DIGITAL PRODUCT MANAGEMENT

Kevin J. Brennan, Sallie Godwin and Filip Hendrickx

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A lot of books have been written about modern product management. Most of them sell you an ideology, but fall short in explaining how to practically take on the challenges. This book fixes this gap. It brings together the plethora of techniques needed by a modern product manager, from creating a Vision to leading an Agile development team. Highly recommended for any product manager looking to increase the impact of the digital products they are creating!

Pieter Hens, *Product Coach and Professor of Product Management at the University of Leuven*

This book delivers an excellent and practical guide to digital product management skills, culture and mindset. It is particularly useful for those new to, or interested in, the product management discipline as well as current practitioners wishing to develop their skills. It provides engaging insight into core product management capabilities and ways of working which are invaluable to any digitally-centred team, business unit or organisation.

Roy Kee Son, *Product Management Consultant, Orange Pie Consulting*

This book provides a very good introduction into the emerging field, both for product managers transitioning from physical to digital product roles and for people moving laterally into product management from other careers. I particularly enjoyed the relevant choices and emphasis on practices which embody what makes product management both special and critical. The authors help pull the readers past a superficial cataloguing of activities and into an understanding of what makes for good product management. You'll be glad you read it, as I am.

Scott Sehlhorst, *President, Tyner Blain; Product Management and Strategy Consulting*

This book is perfect for a business analyst who is looking to transition into a product focused role or wants a better understanding of the stakeholders they interact with. It covers the complete life cycle, not only how product decisions are made, but how these ideas are developed into actionable products that deliver value to the customer. The chapter on software development is essential reading for those who are looking to transition into the digital space.

Martin Pendlebury, *Senior Business Analyst; Senior Leadership Team, Young Business Analysts (YBA)*

I wish this had been available when I first started a digital product management role as a postgraduate. This book effectively captures the essence of product management – a perpetual juggling act between the needs of the customer and the business – and equips readers with the tools to balance strategic vision with the realities of software delivery. I would recommend it to any business analyst or software professional interested in exploring this exciting role.

Alexandra Koyfman, *Analyst, PDMS; Senior Leadership Team, Young Business Analysts (YBA)*

This is an excellent introduction to product management and gives an in-depth view into how this discipline has evolved to cater for digital products. The inclusion and focus on how to deliver value to your customers is particularly valuable, giving thorough, understandable advice, backed up by data to underpin the reader's understanding. I would highly recommend this to any colleagues wanting a go-to manual for digital product management.

Joanne Fahy Gilbertson, *Senior Business Analyst, University of Manchester;*
Senior Leadership Team, Young Business Analysts (YBA)

Having recently expanded my remit at work to include digital product management, I've been delighted to read through this offering from BCS. It has given me a great grounding in the discipline, and I look forward to returning to it as my journey with digital product management continues.

Dr Craig W. Docherty, *Business Analyst, BJSS (Scotland);*
Young Business Analysts (YBA)

Anyone interested in product management would find this book a useful addition to their library. It contains a core set of tools that you can use to succeed in a product management role. The book starts by explaining the differences between traditional product management and digital product management – a distinction which organisations have to embrace as the world becomes more digitised. The book goes on to explain how to deal with the challenge of having unstructured problems. The book was particularly unique in its explanation of how different members of digital product teams can contribute to specific areas, leading to success of the product. I found the book very insightful, and will be keeping a copy nearby for reference.

Kay Hardy, *Senior Service Designer;*
Cofounder, Young Business Analysts (YBA)

This book offers a deep and practical insight into how to effectively manage the entire end to end product lifecycle. It offers advice that is relevant to any business trying to form and deliver customer led products. It is full of effective tools that can be referred back to at any time to keep any product manager on their toes. A must read for those starting out in product management and established product managers alike or for anyone seeking new and optimal ways to deliver valuable customer led products.

Samantha Bland, *Senior Product Manager*

DIGITAL PRODUCT MANAGEMENT

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AUTHORS

Kevin J. Brennan is a globally recognised expert in product management, business architecture, organisational effectiveness and enterprise design. He currently works as an independent consultant and as a professor at George Brown College in Toronto, Canada. He is best known for his work as EVP, Product Management and Development at IIBA Global where, among other accomplishments, he led the creation and development of the guide to the *Business Analysis Body of Knowledge* (*BABOK® Guide*) and IIBA's other professional development programmes; helped to found the annual Building Business Capability Conference; and led the development of IIBA's first strategic plan. Kevin is a past member of the IIBA Global Board of Directors and served as the first senior staff officer of the Canadian Federation of Library Associations (CFLA-FCAB). He has a Master's degree in Corporate Innovation and Entrepreneurship from Penn State University.

Sallie Godwin is a product manager with over 10 years experience working in product teams, where she has been called a business analyst, product manager, a product owner and even a product analyst. Along the way she has learned how to join up strategy with delivery, sort out the absolute 'must haves' from the 'should dos' and redrawn her roadmap more times than she cares to remember. Previously she has worked in financial services, media organisations, central government and at the British Library. She has an MA in English Literature from Sidney Sussex College, Cambridge.

Filip Hendrickx is convinced that established organisations can, and should, become corporate startups. To help them achieve this, he follows a structured yet pragmatic approach, by bridging business analysis, product management, design thinking, Lean startup and innovation techniques. His background of over 10 years in business consulting and his previous 10 years in software engineering and research enable Filip to connect strategy and portfolio management with project execution and product development. As co-founder of the BA & Beyond Conference and IIBA Brussels Chapter president, Filip helps to support the business analysis profession and grow the BA community in and around Belgium. Filip is co-author of *Brainy Glue*, a business novel on business analysis, innovation and change, and *Cycles*, a book, method and toolkit enabling faster innovation.

FOREWORD

'What does your dad do?'

I had been working in software for 20 years, and still my kids had trouble answering this question. 'He helps people with computers'. 'He does agile! But I don't know what that means'. 'Something about getting people to work together in teams?' And while my adult family members tried to have conversations with me about my work with questions like 'How is the agile going?' it was clear they couldn't answer the 'what does he do' question well either. Their best answers ranged from 'IT guy' to 'project management'. While I love project managers, the good ones know as well as I do that I fall short of that qualification despite some practice in that skill set.

You see, I had spent the last 15 years as a consultant while working for two different firms. For most of my engagements, I was hired to fill a gap. Sometimes that meant coding, sometimes acting as team lead or architect and yes, sometimes 'agile coach'. But the mixed bag of roles and companies didn't help my family answer that simple question; they didn't know what I 'did'.

The experience I gained in those years, however, was invaluable. After some difficult early lessons, our team began to excel at executing on any given problem. I had a front row seat watching how companies operate and how their leaders led. It was fun. But one issue stuck out. We never really owned which problem to solve. And looking back five years, was it even the right problem to have solved in the first place? I started to feel the pull of wanting to be more involved in those long term questions and the long term effects they would have.

The parallel storyline is that I began to engage in the agile and lean communities. I started attending, speaking, and then running user groups and conferences with some friends of mine. I met and became friends with some of the influential thinkers in our space. People like Kevin Brennan. And eventually, I began contributing to the wider community of thought in software development. While my early contributions were focused on execution, I started shifting to vision, strategy and discovery. I was discovering product management but didn't even realise it had a name at that point. I did realise, however, that working at a consulting firm would limit my ability to practice and learn that broader skill set.

So I made a career decision to look for, and join, a company that practiced product management. I was thrilled to join D2L and haven't looked back. I began as a technical product manager and immediately started trying out those vision, strategy and discovery skills about which I had been speaking. In no time I was exploring new questions like,

'what does a great customer facing roadmap look like?' I still remember the excitement I had when I was involved in my first data driven decision that guided both what we were going to work on, and how we should tackle it. In addition, I learned about the customer experience and how product decisions impacted that entire experience. I was able to use the influencing skills I gained while consulting to engage the team in problem solving. I could focus on outcomes and not output. I was a product manager at last.

It is because of the hard-won and meandering lessons from the last 25 years of my career that I'm able to recommend this book with certainty. Whether you are looking to shift to product management or are just starting out in your career, if becoming a product manager is what you desire, this book is for you and may help you get there more efficiently than I did. This book doesn't spend a lot of time on execution; there are plenty of other excellent books on that topic. It does, however, take a careful and thorough look into vision, strategy, discovery, roadmaps, data driven decisions, and the customer experience. I have tried, and lived through, many of the techniques and problems described here. Read this book, and go find a company that allows you to practice these skills.

I'm happy to say that my kids approve of my new profession because they can finally tell their friends what I do. 'You know that software you use every day at school? That's what my dad does. He focuses on making learning easier and more engaging through software. The things you like in there, that's his team. The things you might not like yet, they are working on making those better too'. Long term impact. Now they know what I do.

Steve Rogalsky
Vice President, Product Management, D2L
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ACKNOWLEDGEMENTS

Kevin J. Brennan

ABBREVIATIONS

AARRR	Acquisition, Activation, Retention, Revenue, Referral
AI	artificial intelligence
B2B	business to business
B2C	business to consumer
BDD	behaviour-driven development
CEO	chief executive officer
CTO	chief technology officer
CX Pyramid	Customer Experience Pyramid
HiPPO	highest paid person's opinion
JTBD	job-to-be-done
MMP	minimum marketable product
MoSCoW	must have, should have, could have, won't have
MVP	minimum viable product
PM	product manager
QA	quality assurance
R&D	research and development
RICE	Reach, Impact, Certainty or Confidence, Effort
SaaS	software-as-a-service
Sammy VCM	Sammy Value Concept Model
SME	subject matter expert
TDD	test-driven development
UI	user interface
UX	user experience
WEIRD	white male, educated, industrialised, rich, democratic

PREFACE

Kevin J. Brennan

My first brush with product management came in 2001. It was at a company building a electricity billing system, a product we brought to market readiness only to see the market disappear on us when the government re-regulated energy. I would gradually re-enter the product management world during my time in the executive leadership team at IIBA. This experience gave me a solid view of product development from the executive level and forced me to learn to think about products as part of a portfolio and business strategy. I would take on both product management and business architecture consulting roles in the years after that, and each of those engagements taught me something new.

In 2019, I looked at what had been the business analysis space, and what I saw was a rapid change in the way companies were developing and launching new products and internal systems. Many companies were shifting to a 'product' approach to development, but business analysts weren't being made aware of the tools they needed to adapt. Everything that was out there either focused on the 'product owner' role, teaching Agile 101, or was written by people who learned the job in startups. Neither fit the needs of many new product managers, the people for whom agile methods aren't enough but who also don't have the freedom of action found in 'product-led' companies.

Much of my frustration with the talk about product ownership stemmed from knowing that people were confusing it with product management and including just enough product management in their descriptions of the Scrum role to make sure you realised that you had a bunch of new responsibilities without giving you the tools to meet them. For all the talk about strategy and responsibility for business outcomes, most product ownership training I've seen focuses on the product owner's relationship with the development team.

Business analysts have a great deal in common with product managers. Both roles are interdisciplinary, helping teams with diverse skill sets and viewpoints communicate with one another. Both facilitate difficult conversations and use a range of analytical techniques to develop vital insights. Both have to manage through influence much of the time instead of formal authority. The primary difference is that business analysts focus on the internal workings of a company, and project managers focus on the work performed by a team.

That simple distinction hides a world of differences. Business analysts work in very complex environments, but ones in which it is frequently possible to get definitive answers. When those answers aren't obtainable, the problem is usually a conflict between stakeholders and their interests, or the result of external forces. The end goal

is usually defined, even if that goal changes over time. None of this is meant to suggest that business analysis is easy or simple, but rather that business analysts are generally faced with structured problems (or at least ones amenable to structuring).

Product managers, on the other hand, are usually dealing with open-ended questions to which there is no definitive right answer. A product manager will be faced with many choices and options, and the end goal will be based on business outcomes – no matter how good the product is, it will be seen to have failed if it doesn't generate those. The challenge is usually in finding usable information to give you an insight that's better than your gut feelings. Product managers deal with unstructured problems.

Many project managers are being faced with the same transition and are dealing with similar challenges. A project has a beginning, middle and end – it is done with a defined scope, cost and budget, and one cannot change without affecting the other two. The project will change along the way, of course, but there is always an end goal in sight and once that goal is completed the project team moves on to other engagements. In contrast, digital products don't end, they die because they are no longer producing enough value to justify continued development. There are goals and objectives, but they will be business targets and not deliverables. A traditional project is literally built from a set of defined deliverables in the work breakdown structure. A product manager must never make the mistake of focusing on deliverables rather than the outcome.

If you find those thoughts exciting, then product management may be the career for you. In this book, we've tried to focus on the parts of the job that will be new to you. We assume that you know how to facilitate discussions and lead brainstorming exercises, how software development works, and at least the basics of project management and requirements development. What we've tried to give you in this book is a core set of tools that you can use to succeed in a new product management role and a sense of what to expect. The approach in this book isn't the only way to be an effective product manager. It's a place to start.

1 WHAT IS DIGITAL PRODUCT MANAGEMENT?

Kevin J. Brennan

INTRODUCTION

The demand for product managers is growing rapidly. If you're an experienced IT professional, you may have wondered if you should consider moving into this space. In this chapter, we will discuss the reasons for the rise of product management, and how they connect to digital transformation. We will discuss the key members of digital product teams and how the product manager works with them to add value. Finally, we will touch on one of the biggest shifts an IT professional may face in moving to product management: the need to broaden your horizons and think on every level, from the long-term strategy to the day-to-day work of the product team.

DIGITAL TRANSFORMATION AND DIGITAL PRODUCTS

'Software is eating the world.'

Marc Andreessen (the co-founder of Netscape®) wrote those words in 2011.[1] In an op-ed published in *The Wall Street Journal*, he made the case that companies were going through a profound transformation, one that we've seen accelerate in the years since. He argued that the ability to build and deliver products and services through software – in other words **digital products** – would be the critical capability that enabled companies to survive in the 21st-century economy. Many traditional products, such as cameras, movies and television, had already been completely disrupted and transformed by digital technologies. TV channels and networks are in the process of disappearing and being replaced by online streaming services that operate on a global scale.

Even industries that relied on a physical value chain and distribution network were being changed irrevocably by software. Uber® disrupted taxi companies all over the world, and today that disruption is spreading to other industries. In the city where I live, many restaurants are now doing more business through online delivery services than they do in their physical location, and 'ghost kitchens', which only prepare meals for delivery customers, are becoming commonplace. In the past, this kind of business used to be limited to those franchises big enough to employ full-time drivers, but the existence of a digital middleman allows them access to a fleet of drivers whenever an order comes in.

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1 Marc Andressen (2011) 'Why software is eating the world'. *The Wall Street Journal*. Available from www.wsj.com/articles/SB10001424053111903480904576512250915629460

It's now becoming common for entire industries to face whole-scale disruption through the entry of software-driven competition. For a number of years, the standard wisdom was that this process was inevitably fatal for incumbents. Disruption theory, developed by Clay Christensen and first described in *The Innovator's Dilemma*,[2] provided a compelling argument explaining why. According to Christensen, disruption typically occurred because companies found ways to enter market segments that existing providers would consider to be low value and which would damage their profit margins to try and serve.

For instance, Uber got started by offering services strictly in the luxury car market, tapping into a pool of cars that otherwise spent a significant amount of time sitting unused. This high-end market posed little threat to traditional providers, because it let them generate additional money from drivers and vehicles they already had in place. However, disruption theory also predicts that disruptors will eventually move into other adjacent markets in search of growth, and that's where the trouble starts for incumbents. They may start with creating demand among over-served[3] market segments, but they don't stop there. The capabilities and business model that work in their niche, usually low-end, market often allow them to offer a better value proposition to a broad range of customers as their product capabilities are improved over time. So, naturally, they do. The disruptor moves into other markets that their new capabilities can serve, and does so more efficiently at a lower cost. By the time this happens, the incumbent is typically years behind in developing their needed capabilities, and hobbled by business models that can't easily adapt.

This happened with Uber when they decided to pursue the opportunity to move out of the luxury market and compete with regular taxis. They were able to do so because they had built an existing customer base and infrastructure, and a product that offered a superior user experience to traditional taxi companies. However, rather than partner with those companies to offer a front-end to their services, Uber instead enabled new drivers to compete with them without going through the traditional licensing process, increasing the availability of service and in many cases offering lower costs. Despite intense resistance, which escalated to actual violence in some places, Uber was successful.[4] While some companies tried to offer a similar ride-hailing service working with existing taxi firms, these generally failed to be competitive with Uber's offering.

INTRODUCING DIGITAL PRODUCTS

In recent years, though, the predictions of disruption theory haven't borne out as often as they did in the past. Why? Well, in a sense, disruption theory disrupted itself. Firms became aware of this dynamic and decided that if they were going to be disrupted anyway, they might as well accept the hit to their bottom line that it brought early in the process and be prepared to disrupt themselves. The new business model might

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[2] Clay Christensen (1997) *The Innovator's Dilemma*. Harvard Business Review Press.

[3] An 'over-served' market is one that doesn't demand all the features and capabilities built into the product. People in this segment will happily switch to a product that offers only the features they need at a lower price.

[4] At gaining market share, anyway. Profitability has remained an issue. At the time of writing, Uber had been profitable for the first time in 2021 but was expected to lose money in the coming year. A frequent challenge for tech startups is the need to move from prioritising growth at all costs to developing a sustainable business model.

not be as lucrative as their existing one, but they were certainly more lucrative than bankruptcy! Those firms that were willing to make this transition benefited from the market advantages that came with incumbency, including brand recognition, industry expertise, and of course money, resources and skilled people.

However, they couldn't respond to disruptive competitors with traditional products and services. If they were going to disrupt themselves, they needed to do so using the same practices and methods as the venture, capital-backed startup firms. One of the key practices in question is a modern approach to digital product management.

## Traditional product management

In the past, product management meant the management of **physical** products. The discipline originated with Proctor & Gamble in the 1930s, where it was applied to consumer packaged goods. These products needed to be prototyped, engineered, and have a manufacturing process developed to produce them before they were transported and distributed to consumers. There are many products that still follow this model: medicines, cars, phones, consumer electronics, cleaning products and many more.

It's worthwhile for us to take a little time to discuss the physical new product development and product management life cycle before we dig into digital product management. You may find product management guides that are targeted at this kind of product development, and knowing how it works will help you to determine what does and does not apply to your situation.

These products require a significant upfront investment in their creation and development. It is expected that they will earn back that investment over a period of time. The development and manufacturing process can be very lengthy, as a supply chain has to be developed, materials and packaging need to be created and approved, regulatory approval must be secured, and on and on. In this world, products take years, even decades, to develop and may also earn revenue for years after release.

Because of this reality, traditional products have a well-known life cycle model, pictured in Figure 1.1.

Figure 1.1 The product life cycle
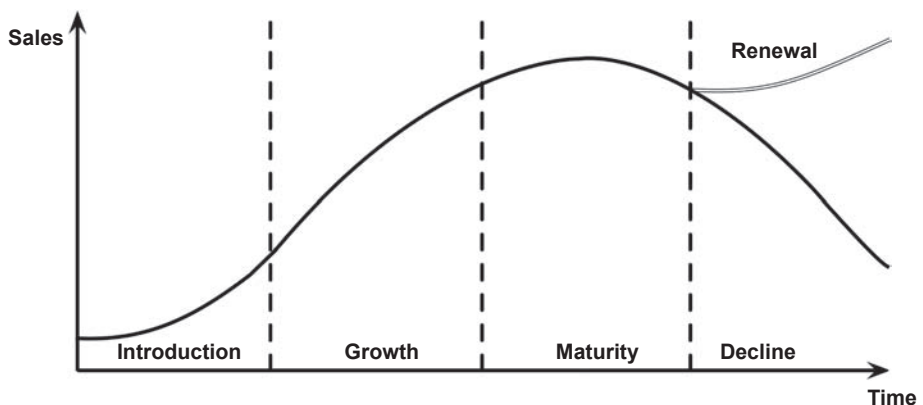
New product development traditionally begins with the creation of a **product concept** or **vision**. This captures the idea behind the product and why the company believes it will be successful in the market. Because new products require a considerable investment of time and resources, this phase focuses on validating whether or not that investment is justified. This involves significant effort in market research, investment in feasibility studies, prototyping, and other research and development (R&D) to make sure that the market for the product is real, and it's possible to manufacture and distribute the product at a viable price. Effects of scale, expected product lifespan and similar factors will end up being considered in that equation.

This phase usually ends with the proposed product reaching a **stage-gate**, where the information is reviewed and approval is given to move the product into development. The creation of a new product is treated as a project, with a project team assembled to turn the concept into something that will ship. The product is developed through a single waterfall[5] effort or through a series of iterations until it reaches a state of quality and functionality that makes it ready to launch. While the effort put into the development of the product concept will mitigate some risks, it's normal for problems to be discovered and resolved during this stage, and not unusual for this part of the product development process to result in significant delays or cost overruns that may affect the long-term viability of the product.

The nature of that development process varies a lot by industry and usually requires very specific expertise in that space. For instance, auto manufacturing will require engagement with product engineers, regulatory agencies and experts in supply chain management. The development of this industry expertise is generally a key capability of companies, one that can be hard or even impossible to match for potential new entrants.

The product **launch** is often where the product team finally gets to see whether or not the product is truly viable. It also represents a major transition in the life cycle of a traditional product, as the product moves from the responsibility of the development team, and management becomes the responsibility of sales and marketing. The transition takes place as the company gears up for the product launch. The sales and marketing team will work to line up orders for the new product and make sure that the market is paying attention to the launch. The product launch represents the best opportunity to convince existing customers to upgrade and get non-customers to switch. If done right, the product launch will start a period of growth as customers purchase the product and use it, and market awareness grows. If done badly, the launch may lead to the product rapidly disappearing into obscurity. Do you remember New Coke®?

Following the product launch, the product will move into its **growth** phase, as the company seeks to generate a return on its investment. During this phase, the goal will be to acquire new customers, upsell existing ones and possibly move the product into new market areas. While some of the product team may continue to be needed to develop new features or solve maintenance issues, the number of people working on it usually drops significantly while marketing efforts ramp up. The goal of most companies is to keep growth continuing for as long as possible.

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5 'Waterfall' projects are expected to pass through a series of phases, beginning with business case development, followed by analysis, design, development and testing.

However, as a product or market matures, it will become harder to reach new customers – a phase known as product **maturity**. Companies eventually have to shift to getting more attention and use of the product from existing customers (and possibly working to cross-sell those customers on related products), or protecting their product's market share from new competitors. In maturity, a product is often treated as a cash cow. The focus of the remaining product team shifts to lowering the costs of manufacturing, distributing and servicing the product, with the goal of maximising profit margins. Despite this, prices may still fall as competition heats up because features that were once new and unique become easier to match.

Eventually, the market for the product will head into **decline**, either due to structural changes, such as changes in taste or new technologies, or because competitors develop superior alternatives. At this point, most of the potential profit has already been captured and the firm must choose whether to let the product ride out the decline, terminate it or invest in enhancements needed to renew it for the future. Spending on the product and on product marketing will be minimised as revenue streams dry up. Eventually, the product becomes a pure commodity, with prices not far above what it costs to manufacture, or is shut down. Either way, there's very little product management to be done.

For a real-world example, look at the history of video tapes. The concept of recording movies on optical discs has been around for decades and was first brought to market as the LaserDisc in 1978. For a long time, though, most customers found the format too expensive, and not many movies were released in that format. It's also fair to say that the general video quality of televisions themselves wasn't good enough to drive a lot of demand. Over the next 15 years or so, they remained a niche product with a limited market. That changed when the major computer manufacturers pressured companies to adopt a unified format.

Once DVDs entered the market, they rapidly displaced video tapes as the main format for video sales. A chart is reproduced in Figure 1.2.[6]

As you can see, the trend in sales looks a great deal like the product life cycle. DVDs grew, rapidly hit maturity, and then dropped into rapid decline. The culprit, of course, was streaming video. DVD had its growth phase from 1998 to around 2004 or 2005, a period of maturity from 2005 to 2010 and since then has been in decline. By 2019, the total volume of physical video media (largely DVDs and Blu-Ray) had fallen to 48 million units, only slightly above their 2001 level.[7]

Digital product management

Modern digital products don't follow this traditional life cycle, and so they require a different approach to product management. It's not only because they're software applications; in fact, until the last decade or so most software products followed variations on the traditional product life cycle. Microsoft Windows® and Office ®, for instance, followed this exact life cycle for years and through multiple versions.

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6 'DVD and Blu-ray sales statistics'. Available from www.avforums.com/threads/dvd-and-blu-ray-sales-statistics.2004986/

7 'Physical video retail unit sales in the United Kingdom (UK) from 1999 to 2019'. Statista.com. Available from www.statista.com/statistics/238863/retail-video-sales-in-the-uk-by-volume/. This number includes different types of media, such as Blu-ray.

Figure 1.2 DVD sales in the UK, 1996–2014
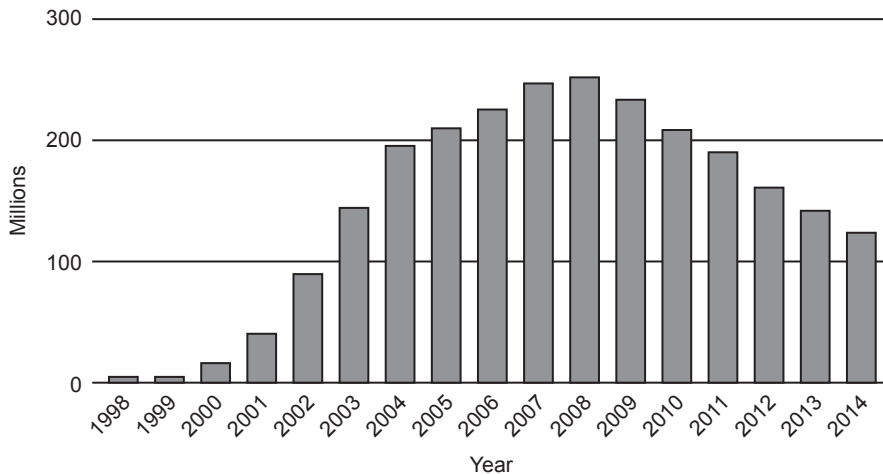
I remember when the release of a new software application or version was a major event, with people even lining up at stores to buy them!

Digital products aren't different because the **products** are digital; the most important change was that the **distribution** of those products became digital as well. The development of the internet, the Apple App Store and Google Play as the central points for distributing most software (as mobile devices now outnumber computers) was the key event that changed the way products were built and developed. Before then, digital products had to be shipped to customers on physical media through traditional channels. While it was still possible to patch and update those products, it could be a lot of work to do so and you couldn't assume that those changes would get out to your customer base in any reasonable amount of time. Customers had to specifically go online to use any connected features of your application.

Once distribution moved online, though, that was no longer true, especially as bandwidth increased. With almost non-existent distribution costs, and cloud computing radically changing the economics of scaling up, the incremental cost to serve a new customer dropped close to zero.[8] Products could send data back and forth on demand. They could be updated as often as needed. Agile methodologies and DevOps increased the speed at which companies could develop and implement new features. Products didn't need to be 'complete' to ship – they just needed to be good enough to get customers to use them. Products didn't need to be developed by a project team – the product team could keep on developing them as long as the demand for new features existed.

These changes break the traditional life cycle model, because the product itself is no longer fixed. You have to simultaneously explore new product directions, build new product features, grow the product in the market and defend against competitors who will be trying to copy your innovations (and who will be able to do so far more quickly

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8 Ben Thompson developed this insight as part of his work on Aggregation Theory. For more information, see the Stratechery website. Available from https://stratechery.com/aggregation-theory/

than they can with physical products). A new version of a product can be deployed in weeks, months at worst – but much more importantly, it can be updated and improved continually as long as the product is worth improving. This capacity for rapid and even constant change means that product managers have to think very differently about how to handle a digital product. Rather than the product life cycle happening at a leisurely pace and following a well-defined order, a digital product will undergo continual change and evolution until it is no longer worth investing in.

Today's digital products may be offered on a subscription basis, as a purchase in an online App Store, or combination of both. They may be embedded in hardware or firmware that allow for ongoing upgrades. They often aren't a standalone application, and are supported by or integrate with business processes. In many respects, a digital product is more like a service than it is a traditional physical product. Quite often, the distinction is minimal – a digital product may be a channel through which a service is delivered.

You may have noticed that this history, and the difference between the approaches, is very similar to the difference between traditional project management and agile approaches. That's because they are largely the same story. The shift we've just discussed is a large part of why agile methods came to be dominant in software development.

Many products today are developed through a hybrid of these methods. An obvious one is cell phones. Phone hardware is developed through a traditional, multi-year process. Prototypes of new components are tested extensively and integrated into potential designs, which are evaluated as the technology matures to determine when they can be incorporated into manufacturing at a reasonable cost and profit margin. The software that runs on those phones, in contrast, is continually evolving and will regularly be installed on older hardware.

DIGITAL PRODUCTS ARE A TEAM SPORT

This change in the product life cycle also led to a profound change in the nature of how products are managed. In the traditional life cycle, there were different groups in the organisation that 'owned' the product at different points in its development. The different phases and stage-gates often included formal handoffs to different teams. I don't want to overstate the case here – product management has always required people to collaborate. However, with digital products, the handoffs and transitions in responsibility are greatly reduced.

A digital product requires three key skill sets in addition to product management. These skills may be represented within the product team itself, or in different departments across the company, or both. The first are developers or engineers – the people who will code, test and deploy the digital application that will be used by customers. Second are experts in customer or user experience who focus on how the product and associated services will be used by the customer, and who create the user interface, services and other interactions with the customers. The third are sales and marketing experts, who will actually get customers to use the product. In many cases, a product manager will have a background in one or more of these areas. Most likely, developers and user/customer experience professionals will be part of the product team, and the sales and marketing group will be separate. This grouping of product management, development and customer experience is often referred to as the 'product triad'.

Developers are the people who will actually build the digital product. While most people on these teams are software developers, this may include other IT professionals. If you're coming from a development background, you may have worked as a business analyst, Scrum master, project manager or even as a product owner. Most development teams for digital products use agile methods, but there are some exceptions. Sometimes these exceptions are driven by corporate culture, but they can also be driven by real constraints in interacting systems or processes that the product team needs to accommodate. For instance, there may be legacy systems or hardware components that are part of the product development cycle, or regulatory requirements that the product or the development process must follow.

The user or customer experience team includes people who specialise in understanding how customers interact with your products. This work involves a great deal of research, prototyping and experimentation. The product experience is more than what's commonly understood as part of the term 'user experience'. It covers every interaction that the customer has with your product and your company. That means, with a digital app, the product experience may start before your customer even visits your website or downloads your app from the App Store or Google Play. The experience includes the process of signing up for your service, every time that the customer interacts with it, and every interaction that the customer has or has to have because your app can't provide a service – in short, the complete customer journey.

Many digital products also have a service component. Those services may be delivered by customer support or customer success departments, by the sales team, by retail employees or by other groups. Those experiences may actually matter more in terms of customer acquisition or retention than the ones driven by the performance of the product itself. You will need to understand how these services affect the overall customer journey, which is covered in greater detail in Chapter 5.

However, it's not enough to simply build and design a product. The ultimate test of any product is its effectiveness in the market. Different products will strike a different balance in the need for sales and marketing. In the digital world, sales teams tend to be more important for business-to-business (B2B) products, while marketing teams are more influential for business-to-consumer (B2C) products. It generally won't be hard to figure out which is important in any given company, though.

Sales are most important when revenue is generated from a smaller number of customers who can place a large order. In these cases, each buyer is influential, and the product team may need to consider whether to incorporate specific features and functions demanded by customers to close a deal. For many products, the buyer and the user are different people and the buying decision may not be related to the factors that drive user satisfaction.

In contrast, marketing is more important when selling a product to large numbers of buyers who make individual purchase decisions. The benefits and value of the product will be communicated in a uniform way to a mass audience (although there may be marketing targeted at specific niches). The marketing team will need to distil the product value proposition down to a compelling narrative that can be used to get the attention of possible customers.

While executives are not formally part of the product team, a product manager (PM) must also keep in mind their needs and expectations. They will be defining the overall strategy of the company – which markets it will play in, which customers it will focus on and how it will win in those markets. Your product strategy must be aligned with these higher-level strategies, and these stakeholders will often seek to influence or even direct product decisions, in ways that may or may not align with your product strategy.

THE ROLE OF THE PRODUCT MANAGER

The need for constant cross-functional collaboration across the organisation has led to the growth and widespread adoption of product management as a formal role. Product managers work across the organisation to ensure that the right products are actually built. Product managers must have a strong relationship with every part of the product team, with other stakeholders in your company, and with suppliers and vendors. Most of all, product managers are accountable to the company for the market success of the product. Product management is, in short, a leadership role, even if much of that leadership comes from influence rather than authority. If you've worked as a business analyst or project manager, you've already developed many of the needed skills and contacts across your company.

Because you're accountable for your product's success, you'll have to work across the organisation to get things done. You're going to run into problems that are a first for you and possibly a first for your company. On the positive side, you're also going to be in a position to demonstrate your direct contribution to your company's bottom line – something that can give you a lot more influence, if not authority. Success as a product manager is something that gives you the opportunity to move up the ranks to senior leadership positions.

You can be assured that your internal stakeholders will have strong opinions about how your product should be developed, what the roadmap should be, what key features you need to add and when they need to be delivered to make sure your company wins. You'll have to navigate internal politics to make sure that your team gets the resources and attention they need – and, sometimes, to make sure that they don't get attention that they **don't** need.

Like any good manager, a big part of your job will be to clear obstacles to make sure that your team is able to deliver a successful product. This includes helping members of your team and others better understand the product strategy and improve their product management skills. A product team will be stronger if everyone is thinking about what your customers need and how you can meet those needs. Your team members will bring their own perspectives and unique insights to these problems and the result will be a better product. See Chapter 8 for more advice.

However, most of this book will actually focus on the things you need to do so that your team **can** create that product. A product team is a complex balance of people with different skills, approaches and outlooks. When it works well, that mix can create a product that becomes an important part of helping your customers to achieve their goals. When it doesn't, the result can be an unworkable mess. Your job is to get that team collaborating on solving the right problems. These are the ones that simultaneously

solve problems for your customers, for which they're willing to pay,[9] which are aligned with your business strategy and which your company is poised to solve more effectively than your competitors. In short, the job is about getting your team to focus on solving the right problems, and solving those problems in a way that no competitor can easily match.

PRODUCT MANAGER VERSUS PRODUCT OWNER

This might be a good place to explain the difference between a product manager and a product owner. The confusion between the two stems from different uses of the word 'product'. A product can be a good or service offered in a market, or the work output of a team. In Scrum, a product owner is the person who defines the work output of a development team. Product managers, on the other hand, are more broadly concerned with how to develop something that succeeds in the market – the development work is an important part of that, but only a part. As a product manager, you may also act as the product owner for the development team, or that responsibility might be delegated to someone else.

HORIZONS OF DIGITAL PRODUCT MANAGEMENT

To do that, you need to be constantly thinking at multiple levels. Unlike a typical software project, you can't focus on the project goal or the next release while leaving other considerations for the future. Those things are important, and you need to be thinking about them too! Product managers need to think about the direction of their product over three distinct time horizons: strategic, tactical and operational (Figure 1.3).

Figure 1.3 Digital product management horizons

9 In government and non-profits, 'willing to pay' may not be relevant, but they still need to prefer your product to other options available to them (including doing nothing).

The strategic horizon

Decisions and changes at this horizon usually play out over the course of a number of years. At this horizon, you'll be thinking about the long-term direction of the product, as expressed in the product vision.

To be able to define a product vision, you must know:

- who will use the product and under what circumstances;
- what they hope to accomplish using your product;
- what makes it special and different from alternative products that could do the same thing;
- and how that product will create and capture value.

The answers to these questions will be articulated as the **product strategy**. One of the most important parts of your job is to be able to articulate the answers to these questions to everyone who needs to know them. The product vision tells everyone **what problem are we solving?** Beyond that, it tells us that the problem we're working on is a problem **worth** solving, and who we are solving it for.

Another major thing that a product strategy must articulate is where the product fits in the market. Your goal, as a product manager, is to make sure that the product has some kind of competitive advantage – that is, it better meets the needs and desires of a specific group of customers than any alternative, and it does so in a way that other companies can't easily copy.

That seems like a lot to ask for, in a world where software can rapidly be developed and deployed and key features reverse-engineered. Nevertheless, it is possible – usually through finding a way to serve customers that cannot be matched given the strategic choices that your competitors have made. This competitive advantage is usually rooted in the overall strategy of your company and in the unique capabilities that it has developed. Product managers should identify those and find ways to leverage them to make their products more compelling to their customer base.

The tactical horizon

Decisions at the tactical level will play out over no more than a year to 18 months, depending on the pace of competition in your market.[10] At this level, you'll be concerning yourself with developing product roadmaps, anticipating competitive actions, and scanning for shifts in the market and in customer preference. The tactical horizon is where you take actions that will have a major impact on customer metrics such as acquisition, retention or revenue. Here, you need to be able to articulate to the team:

- How is the performance of the product in the market being judged?

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10 Discussed further in Chapter 3.

- What changes need to be made to it to keep up with competitive pressures?

- What are the most important improvements to focus on?

- How do we create a compelling customer experience?

The plan for responding to these issues will be captured in the product roadmap and in a set of product metrics.

The product roadmap is used to communicate to all of the important stakeholders what the plans are for the longer-term development of the product. That information will be used to sell the product to customers,[11] plan for longer-term resourcing needs, coordinate work between departments and allow for scheduling. The roadmap serves as a communication tool, first and foremost, rather than a project plan. The further out something is on the roadmap, the less certain it is that the feature in question will be developed.

Digital product development is predicated on continuous improvement of the product and, like all continuous improvement efforts, it needs to be guided by clear metrics and goals. Those metrics tell the team if a change is resulting in improvement or not. The metrics that a team uses to judge success are critical – they will shape team behaviour and, if badly chosen or incentivised, can lead to teams building stuff that improves the chosen metrics but causes other counterproductive behaviours.

The operational horizon

Here, the product manager must focus on the specific capabilities offered in the product. You will collaborate with the product team to design, develop and deploy enhancements. This horizon focuses on enhancing the speed at which improvements can be deployed into the market. This space is still evolving, with a few companies instituting dedicated product ops roles. However, there are three critical elements that matter to the operational horizon.

First is the speed and effectiveness of the digital development team. How quickly can they build and deploy new features? Are they managing and limiting their technical debt (see Chapter 7), which, if allowed to grow out of control, will eventually make it extremely difficult to add new features? Do they have the tools and environments they need? Can they respond quickly to a change in the market and refocus their efforts accordingly?

The second element of product operations is the need for continual value stream management. While some digital products are entirely online, many others exist as a front-end to a set of business processes or in some way have a service element to them. The digital product is only part of the customer experience. The human work that needs to be done to complete the value delivery to the customer is no less important, and if those processes are unable to change at the same pace as the digital elements of the product, they'll end up as a constraint on the ability to change along with the market.

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11 Most product managers intensely dislike this use as it causes customers to view that roadmap as a commitment to them, making needed changes difficult. However, if your product is sold to enterprises, it will be hard to avoid.

That means that agile software development needs to be paired with continuous process improvement methods, such as Lean, Theory of Constraints, and Six Sigma. The appropriate use of those methods will allow operational teams to implement changes and improvements to the business side, keep staff up to date with features, and eliminate and control operational costs to keep the product profitable. Historically, product managers haven't had to pay close attention to this aspect of the business but if we want to deliver a unified and desirable customer experience, it can't be neglected.

Managing the value stream means looking at each business process or sub-process to assess how it contributes to customer or business outcomes and, analogously, to development value streams, removing the things that get in the way of delivering that value or which make it harder to change the process at the pace that's needed. It involves understanding where delays or wasted effort reoccur and redesigning the underlying process to eliminate those problems.

Finally, the last element of product operations is implementing the systems to collect data and feedback to help us learn more about the customer and how they are using our products. All the emphasis on speed of change and delivery mean little if you don't actually have the information you need to tell if those changes are working. Many of the metrics that guide product success are lagging indicators. A solid product strategy may take months or years before you get the outcomes you're looking for, but you don't want to take that long to make decisions about new features, so …

As a digital product manager, you need the systems in place that will allow you to connect with your customers and provide you with insights into how your app is being used and what you can do to make it better. That real-time, or nearly so, insight into customer behaviour is what enables you to increase the pace at which you improve your product without spending a lot of time and wasted effort.

PRODUCT MANAGEMENT IS ABOUT MANAGING

The reason that it's important for product managers to be able to think at multiple levels is that product management isn't just about the product. Your team is filled with experts in their own areas, and those people don't need you to tell them how to do their jobs. What they **do** need is somebody who is looking across all of the different groups that contribute to product success and who focuses on enabling them to create the needed outcomes. This is known as 'servant leadership'.

Product managers usually have a limited influence over who is on the team. You might get to pick some of the players, but certainly not all. You don't get to decide on the strategic direction of the company. You may not even get to decide on the strategy for your product, although you had better understand what it is. Instead, as a product manager, you have to **influence** and **persuade**. You have to instill your vision in the product team so that they can execute on it better than you could. You need to be the person your team needs in order to succeed, because you will be held accountable for the outcomes they produce. You generally won't have many people reporting directly to you, and may not even have full control of your budget. You may have offshored team members or vendors responsible for delivering on critical product capabilities,

and contracts in place that restrict what changes you can ask for and when. Your job is to get results anyway.

It would be very easy to read all of this discussion of the role of the PM, see all of the discussion about vision and leadership, and come to the conclusion that the job of the product manager is to drive the rest of the team to deliver their singular sense of the product into the market. There are certainly no end of stories about Silicon Valley *wunderkinds* who are hagiographically described in the business press and in their biographies as the sole inventors of a new industry.

However, even if it is sometimes possible for a single visionary to take full responsibility for a product, that doesn't make it a good idea. Even if we assume that you are a product visionary and genius, with incredible insight into your market and customers, this approach still places everything on **you**, and the performance of your product will be limited to **your** abilities.

The best product managers realise that success is a team effort. They do what they need to do to keep their teams focused on building a product that will solve a customer problem and meet customer needs, but tap into the insights of everybody on the team. Your team knows what's possible and desirable based on their differing experiences and knowledge, and can find opportunities that never occurred to you. You need to make sure that you're not getting in the way of that, and also make sure that others in your organisation aren't either.

Product management is a cross-functional role and because of that you'll need to adapt your style to fit the realities of the organisation you work in. It's quite likely that you'll have limited freedom to shape the direction of the product itself, as your plans need to fit with the overall strategy of the organisation and possibly the rest of the product portfolio. Product teams may be closely collaborative or deeply siloed. You may have to work with difficult people because they're the ones that are available to you. Successful product management and PM styles will differ from place to place. It's generally true that the best digital product teams follow a certain template, but how close you can come to that ideal may be out of your hands.

Ultimately, the job of the digital product manager is to enable the product team to focus on the problems of the customer – and find creative and innovative solutions for them – and not on internal issues or conflicts. A product team that spends most of its time looking inward is a team that's going to deliver products that customers don't need. They can't do great work if they're constantly firefighting and dealing with conflicting imperatives and demands, because then they're being pulled away from the customer problem. If your team isn't working on ways to increase customer value, you aren't being effective as a product manager.

In the end, you are accountable for the success of the product but you can't do that without your team. Furthermore, you should be taking advantage of their insights and skills. If you insist on dictating exactly how your product works, it can only be as good as your insight. If you engage your team, it can be as good as the best insights all of you have.

Digital products are complicated. Success in delivering and improving them requires many different parts of a company to work together. Developers need to understand

what features the application needs to have and what's most important to change at any given time. Designers need to know who the customers are and how and when they'll use the product. Sales need to know what the plans are for future development and how the product compares to alternative offerings from competitors. Marketing needs to know what the value proposition is and what the product has to offer to customers. Operational units need to have the systems and processes in place to offer supporting services.

Product management is the glue that holds all of these functional groups together. The job of the product manager is to develop and communicate the product vision to the different members of the team and make sure that they are all pulling in the same direction. That sounds simple, but it's not. A product vision needs to be rooted in a very clear understanding of the value proposition of the product and how it gets used by the customer to achieve their goals. It needs to clearly define what progress means from the perspective of the customer and how that progress is enabled by the product. It needs to guide the addition of new features to the product as well as the design of the product. And it needs to turn the product into an operational reality.

As a product manager, your job is to lead the evolution of the product over time to meet the conflicting demands of management, partners and customers. There's no one right way to do that, because every organisation is a little bit different in culture, decision-making authority and capabilities. A product manager is much like a conductor of an orchestra or a coach. All of the players know their jobs and can do them better than you can. Your job is to make sure that they all play together as a team, and that they can work towards a harmonious and coordinated result. If you do that job correctly, they will come together and build a product that will lead the market. In short, the role of a product manager is to do the things that will enable the product team to succeed.

CASE STUDY: UNPARKR

To provide a concrete example of how this could play out, we will follow the progress of a new digital product developed by HumberTel, a company that offers web-conferencing and teleconferencing capabilities to its enterprise customers. While this product and the company are fictional, the case study will explore many of the challenges that you may encounter during the development and ongoing management of a typical digital product. HumberTel is trying to differentiate its conferencing offerings from those of many other service providers, and its executive team believes that it has a good opportunity to move into an adjacent market by creating a web and mobile application that helps customers to have more effective remote meetings.

The new application has been named **Unparkr**. While HumberTel intends to bundle Unparkr with its existing services, it will also be made available to other external customers for an appropriate fee to allow HumberTel to generate revenue outside its existing service geographies, and build a new marketing channel that will allow the company to expand its customer base. This means that Unparkr will need to be independent of HumberTel's existing services, although it may offer incentives for the app to be purchased as an add-on. Unparkr is also expected to be revenue-positive in its own right after a couple of years to build up a presence in the market.

The product team will need to find answers to many problems over all three horizons for Unparkr to succeed, such as the following.

Strategic problems

- Who will drive demand for this product? Will it be sold to enterprises, aiming for adoption across the organisation? Or will it aim at individual team members and seek bottom-up adoption?
- Will Unparkr be integrated with other office productivity suites, and if so which ones?
- What competition will Unparkr face?
  - Are there other companies offering a similar tool?
  - Will major productivity suites begin offering similar functionality bundled for free?
- How quickly must they act to secure a place in the market?

Tactical problems

- What features does it need to focus on first to gain traction?
- What are the key features that will let it validate the product concept?
- What is the minimum set of features it will need for a market launch to begin generating revenue?
- How will it drive awareness in its customer base and bring people onboard?
- What platforms should it target? Mobile, web or desktop?
- Are there any ethical problems that could arise from misuse of the application?

Operational problems

- Does HumberTel have people with the right experience available to build this sort of product?
- Are development environments set up properly to support agile development and DevOps?
- Are key stakeholders willing to support the effort?
- How can it bring a new team together, one which may be matrixed across the organisation, and ensure that it is able to focus on this product?
- What data does it need to make the product better, and can it collect this?
- Are there ethical or business concerns about that data collection? Will customers consider that information confidential?

KEY TAKEAWAYS

- Digital products are becoming critical to the success of the vast majority of businesses, as every customer has a computer in his or her pocket.

- Successful digital product management isn't the sole responsibility of any one person. An effective product manager will need to work closely with developers and user experience professionals.

- Product managers must be integrators who reach across their organisation and out to customers, and who align the product team and key stakeholders to a shared vision.

- Product managers must develop long-term strategies, do medium-term planning and operational work, and support the day-to-day work of the product team.

- Product managers won't be given a clear scope and objectives for a product. You will have to work that out for yourself, and make sure that other stakeholders agree with your view.

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DIGITAL PRODUCT MANAGEMENT

Kevin J. Brennan, Sallie Godwin, Filip Hendrickx

The growth of digital media, products and services have changed the way companies do business. With technology moving to the forefront and consumers demanding simplicity, it is now more important than ever to understand how to deliver an end-to-end, integrated product experience.

Digital Product Management demonstrates how to develop new products, launch them into the market and deliver business outcomes through the maturity of your product. With this book, you'll learn how to deliver results, through developing your influence, creating a supportive team culture and managing your own time.

This practical and comprehensive guide is suitable for anyone looking to increase the impact of their digital products or for business and IT professionals interested in transitioning into a digital-product focussed role.

- **Focusses on key skills across the digital product lifecycle**
- **Offers guidance on how to respond to changes in the market and the actions of competitors**
- **Practical approach including case studies and examples used throughout the book**
- **Recommended reading for the BCS Practitioner Certificate in Digital Product Management**
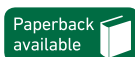
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Kevin J. Brennan is a consultant with over 20 years of experience in executive leadership, product management, and business architecture.

Sallie Godwin is a product manager with over 10 years' experience of working in product teams.

Filip Hendrickx, Founder of altershape.eu, has over 10 years' experience in business consulting and a prior 10 years in software engineering and research.

This book effectively captures the essence of product management and equips readers with the tools to balance strategic vision with the realities of software delivery.

Alexandra Koyfman, Analyst, PDMS; Senior Leadership Team, Young Business Analysts (YBA)

This book provides engaging insight into core product management capabilities and ways of working which are invaluable to any digitally-centred team, business unit or organisation.

Roy Kee Son, Product Management Consultant, Orange Pie Consulting

A good introduction both for product managers transitioning from physical to digital product roles and for people moving laterally into product management from other careers.

Scott Sehlhorst, President, Tyner Blain; Product Management and Strategy Consulting

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