: Clarity enables the digital product manager to roadmap multiple alternatives to their strategy, and present them graphically in a scenario comparison view to stakeholders. There are options and trade-offs. Communicating them in a powerful, visual, and collaborative way really helps to engage the business in the decision-making process.
- Understanding the money: Digital product managers have the tools to define the cost, benefit, and ROI of each major epic in their strategic plan. These tools help inform the business where funding is being allocated. They simplify the entire funding discussion by providing a visual and collaborative view of all the work necessary to sustain and grow the product. The tools even include investment in infrastructure and other technical capabilities that may not be understood by stakeholders and are often omitted in the funding discussions.
- Practical prioritization: Our customers have told us repeatedly about their failures with prioritization. Ranking and sophisticated ranking rules are quickly gamed unless only one person controls the ranking. The roadmaps in Clarity use a concept called *Must Haves* that customers call simple, practical, and valuable. The following three *Must Haves* are provided (you can add more):
  - Carryover: If a feature needs completion, or the work is not finished, we're going to carry this over to the next increment. If it was worth starting, it is probably worth finishing.
  - Required: A technology upgrade, security patch, data center requirement, or compliance activity. If they must be done, they are in the *Must Haves* category.
  - Top Choices: These are market impacting capabilities that lead the pack in terms of importance. After marking all the capabilities as *Must Haves*, you will find that the remaining selection process is much simpler.

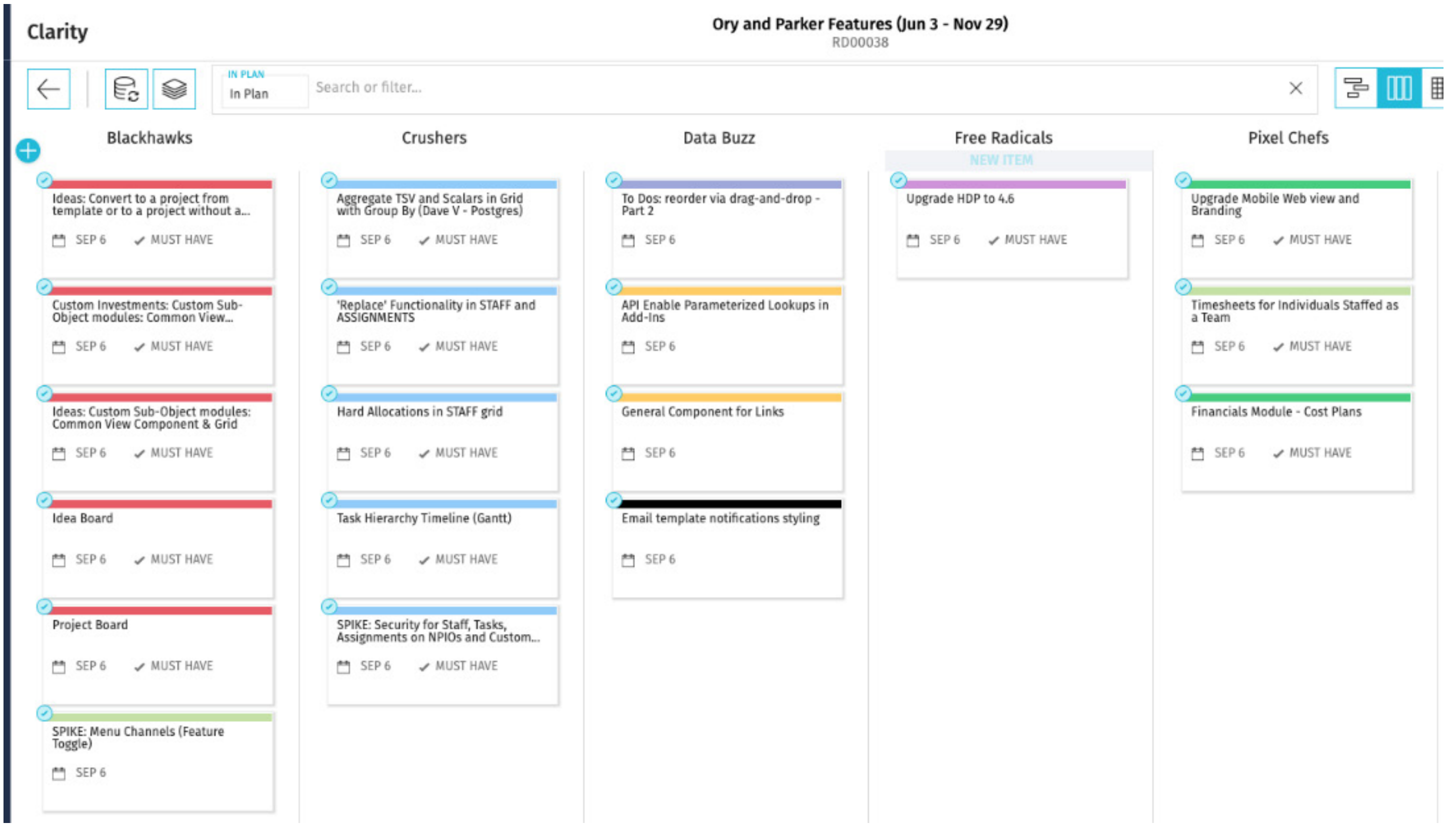
Strategic roadmaps enable the digital product manager to gain a shared understanding of all the work being planning for the next 12 to 18 months. Strategic roadmaps are not intended to be an actual, non-changeable plan, but without a plan engineering is a rudderless ship. The strategic roadmaps also set the direction of the short-term program increments (PI) that drive engineering iterations.

Feature Roadmaps to Link Strategy to Engineering Planning

In each PI or release, a digital product manager uses the strategic plan to inform the more detailed feature planning in preparation for so-called Big Room Planning. A feature roadmap is created from the strategic plan with, in this case, epics being decomposed into more granular feature details. We have found this step in the process to be easily handled using the roadmaps in Clarity, though some organizations may choose to go directly to Rally® software or other agile tools.

The feature plan is reviewed with senior architects and engineering leads prior to doing any team estimation. This step is done to minimize the amount of estimating the teams have to do. The engineering leads who review the proposed feature roadmap can remove work that needs to be done in a later release or requires the time of a specific team that might be overloaded at the moment.

Figure 5: Review Feature Plan with Team before Estimating Work



It is only after this phase that we begin to detail the features in Rally and start sequencing with engineering. We want to minimize disruption to each team.

Understanding Funding and Execution

Products are the sustained assets that drive a company's go-to-market value. These assets can be defined differently depending on the go-to-market strategy and the types of products or services being offered.

Clarity is unique in the fact that you no longer have to fund projects. You can define your own assets such as products, platforms, and capabilities. You can also define your own work units including release trains, releases, and epics. Each of these items can be allocated funding and headcount.

A hierarchy ties this all together. For example, products are linked to releases or release trains. We see the funding of the product over the life of the investment. We also see the cost and benefit over that same time horizon. Depending on the construct you need to manage the financials, the underlying investment contains the funding for the current year, current quarter, or epic, it is up to you.

In the following example figures, the organization has chosen to fund products and the underlying epics. Each epic is aligned to the product and strategy it supports.

Figure 6: Epic Roadmap, with a Swimlane for Each Product

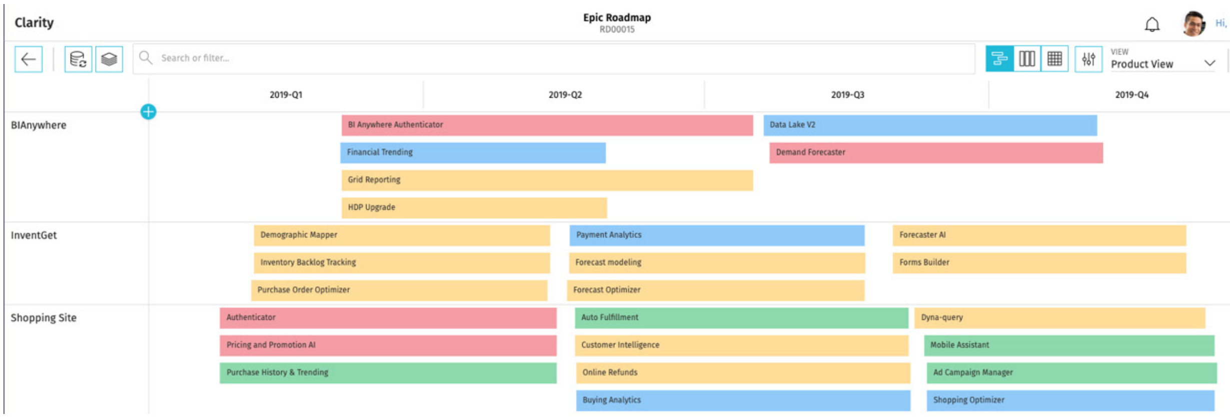
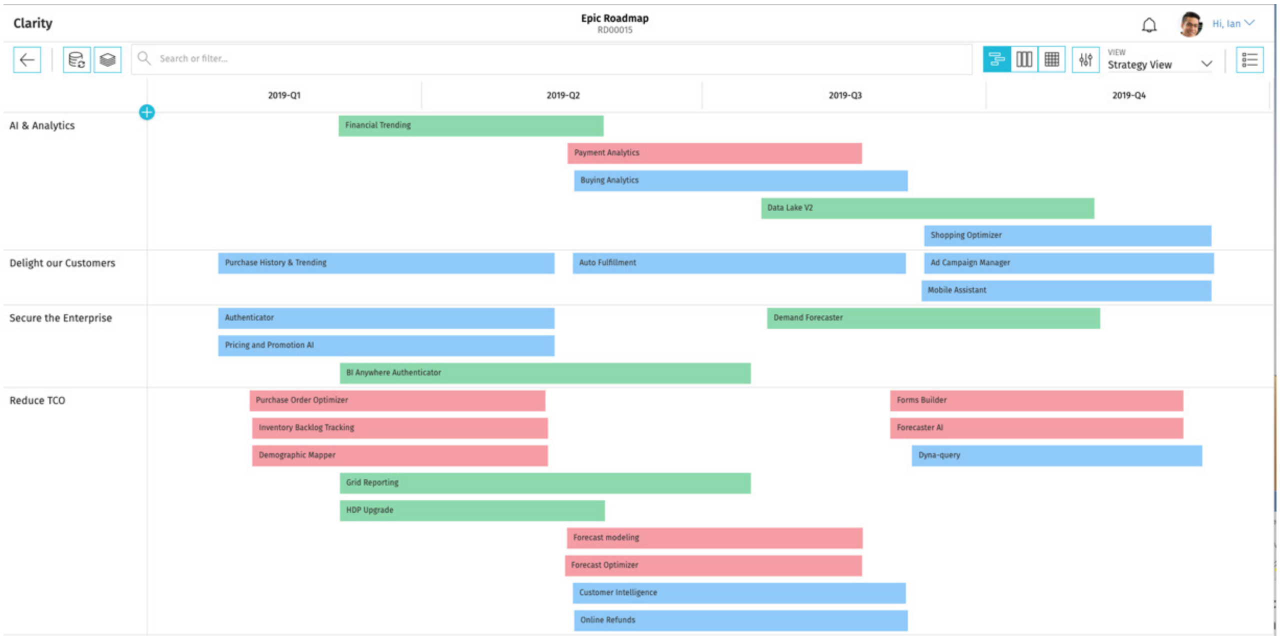


Figure 7: Pivot Roadmap to see How Each Epic Supports a Strategy



Each Investment Type Has Full Financial Control

These objects are what we call investment objects. You can manage budgets, staff teams, and track costs at each of these definable units. If a company is using the same epic hierarchy shown above, each release can include a full budget, forecasting, and actual costs. These items then roll up to the product total cost of ownership.

The following figure shows an example forecast.

Figure 8: Track Costs of Investment Objects

Initial Forecast PLAN OF RECORD

Group By

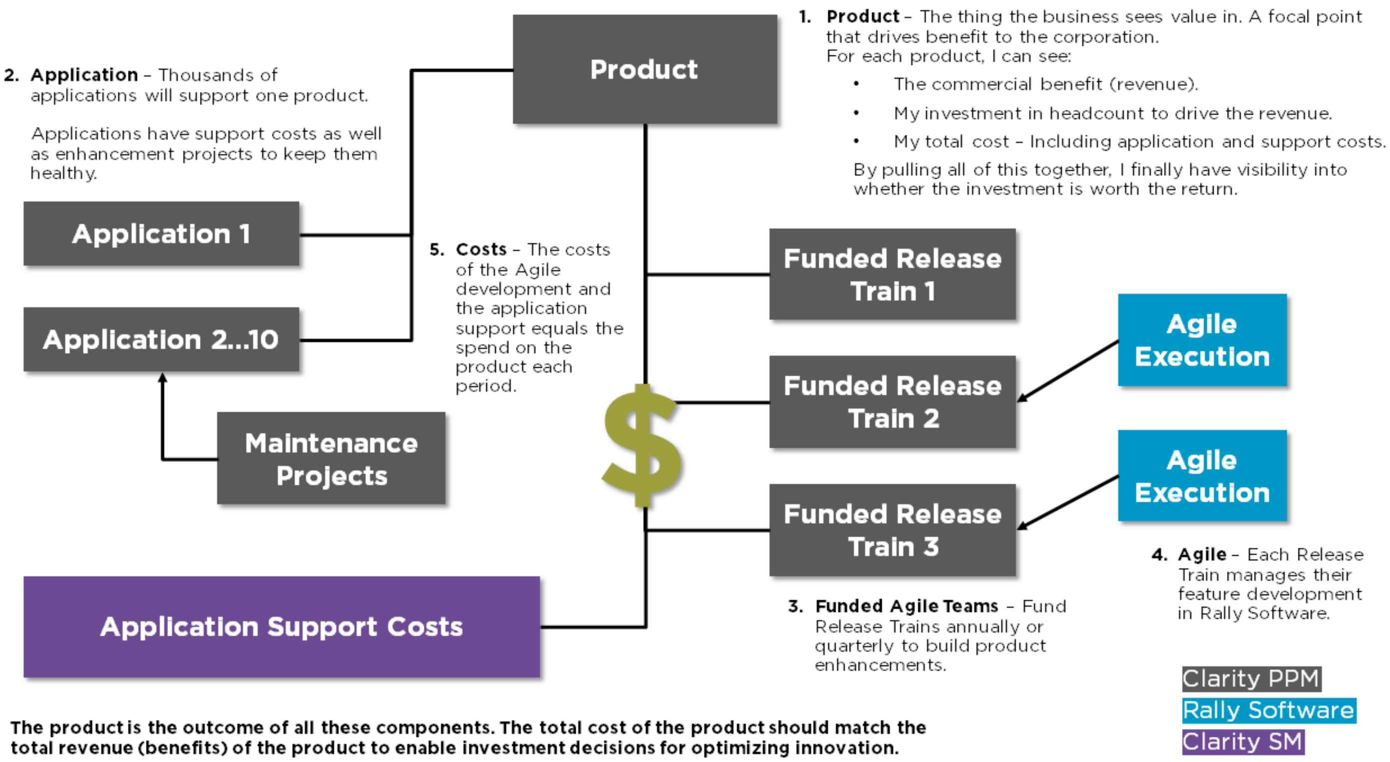
		2019-06				2019-07				2019-08			
		PLANNED	ACTUAL	REMAINING	% SPENT	PLANNED	ACTUAL	REMAINING	% SPENT	PLANNED	ACTUAL	REMAINING	% SPE
Cost Type*	Transactio...	521,560	0	521,560	0%	1,128,680	0	1,128,680	0%	1,163,440	0	1,163,440	
Capital	Internal Labor	9,360	0	9,360	0%	21,840	0	21,840	0%	22,880	0	22,880	
Capital	Software	0	0			5,000	0	5,000	0%	0	0		
Capital	External Labor	20,000	0	20,000	0%	25,000	0	25,000	0%	15,000	0	15,000	
Operating	Internal Labor	487,200	0	487,200	0%	1,071,840	0	1,071,840	0%	1,120,560	0	1,120,560	
Operating	Software	0	0			0	0			0	0		
Operating	Travel	5,000	0	5,000	0%	5,000	0	5,000	0%	5,000	0	5,000	

Total Cost of Ownership

We need to enable organizations to understand how much a product costs, and the cost must include indirect charges such as data centers, mainframe allocations, development, and support.

In the following figure, the infrastructure sitting behind a product can be quite complex. The figure is based on a customer's proposed product environment. Three thousand applications will support fewer than 100 products.

Figure 9: The Complexity of a Product



Indirect Cost Allocation Module

Many of these costs are indirect and difficult to import as a direct charge. We can simplify the total cost of ownership for products by using the same allocation strategy that the finance department uses. You can charge for the various units who work in the same office building, allocate cost based on headcount, square footage, and so on.

In addition, we have many customers who want to eliminate the need for time sheets, but still need a way to allocate labor cost to the products.

An allocation module in Clarity solves both of these problems. It provides the ability to allocate portions of data center costs to various products on a percentage or usage basis, and to disseminate labor cost based on assignment of teams. Once the allocation formulas are worked out, this will provide a simple method to get to the total cost of ownership.

Managing Performance and Capital Actualization

So far, we have been able to define the product strategy and plan the execution of engineering enhancements. We have also defined an investment hierarchy for each product and a way to understand the total cost of ownership. But we really have not talked about performance. What are teams doing to justify the funding that has been provided? What value is being delivered? How do you measure it? What do you capitalize?

While engineering is delivering continuously, many in the organization do not know what is being delivered. There is a lack of accountability, and the traditional project management tools, such as status reporting and stage gates, have often been abandoned.

Clarity has many options to satisfy your capitalization needs. If operations or development teams want to move away from time tracking, give them another metric that can be trusted and that meets capitalization and R&D taxation benefits. These financial practices provide tremendous business value to your organization. Finance cannot abandon these practices, but they do not necessarily need time tracking. Finance needs some auditable way to justify what has been delivered to the market and at what cost. Time tracking is only one of many capabilities that Clarity delivers to an organization to support business practices. The solution is not your enemy, neither is finance in transforming your business practices.

Of course, part of that financial communication is translating delivery into the language of profit and loss. The opportunity, as people transition to a product-based funding and delivery model, is to come up with a new set of processes to provide the business with insight. The tie to financials provides a greater confidence and completes the circle of business value communication.

Use a Release to Promote Value

We know what a release is for products that deploy quarterly or annually. But what is a release to a team who continually delivers features? We can think of the release as a promotional event that enables the product manager to bundle capabilities delivered in the last 90 days to six months, for example, while also providing a forum to highlight the points of commercial value to the business.

This is where the product management discipline comes in. Everyone understands that a project was created to produce a specific outcome, but a product needs a designated point in time. For example, the product team highlights and promotes the value delivered in this last increment every quarter. Internal stakeholders should be brought together to understand what has been delivered, what is planned next and understand the value the teams are delivering. If a connection to a value point is lost, the funding will follow.

Management metrics and processes should be developed around a release or regular cadence event that brings the stakeholders together to understand the value that has been delivered to date.

How Do We Measure the Success of Products and Product Teams?

How do you measure the scope progress of the team? In the world of continuous delivery, we need to know when things are due and whether they had the planned impact.

Accountability to the business for the value the product team signed up to deliver is vital for future funding. We need to track budget, actuals, and forecasted spend for engineering. We also need to track contractors and outside purchases. Pivoting on new opportunities as they come up means you need to know what people are currently working on to understand what adjustments are available to you.

There is an implied delivery of capabilities for the funding, and accountability to the roadmap is vital if we expect funding to continue. It is a given that the business will ultimately fund for performance. Understanding what was planned and what value was delivered is vital to see that funding continue. This is where Clarity, once again, drives value. Understanding the plan, performance against that plan, and clear communication is going to be even more important in the future.

Conclusion

Successful organizations are recognizing it is about working together to deliver real business outcomes that matters. They are redefining how they deliver on strategy, align plans to execution, and track investment performance, regardless of the methodology at hand.

Customers who have worked with us on their transition to digital product management have seen significant improvements, including a 75% boost in people utilization, 70% better business-IT alignment, 66% less project cost overrun, and a 50% improvement in product quality.

To help you transform into a product-centric organization, Clarity comes with the unique capabilities required for digital product management. See how you can counter disruptive competitors, satisfy demanding customers, and optimize business value.

For more information, please visit: broadcom.com/contact-clarity

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