



Digital transformation for physical product companies

How to make it happen



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Meet the author

Jennifer Gomez

Consumer Digital Transformation,
Cambridge Consultants

If you're a consumer business intent on transforming digitally and growing in entirely new ways, then Jen's got your back. She is able to draw upon more than 20 years of experience in brand and global business management and has a passion for breakthrough innovation and launching new platform opportunities. As her record with brands like Colgate proves, Jen is adept at turning great ideas into in-market success – thanks to her personal experience of designing, developing and commercialising consumer products.

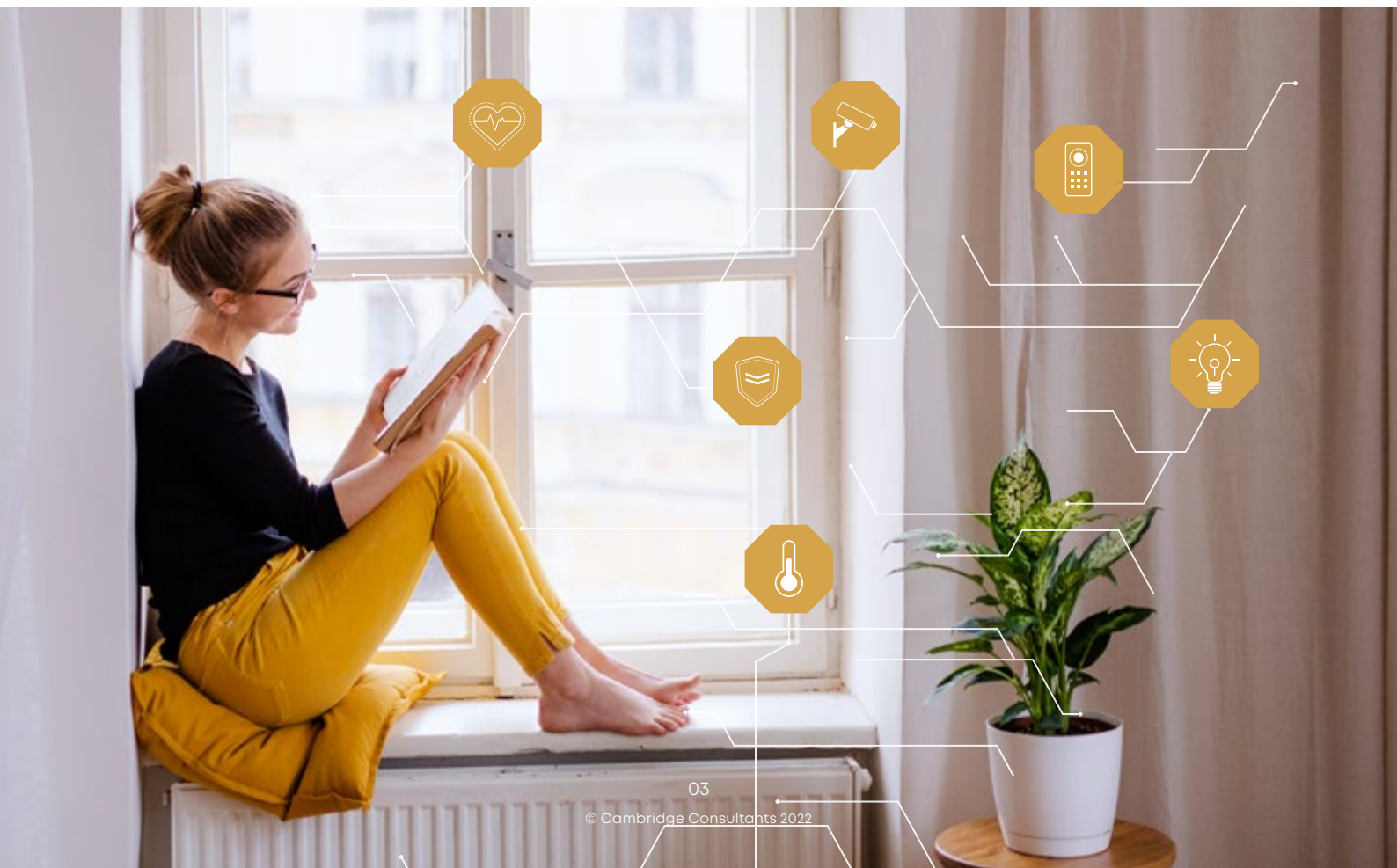
Introducing the Product+ playbook

Now is the time to switch your brain to creative, experimental mode and start imagining how digital innovation could enable you to solve a problem for consumers in your category. While you're at it, consider what that breakthrough could do for your business – if it was launched by you, or if it was launched by a competitor.

The movement is irresistible. Traditionally physical product categories, from beauty to laundry, are embracing the opportunities of digital. We're calling this the 'Product+' trend... as companies reach beyond their traditional physical products to discover digital ways of creating additive value for their businesses. The brave and the bold are already reaping new revenue streams, stronger relationships with consumers and priceless insight into how their products are used. Thermostats to control your home when you're out, socks to monitor your sleeping infant – some innovations have been decried as gimmicks, but most make small but meaningful improvements to people's lives and enable the brands to learn.

FMCG/CPG giants like P&G, Colgate and L'Oréal have entered the space, answering their consumer's needs in engaging new ways but crucially staying true to their brand. (That's rule number one in the Product+ playbook, by the way.) They've drawn on their decades of consumer experience to create sharply focused solutions that win hearts and minds.

If that includes you, then let's get started. But remember, the digital opportunity is a rich innovation area drawing on multiple disciplines – from software and product design teams right through to consumer insights, digital marketing, finance and supply chain. Finding the right partners, internally or externally, will be key to success.



Getting started

It's easier if you know where to look

New territory can be daunting. So, let's focus on the upsides. Rich data-based insights, new revenue streams, high-value loyal users. And don't dismiss the risk of getting left behind as categories get disrupted by digital innovation – with no prospect of catching up with the scale of data accumulated by competitors. Big tip number one, then: start by focusing on the problem your brand can solve.

The most meaningful innovations solve a core category problem. The good news? You probably already know about it; because many companies have spent decades, building insights about the needs of people who buy products in their category.

Nike just did it

Well-fitting sports shoes prevent injuries and are key to product selection. Nike answered this with the HyperAdapt 1.0 in 2016 (recently relaunched as Adapt), an auto-lacing smart shoe that electronically adapts to the wearer's foot shape. The smart connection also allows users to adjust on the go with the Apple Watch. *A totally new solution, with added benefits, for a well-known problem.*



A brush with genius

Oral-B knew that most people miss up to 80% of surfaces when they brush, causing health issues. Different bristles and education campaigns hadn't solved it, now smart technology leads the way. The AI-powered Genius X tracks missing areas and provides personalised feedback for better results. A breakthrough that potentially saves time, money and pain in the dentist's chair.

Neither example created a new problem to solve or promoted radically new behaviours. They built on existing habits to maximise market potential and remained true to the essence of their brand.

Remember, *starting with existing knowledge is a competitive advantage for category incumbents.*

What's in a name?

Most people use smart products, many advocate the benefits. But there's no common term to describe them. Digital, connected, smart, IoT (internet of things) or wearable devices are often used interchangeably. We're talking about internet connected devices that collect, analyse and send valuable information back to the user – whether that's the end-consumer or the brand. We're using the term 'smart product' to capture them all. Also, we're using the phrase 'Product+' to specifically talk about traditional physical product companies that are moving into digital. Businesses that have been built on delivering high volume physical products have different digital opportunities/challenges than new entrants or existing software-based businesses. We believe it's important to acknowledge this difference.

Action points

- Consider the central reason consumers buy your category or product. What's at the core of their intentions? How well is that need satisfied? What gaps exist?
- Think about your brand position and goals. How could a digital product with unique functions deliver your brand benefit in a new way?



Making it work

For the real world, at scale

There is no blueprint because every situation is unique. But there is a universal logic called systems thinking that can be applied. It refers to the creation of synergistic relationships between the physical and digital solution, the product and the service. Getting this right unlocks success for product owners.

When innovating a Product+ solution, systems thinking relates to the elements needed to design, develop and operate the new solution. From the look of the device, to the cloud data transfer requirements, to the customer support line and much more. With physical products, the full system might include how packaging materials interact with product formulations or take into consideration the complementary nature of two items – like a coffee machine and pod. As a product owner you're probably used to considering the purchase, unboxing and usage experience. The same systems thinking approach must be applied to a full physical/digital system.

Let's say your smart product needs to provide a regular activity update. Should all the data be sent to the cloud, or only the extracted insight? What happens if the device loses connectivity – is the transfer of information safety critical?

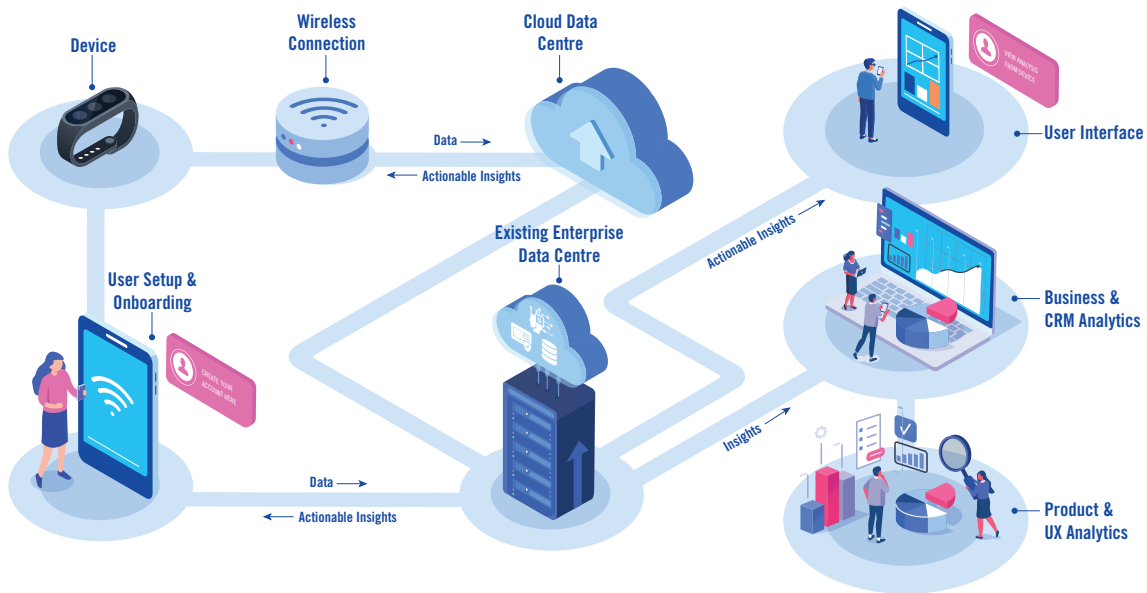
These decisions have an impact on the overall system functionality and performance as well as the physical requirements of the device, such as memory, power or connectivity. If they're not considered early, it could lead to significant rework later.

A common mistake is separating the physical and digital parts of a development into different groups, often with an initial focus on the physical side. Product management for Product+ systems starts with a complete physical/digital system approach. This enables you to create a far more innovative solution and get to market faster with less rework.

It's second nature for a physical product company to consider production requirements such as componentry supply chain or tooling approaches. A similar approach is required for digital. Things to consider include:

- How will the complete solution be operated?
- Is it designed to scale?
- How will it be kept secure?
- How will you handle customer support?

Check out this general picture of a physical-digital solution and all the interactions between the different parts.



Every system is like a Russian nesting doll. There's a relationship between each component and balance is maintained by considering both the whole and the parts. Successful programmes maintain an overall holistic system view with parallel project teams focusing on the individual parts with regular check ins to ensure the system works as a whole – as seamlessly as you intend.

Action points:

- As product owner, have you considered the core components of the development – physical and digital? Where do the interfaces occur?
- Does your organisation have the capabilities to create a multi-functional physical-digital-product-service team?
- What gaps exist? Where are the weak points? This is where you can tap into external experts to help get you up and running

Making it happen

Consider these options for your organisation

If you're focused on physical products and now want to expand into digital, it's likely you have gaps in your organisation. Don't worry, there are multiple avenues open to you that allow for differing levels of investment, risk tolerance and desire to insource/outsource expertise.

Common options are:

COMMON OPTIONS	POSITIVES	NEGATIVES
Build via your own internal team or external provider e.g. Philips Hue light bulbs	<ul style="list-style-type: none"> ▪ Custom solution; own vision ▪ Leverage existing brand strengths and category expertise 	<ul style="list-style-type: none"> ▪ Steep learning curve (internal team)
Acquire market-ready solution e.g. Under Armour suite of products for UA HealthBox	<ul style="list-style-type: none"> ▪ Quick entry ▪ Known financial commitment 	<ul style="list-style-type: none"> ▪ Long term investment committed upfront ▪ Integration of new and existing entity
Partner e.g. Apple Watch Nike+	<ul style="list-style-type: none"> ▪ Complementary expertise 	<ul style="list-style-type: none"> ▪ Potential competing priorities and plans over time
Invest to learn and/or buy in the future e.g. P&G Ventures	<ul style="list-style-type: none"> ▪ Low financial commitment ▪ 'Inside' knowledge of new opportunity as it develops 	<ul style="list-style-type: none"> ▪ Limited influence over activity/ability to experiment for benefit of own business



None are inherently better than the other. Many options exist for the wide variation of needs of individual companies and business opportunities. With no 'right' answer, you should consider requirements for ROI, payback period, scalability, portfolio fit and potential expansion, and your company's ability to adopt and exploit the opportunity.

This flexibility is another reason why Product+ solutions are so attractive. It's an exciting prospect to combine different areas of expertise and create something meaningfully different and impactful for consumers, the market and your company.

Further reading

Of course, we need to consider the importance of data security and also the perception/reality of privacy. There's no time for the detail here, but you can catch up with our exploration of the new technologies for decentralisation of data to address exactly this. Read: [The new digital services contract: you control your data, we'll deliver your experience.](#)

Our Capgemini colleagues have examined the value of data-based insights in their recent report: [The age of insight: how consumer products and retail organisations can accelerate value capture from data.](#)

Action points:

- Consider how much influence your organisation would like to have over what is developed and how it will expand over time. Does that lend itself to a bespoke solution, or are you willing to trade control for partnership benefits?
- Consider the gaps in your existing organisation to determine which of these options make the most sense for your needs. Perhaps you're a brand expert, with a clear understanding of the market need, but need technology expertise to support your vision. Are you seeking to enter a different product category and want a head start to do it? Think about your capabilities and ambition

Why it's worthwhile

Insight creates competitive advantage

Digital technology can redefine everyday products, in almost every category. When done well, they make life easier and better, incentivising consumers to remain engaged. Engagement leads to insight. Incredibly valuable insight. Usually, we gather product insights largely via consumer research studies. But imagine those same insights built through everyday home use.

For the first time, you'll have access to real-time usage behaviour, trended over time. It's true behavioural insight because it's not under observation. There's no awkwardness of being watched. Sample sizes are limited only by the number of devices in market. With enough users you can examine how people of different ages, markets, genders use your product, how their needs differ and how you can better design for group X in the future.

The data and analytics can enable predictions of how it will or could be used in the future. By extension this provides insight into the needs and wants of the user and the potential to predict their future needs. The ability to embed this learning into future solutions can create a divide between smart and non-smart products. Arguably, the one who holds the insight holds the future of the category.

Action points:

- Consider the existing gaps in your market knowledge. What type of information is needed to fill them?
- Imagine different ways that information could be collected. How could that be embodied in a device?








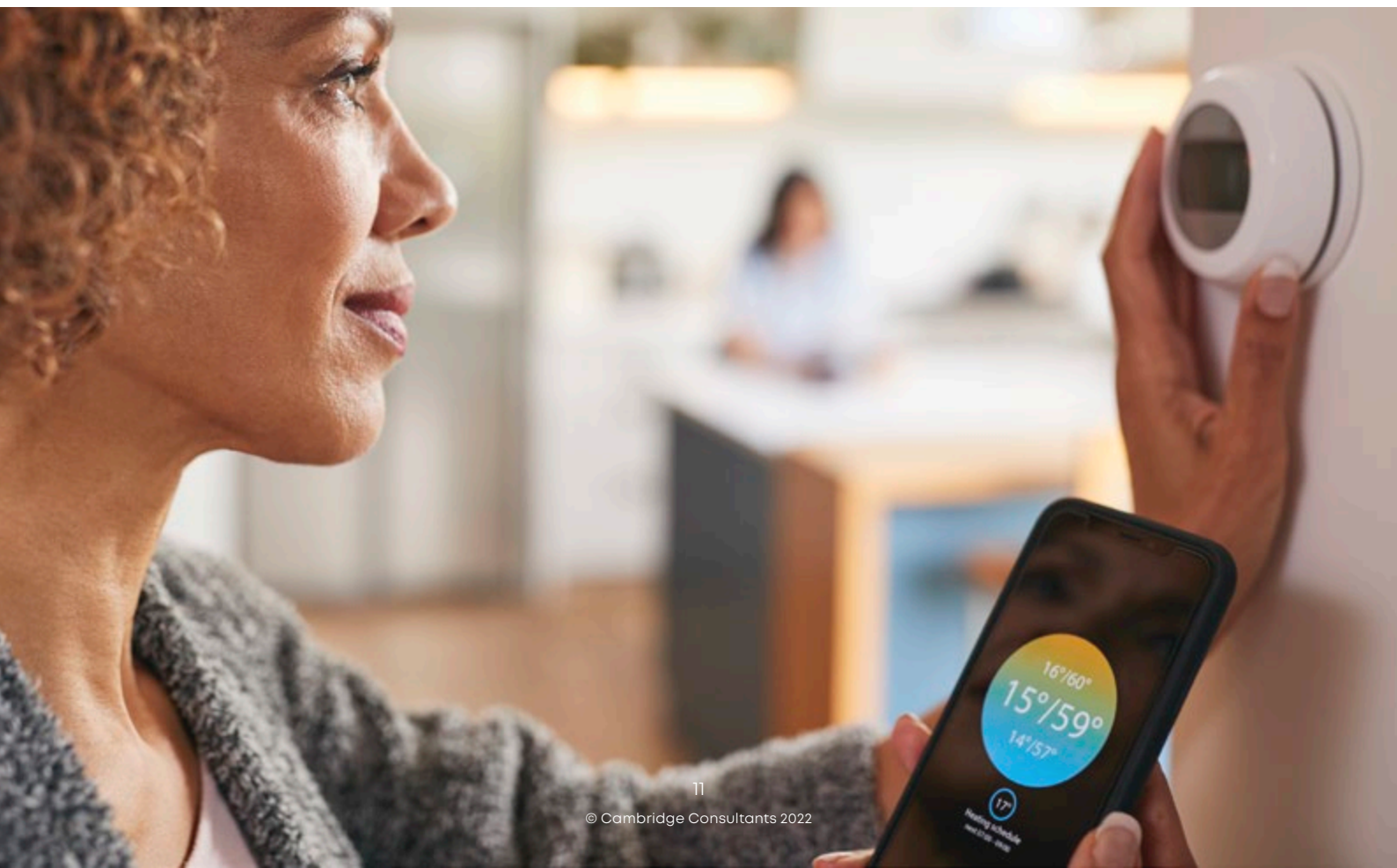
What it's worth

Discovering the real value

The device is the tangible product that lives in the physical world. But the real value comes from the service it enables. It can be simple and straightforward or complex and multifaceted. The point is that it should be created specifically for a defined user case.

Services may seek to deliver:

-  **Personal insights** – easy access to information, for example monitoring blood-oxygen levels on the Apple Watch
-  **Self-improvement** – learn existing behaviour, set and track tasks for improvement, for example the Sycada DriveTag which provides real-time feedback on how you drive plus suggestions for improvement
-  **Convenience** – simplification of tasks, for example Garmin's activity tracking or Alexa's voice-enabled search
-  **Challenge** – real-time coaching and motivation, for example leader board results in digital fitness such as MIRROR from lululemon
-  **Entertainment** – amplify enjoyment from an otherwise mundane task, for example Colgate Magik's toothbrushing games for kids



Product+ systems provide the pathway for brands to deliver services and truly differentiated experiences. They can, therefore, radically change what is built and sold.

Arguably, Peloton, the at-home exercise bike that features a screen, speakers and a live link to classes and fellow riders, has delivered this vision. For loyal users, Peloton is not just a bike or even access to classes (the service). It's customised workouts, it's an inspiring community and a human connection to others in the 'club'. It's memorable and valuable. Peloton bikes are priced at the high end of the market and riders pay a monthly fee of \$39 to access the service. Fees that have helped Peloton achieve a market cap of US\$30b (March 2021).

AVOID THIS PITFALL

Will your Product+ innovation evoke the 'care factor'?

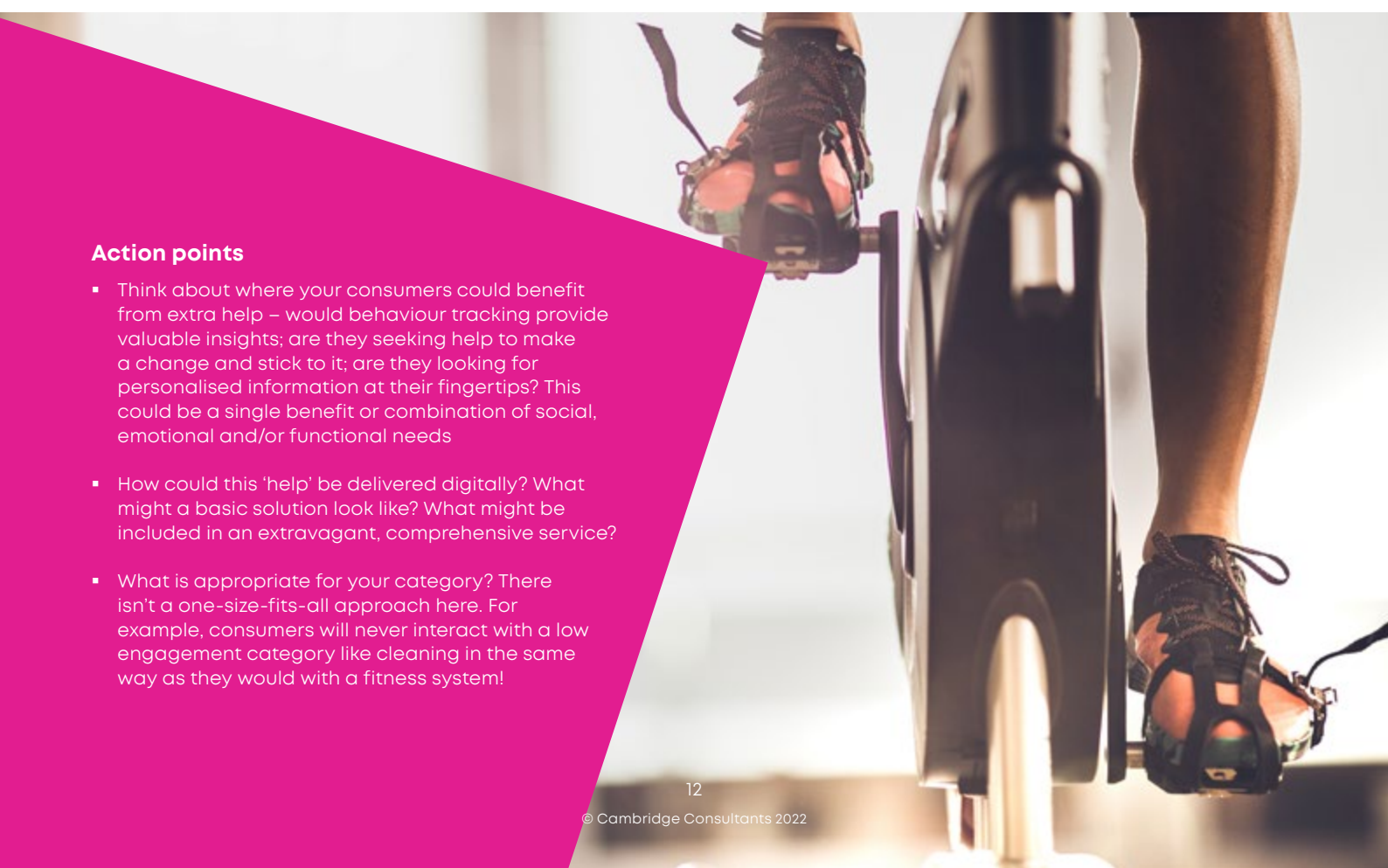
The benefit must be enough to motivate someone to consider, purchase, use and habituate the product. In addition, the benefit or value must be satisfactorily greater than what users are asked to 'give'.

Most Product+ systems are an enhancement to a familiar solution already adopted into the user's life – the fridge that tells you when something has expired, the doorbell that shows you who's on your front porch. The smart versions of these products ask users to do something more. Check an app or view a notification, say. This extra step occurs under a 'give-to-get' proposition. Users are willing to make trade-off decisions where they consider what they are asked to contribute versus the additional benefit of the smart solution – convenience, personal insight, self-improvement, challenge, or entertainment.

Take a win-win approach to your early idea development to avoid this problem – what's in it for your user, what's in it for you. Is it balanced? Keep ideating until you make it so.

Action points

- Think about where your consumers could benefit from extra help – would behaviour tracking provide valuable insights; are they seeking help to make a change and stick to it; are they looking for personalised information at their fingertips? This could be a single benefit or combination of social, emotional and/or functional needs
- How could this 'help' be delivered digitally? What might a basic solution look like? What might be included in an extravagant, comprehensive service?
- What is appropriate for your category? There isn't a one-size-fits-all approach here. For example, consumers will never interact with a low engagement category like cleaning in the same way as they would with a fitness system!



I've been there, done that

So what have I learned?

I've got the t-shirt. In 2014, I was working with Colgate-Palmolive, thinking about the intersection of health, wellness and technology. The 'quantified self' movement was in its infancy and Fitbit had just launched the first smart version of a pedometer. A few years later, we delivered Colgate's first smart product, first digital/data driven business and first direct-to-consumer retail operation.

What did I learn from this rollercoaster experience?

Don't try to make the perfect solution

With so many unknowns – for ourselves, the market, and users – we didn't attempt to foresee every requirement or create the perfect design before we hit the market. We created MVPs (minimum viable products) and tested early – a significant change in practice versus the company norm. This minimised our up-front investment, shortened our time to market and maximised our learning.

Bet on more than one thing

Our early deep dive into the opportunity revealed several opportunities – ideation work often results in more than one solid option. So, we didn't pre-select a single idea to develop. We chose a range and made bets on each of them. This gave us more than one chance of success, and due to variations in development time, we also created a pipeline of activity.

Imagine what the future could look like but don't be rigid in execution

We created a future vision of consumers, what the market would look like, and our role within it. But we weren't afraid to make changes as we learned. This flexibility allowed us to take advantage of new opportunities that came up, which was especially relevant once potential partners realised we were exploring the space.

Take advantage of the experience of others

We knew there was a lot we didn't know, so we widely partnered, outsourced and insourced new expertise. This meant our development team included a mix of technical consultants, start-ups, university research teams, new hires and the upskilling of existing talent. This mixed team allowed us to be agile, exploit multiple opportunities at once and identify problems early.

Would I do the whole thing again? Of course! Who wouldn't want to explore the future, create it and watch it grow?

Contact me to discover more about how Cambridge Consultants can support your ambitions by exploring the possibilities of expanding from pure physical into the digital. Beyond that, we can help deliver the full design and development of the system to launch.

Jennifer Gomez, Consumer Digital Transformation
jennifer.gomez@cambridgeconsultants.com



About Cambridge Consultants

Cambridge Consultants has an exceptional combination of people, processes, facilities and track record. Brought together, this enables innovative product and services development and insightful technology consulting. We work with companies globally to help them manage the business impact of the changing technology landscape. We're not content to deliver business strategy based on target specifications, published reports or hype. We pride ourselves on creating real value for clients by combining commercial insight with engineering rigor. We work with some of the world's largest blue-chip companies as well as with innovative start-ups that want to change the status quo fast.

With a team of around 800 staff in Cambridge (UK), Boston, San Francisco and Seattle (USA), Singapore and Tokyo, we have all the inhouse skills needed to help you – from creating innovative concepts right the way through to taking your product into manufacturing.



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