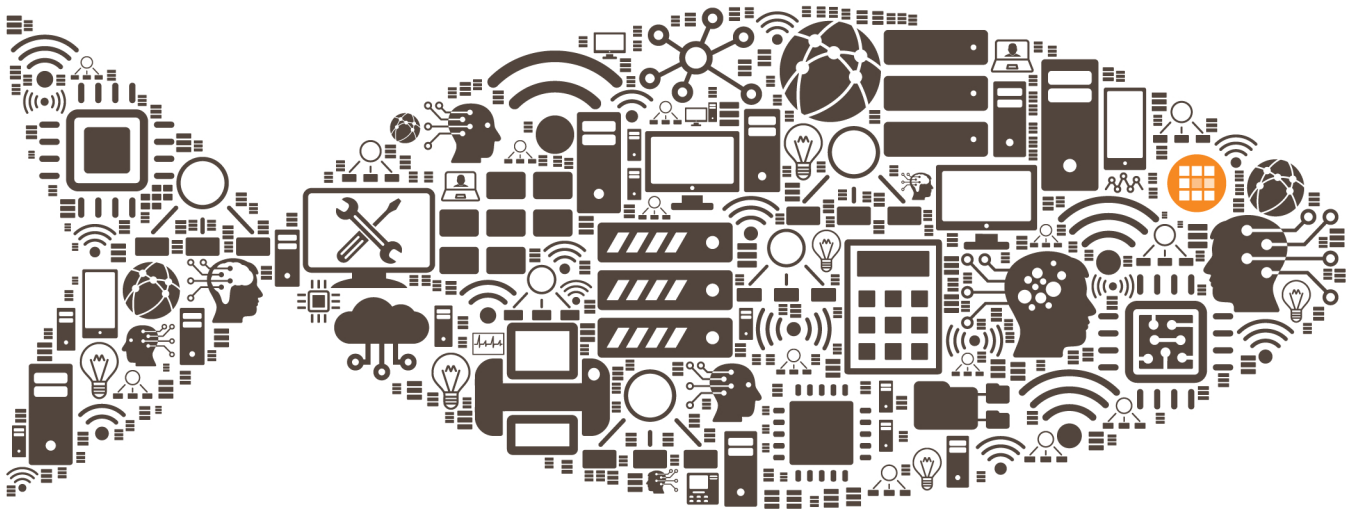


# CIONET COOKBOOK

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RECIPES FOR  
**DIGITAL SUCCESS**



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# CIONET COOKBOOK

RECIPES FOR DIGITAL SUCCESS

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# MENU

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Foreword	v	
The Master Chefs	vi	
Introduction: setting the context for the IT cookbook	1	
<b>Section 1: What does it take to create and operate a five-star restaurant?</b>	5	
1. Win the customer: scoring five stars on Tripadvisor	11	
<b>Sainsburys</b> : delivering world-class digital experiences	12	
<b>The UK Ministry of Defence</b> : building a connected organisation	16	
<b>Port of Antwerp</b> : putting innovation at the centre of the organisation	19	
<b>Starter: Nikkei-style tuna ceviche</b>	23	
2. Reinventing the business: new concepts and menus	24	
<b>Munich Re</b> : becoming a serial innovator of new digital businesses	25	
<b>Tate &amp; Lyle</b> : reinventing business, redesigning work	29	
<b>Signify</b> : mastering the customer experience	33	
<b>Starter: Paneer tikka</b>	36	
3. Structure the business enterprise: winning the best restaurant of the year award	37	
<b>dunnhumby</b> : human-powered business transformation	38	
<b>Proximus</b> : delivering five-star customer experience	42	
<b>mBank</b> : escaping technical legacy to build modern platforms for change	45	
<b>Starter: Broad bean tortilla tapas</b>	48	
<b>Section 2: How to build a five-star kitchen that satisfies your most discerning customers</b>	49	
4. Digital operating models: optimising your kitchen to provide tasty new IT recipes	55	
<b>BW Paper Systems</b> : letting joined-up ecosystems create big business value	56	
<b>KBC Bank</b> : change the context if you want to transform IT operations	59	
<b>Telefónica</b> : Teaching elephants to dance	63	
<b>Main Course: Chicken and mushroom cream with an avocado and green salad</b>	67	

5. New business methods: changing the kitchen to suit a digital landscape	68	8. A dream team for your digital kitchen	112
Prudential: creating a fully digital business	69	Euronext: managing and empowering a busy kitchen to deliver great results	113
KfW: how to turn a crisis into an opportunity	73	Maersk: empowering a world-class kitchen team	117
Orange: leading through open innovation	77	AstraZeneca: leveraging technology as a competitive advantage	121
Main Course: Barbecue cedar-plank salmon	80	Norway Post: learning to innovate greater value faster	125
6. Digital technologies: the best ingredients and suppliers	81	Dessert: Sweet curd dumplings with plum compote	128
Red Hat: embracing open transformation to accelerate change	82	9. Winning cultures promote better collaboration and communication	129
PKO Bank Polski: be brave and humble on your digital journey	85	SD Worx: building an organisational culture for digital transformation	130
MAPFRE: adopting a parallel design path to enterprise automation	88	Morgan Stanley: employing diversity to accelerate change	134
Main Course: Tofu with black beans and red pepper	92	Randstad Group Belgium: agile portfolio management in dynamic environments	138
Section 3: What is expected of top-ranking IT chefs and their supporting teams?	93	Dessert: Pears poached in rooibos tea	142
7. Deciphering the DNA of the Master Chef	99	Conclusions and a call for action	143
Ferrovial: a chef for all seasons	100	About the authors	145
Kensington Mortgages: designing an agile and adaptive operating model to support growth	103	About CIONET	147
Restoration and Renewal Authority: no challenge is too big for a Master Chef	107	About the sponsors	148
Dessert: Gluten-free dark chocolate torte	111	Index	149
		Photo credits	152

# FOREWORD



transformation. They truly are the Master Chefs of digital business change.

A tasty combination of cloud, 5G, artificial intelligence and machine learning, and the intelligent edge are reshaping every aspect of our lives and work. At Red Hat, we offer and apply open sourcing as the means to harness the power of these emerging technologies. Open architectures, open processes and open cultures have become the leading success factors to deliver genuine transformation and innovation. Open-source platforms, software, knowledge and expertise can be transferred with ease, thus encouraging the widest levels of collaboration within and across sectors.

Red Hat is delighted to be partnering with CIONET to present the recipes for digital success in this cookbook, which is based on CIONET TV interviews with the top CIOs in Europe. With over 1,000 local events each year in more than 20 countries, CIONET has a unique vantage point from

which to listen to and interact with 10,000 CIO practitioners and vendors that are navigating this fast-developing landscape together. Many such parties are now adopting open sourcing to encourage peer-to-peer exchanges.

As we enter the post-pandemic era, we believe that now is the right time to bring together the collective learning of the CIO community and to present their recipes for success. We use the five-star restaurant to symbolise the very best IT kitchen. We believe this analogy fits nicely within the context of how IT can best serve its customers. Appetites and habits are changing fast within the business community. New infusions of technology offer exceptional opportunities to improve the consumer experience.

We believe that our IT cookbook offers IT practitioners and their business partners a powerful set of insights and tools to become the world-class restaurateurs of high-quality digitisation, both now and in the years to come.

We hope you enjoy this cookbook.

*Paul J. Cormier*

Paul Cormier, President and CEO, Red Hat  
December 2021



# THE MASTER CHEFS



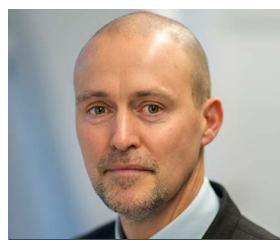
**Phil Jordan** 12

Sainsbury's



**Charlie Forte** 16

UK Ministry of Defence



**Erwin Verstraelen** 19

Port of Antwerp



**Sanjay Patel** 29

Tate & Lyle



**Kurt De Ruwe** 33

Signify



**David Jack** 38

dunhumby



**Geert Standaert** 42

Proximus



**Krzysztof Dabrowski** 45

mBank



**Nino Messaoud** 56

BW Paper Systems



**Rudi Peeters** 59

KBC Bank



**Angel Valero** 63

Telefónica



**Tarun Kohli** 69

Prudential



**Melanie Kehr** 73

KfW



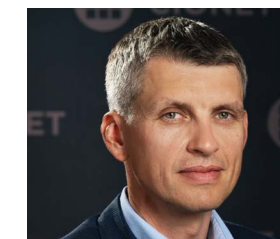
**Koen Vermeulen** 77

Orange



**Margaret Dawson** 82

Red Hat



**Adam Marciniak** 85

PKO Bank Polski



**Vanessa Escrivá García** 88

MAPFRE



**Dimitris Bountolos** 100

Ferrovial



**Mark Foulsham** 103

Kensington Mortgages



**Martin Bellamy** 107

Restoration and Renewal



**Manuel Bento** 113

Euronext



**Rui Pedro Silva** 117

Maersk



**Cindy Hoots** 121

AstraZeneca



**Dr Bijna Kotak Dasani** 134

Morgan Stanley



**Gunther Ghijsels** 138

Randstad Group Belgium



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# INTRODUCTION

## Setting the context for the IT cookbook

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In these uncertain times, one thing is certain: IT has captured the board's attention like never before. In response to the coronavirus pandemic, which created a once-in-a-generation challenge for businesses, societies and governments around the globe, IT was called on to deliver radical changes in operating and business models. From establishing hybrid working and online shopping, to providing virtual meetings, streamed entertainment, remote healthcare and online banking, chief information officers (CIOs) were tasked by their boards to deliver digital transformation in weeks and days rather than years and months. Time and again, CIOs and their technology teams delivered great results.

This period of rapid digitisation has been a wake-up call for many incumbent businesses. During the past decade, large enterprises have seen at first hand the disruption to established sectors caused by fleet-of-foot digital natives, such as Amazon and Google. At times, incumbent businesses have been slow to respond. In comparison, the past 20 months has been a period of unprecedented change, where being slow to respond was anathema.

The prize for technology-driven innovation has never been more visible or quantifiable. As a result, digital natives have seen their stocks double or quadruple in just a short period, setting a high bar for incumbent organisations. As we emerge from the pandemic, these traditional enterprises face a new challenge: not just surviving, but thriving in the digital age. As the executives responsible for leading business technology, CIOs will need to meet this challenge head-on.

### Change in the rate of change

In March 2020, 2.7 billion employees globally relocated from their usual place of work to the home, requiring the establishment of virtual connections and a wide range of collaborative tools. At the same time, the volume of online enquiries and transactions across all businesses mushroomed in a matter of days, requiring scalable solutions. This shift required an acceleration in the deployment of digital platforms and tools, such as hybrid cloud, robotic process automation (RPA) and predictive data analytics. Cybersecurity also took an elevated position within the CIO's crowded agenda.





### Not just 'doing digital' but 'being digital'

Across all the C-suite interviews that we have conducted in 2021, one aspect stands out above all others: the historic focus on operational excellence, and an associated modernisation of the core business, has had to take second place to innovation on behalf of the customer. In response to the pandemic, organisations scrambled to engage with and satisfy their end customers. All IT effort was directed to enhancing the customer journey, whether this was on behalf of external clients or internal employees. Emerging technologies, such as the Internet of Things (IoT), machine learning and 5G connectivity, contributed to these customer-focused developments. This focus on the customer will remain central as we move into the post-COVID age. Without innovation around the customer experience, organisations of all kinds will fail to survive the decade.

### A new role for the Master Chef

The transformation of incumbent organisations into digital businesses has thrown a bright spotlight on what the CIO's role should be during this decade and beyond. In the recipes for IT leadership success that are contained within this IT cookbook, we see several common themes emerging. We believe pioneering digital leaders are focusing on three main areas:

- Corporate governance based on appropriate enterprise architectures that align with the purpose and value of truly digital organisations;
- Communities of practice that encourage the widespread dissemination of digital skills across IT and the rest of the organisation;
- Appropriate tooling such as artificial intelligence (AI), robotics, blockchain and quantum computing that can be applied in a consistent fashion across business and functional boundaries.

Most interviewees recognise that the days of running complex infrastructures and undertaking large-scale

developments are over. Instead, public cloud platforms are replacing internal facilities, and low-code/no-code development tools can help businesses to devise their own solutions.

### How to use this IT cookbook

Our IT cookbook describes the impact of dramatic and prolonged change on organisations of all kinds, both public and private. By drawing on strong use case examples, we describe how your organisation can create and operate a five-star restaurant, and provide all the IT ingredients necessary to support this establishment. The book is divided into three main sections:

- Section 1 (Chapters 1–3): What it takes to create and operate a five-star restaurant;
- Section 2 (Chapters 4–6): How IT can best provide a five-star kitchen to support the enterprise;
- Section 3 (Chapters 7–9) – What is expected of a top-ranking IT chef and their supporting team.

*“Without innovation around the customer experience, organisations of all kinds will fail to survive the decade.”*

In the chapters we describe the critical factors for success in achieving a five-star rating as a restaurant (Section 1), as a kitchen (Section 2) and as a top ranking team (Section 3). Each chapter contains three representative recipes taken from the most relevant Master Chefs. By reading the recipes you will have access to the very best practices across Europe that you can replicate within your own organisation. For those who are already in the most senior positions and for others who are climbing the executive ladder, we hope that this IT cookbook provides valuable insights into what it takes to succeed in the new digital era.

## SECTION 1

# WHAT DOES IT TAKE TO CREATE AND OPERATE A FIVE-STAR RESTAURANT?



*"Placing new emphasis on the customer rather than  
operational efficiencies has a galvanising impact  
on corporate investment."*



Digital leaders, especially the CIO, must help elevate and maintain their organisations at a five-star rating if they are to survive and flourish in the emerging digital economy. There is no room for mediocrity with digital natives and start-ups biting at your heels. So, what does it take to be a five-star restaurant? First, you must win and retain the loyalty of your best customers. To do this, you will need to constantly enhance and vary your menus by adding the very latest ingredients and flavours. This will require you to work in a highly flexible and responsive manner by adopting contemporary structures, methods and tools, such as DevOps and Agile working.

In the wake of the coronavirus pandemic, it's time to dispose of your legacy constraints and swim in the fast lane. Let's examine each of the preconditions that will ensure that you operate the best restaurant in town.

#### Build a five-star reputation – focus exclusively on your best customers

Let's be honest: most organisations have paid lip service to their customers in the past few decades, with only a few placing the customer centre stage in their day-to-day operations. Instead, most businesses have pursued an operational excellence strategy, focused firmly on internal efficiency where they have applied digital techniques to core processes, such as finance, human resources (HR) and IT. This work has made up the bulk of so-called digital transformation efforts by incumbents. The outcome has been a race towards commoditisation of product and service. Digital natives, such as Amazon, have taken full advantage of this internal preoccupation with operational excellence and have instead taken a disruptive stance, placing the customer centre stage. Amazon's inexorable rise, and the near-destruction of slower-moving high-street retailers during the past 18 months, is testament to the digital native's successful customer-focused strategy.

COVID-19 and the associated move to online everything

have created a rude awakening for incumbents who have seen both market share and equity value crumble in comparison with digital leaders. Prompted by the crisis, executive attention has switched from factory modernisation to enhancing the customer journey. This switch has involved the simplification of outward-facing processes to make organisations more accessible and relevant to each customer's specific context, in what we call the process of hyper-personalisation. Time and money in incumbents are now both firmly focused 'outside-in' rather than 'inside-out', ensuring that every diner in the restaurant has a truly satisfying experience. What takes place in the kitchen is usually invisible to the end customer. If the food arrives hot, fresh and tasty, the means of production is entirely irrelevant to the diner.

So, what does service in this five-star restaurant look like? Here are three specific areas of best practice that support the move to genuine customer centricity:

- Getting closer to the consumer. By establishing direct, online links with the consumer, many organisations are seeking to influence choice and increase loyalty.
- Improving the customer journey. Providing multi-channel access gives consumers better visibility and ease of access to products and services, as well as support throughout the life cycle.
- Engaging customers in co-development. With fast-changing consumer needs and increasing pressures to innovate around products and services, companies are seeking new ways to bring the customer into the development cycle.

#### Reinvent the business – deliver new concepts and menus

The pandemic has helped organisations focus on what is important – the end customer, whether that's an employee or an external consumer. Key drivers for action include the recent move to home working by



more than 2.7 billion staff and an associated growing dependence on everything digital, from online shopping and education to entertainment, healthcare and sport.

These drivers for change have important consequences in terms of the post-COVID economy. Business leaders will have to deal with both the increasing uncertainty around customer needs in a VUCA (volatile, uncertain, complex and ambiguous) world and also the growing dominance of digital players that can adapt readily to fast-changing circumstances. Two examples:

1. Apple is now worth more than the combined value of all incumbents in the FTSE 100 stock exchange;
2. The FAANG companies are worth more combined than the entire European stock market.

Being digital, it would seem, pays off handsomely.

Companies are beginning to recognise that they will need to change tack over the next five years to accommodate the digital imperatives that will characterise the emerging post-COVID business environment. Here are three strategic imperatives that industry leaders are following:

- Do fewer things. Organisations are currently pulling back on internal change initiatives to focus all efforts on the end customer. This implies a shift from operational excellence to customer-centric ways of doing things. The customer should become the sole focus of all corporate decisions.
- Do things differently. In the next two to three years, organisations will take advantage of emerging technologies, such as big data, cloud, AI, 5G, IoT and

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FAANG is an acronym referring to the stocks of the five most popular and best-performing American technology companies: Meta (formerly known as Facebook), Amazon, Apple, Netflix and Alphabet (formerly known as Google).



intelligent automation, to help transform the way they operate, especially as a means of hyper-personalising products and services.

- Do different things. Beyond these time horizons, organisations will need to adopt entirely new business models to compete effectively with digital natives. It is conceivable that these moves will require a focus on edge-based innovations in preference to core transformation projects.

### Restructure the business enterprise – become the best restaurant of the year

The pandemic and the likely direction of travel in the post-COVID age has emphasised the need for speed and agility, so that businesses can respond effectively to rapid changes in the external environment. Nowhere has this been more pronounced than in the pharmaceuticals sector, where the development of new vaccines has been compressed from 10 years to 10 months. It's a similar story at the cutting edge of technological development, where digital leaders such as Amazon and Google can continuously innovate and test new products and services in a matter of minutes and hours compared to traditional incumbents that often take months or years. Speed rather than efficiency is the new 'new-norm'.

The customer is now at the heart of every corporate decision. Placing new emphasis on the customer rather than operational efficiencies has a galvanising impact on corporate investment. Companies have increased their spend on automation within back-office areas, with the adoption of software as a service (SaaS) solutions, such as Salesforce and Workday, as well as encouraging further outsourcing to global service companies, many of whom are adopting RPA to reduce their headcount. Even government organisations understand that they must reduce bureaucracy, so that decisions on behalf of citizens can be made rapidly in days rather than months or even years.

Most incumbents recognise that modernising the core of their operations will only produce incremental benefits over the longer term. These business leaders are eschewing an investment in operational efficiencies and are instead turning to edge-based ventures that depend on new business models, partnerships and technologies. The challenge here is to scale such edge-based activities and to move the revenue needle in the right direction. Ultimately, success will require new partnerships with the core that can help enterprises to extend the lifetime value of established customers and global supply chains. We see three areas of focus for businesses and their IT partners:

1. Accelerating product innovation: Traditional approaches to product innovation have revolved around sequential processes, handing new ideas progressively down the supply chain, from research and development (R&D) through manufacture and on to sales. Modern management techniques take a parallel approach, involving all parties from day one in so-called 'two-pizza' teams.
2. Automating operations: Many attempts have been made to reduce bureaucracy and headcount. Enterprise resource planning (ERP) has helped businesses to automate most of their core functions, but it has also created rigid structures that are often fragmented and resistant to change. SaaS is gradually replacing many of the functions normally ascribed to ERP systems with public, web-based solutions that are maintained remotely. Outsourcing continues to reduce permanent staff numbers.
3. Innovating at the edge: Many organisations have introduced incubators to test out new business models and technologies. Few of these labs have produced significant results so far. Other enterprises are acquiring successful start-ups to inject new energy into stagnant cultures and to challenge established ways of operating. Perhaps the most successful approach to date has been to source innovation through joint ventures with external start-ups, rather than via acquisitions.

In all these respects, businesses are under increasing pressure to apply new technologies, methods and tools to transform the way they deliver their products and services. Success in these endeavours will be ever-

more dependent on the ability of enterprises to operate modern and efficient IT kitchens. In this section, we provide valuable recipes from Master Chefs who have contributed to the success of their respective enterprises.

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# ONE

## WIN THE CUSTOMER

### Scoring five stars on Tripadvisor

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The number-one priority for any digital leader is to understand who the customers of their business really are. In this set of three recipes, we see a broad spectrum of customers that range from instore and online shoppers to front-line military personnel and on to business partners, including shipping and logistics companies. However, what’s common across all three recipes is a shift in emphasis away from internal customers, such as corporate functions, and towards external parties.

In the words of the Sainsbury’s CIO, this shift has required a decisive move away from systems of record and engagement to a focus on digital as the very heart of the retail business. He recognises that we are now entering a new era of hyper-personalisation, where companies must extract insights from every customer interaction using modern tools such as data analytics.

What becomes evident through this chapter is the need for constant innovation around the customer experience. In the words of the CIO of the UK’s Ministry of Defence (MoD), this concentration on innovation requires new conversations. Central here is the need

for closer integration between all four military divisions: air, land, sea and cyber. Silos need to be dismantled to enable greater speed and adaptability. The MoD’s CIO speaks of the ‘integration glue’ that is an essential component of a modern military organisation. Such is the importance of integration that his role is evolving to become a ‘chief connection officer’.

Service innovation can also help to improve the work that organisations undertake with external business partners and customers. The CIO of the Port of Antwerp joins 12 other global ports each year to conduct hackathons. These events aim to improve outward-facing logistics processes and metrics, such as boosting a port’s ability to accurately report the expected time of arrival of a ship. The CIO recognises that innovation has become a vital means of securing and retaining business customers as adjacent ports fight hard to attract new business.

Overall, the message from these Master Chefs is clear. In a world of growing competition, innovation around the customer experience is now front of mind for digital leaders in all businesses.





# Sainsbury's

## Delivering world-class digital experiences

### Ingredients

- Innovation at the heart of the corporate DNA
- Democratisation of data across all brands
- Drive for insight-driven decision reengineering
- Seamless consumer experiences across channels

### Preparing the dish

Innovation around the customer proposition has been part of retailer Sainsbury's DNA since its inception more than 150 years ago. In the words of Sainsbury's group CIO, Phil Jordan: 'Combining great technologies with great people is the recipe for great customer experiences.'

As the UK's second largest supermarket chain, with 1,400 stores, as well as being owner of Argos, Nectar and Sainsbury's Bank, the firm has to ensure it always puts the customer first. Sainsbury's has pioneered the development of self-service checkouts, smart scanning technology, the production of healthy foods and is a leader in ethical and responsible supply chains.

A combination of the rapid shift to online channels during the COVID-19 crisis, plus aggressive competition from Amazon and discount retailers such as Lidl and Aldi, has placed added pressure on Sainsbury's to deliver outstanding customer experience across all its channels and brands. This delivery has been achieved by strengthening the business-IT partnership in three areas: restructuring IT services around products; democratising and leveraging the use of customer data; and adopting open-source standards and platforms.

### Restructuring IT services

Like many comparable IT organisations operating at scale, the efforts of Sainsbury's 1,600-strong IT staff were focused traditionally on modifying and extending core systems within the various businesses. This effort was driven by a project-based approach to investment and service delivery.

In recent times, Phil has implemented a productised approach. This strategy leverages developments across all business units and employs a different financing regime, which is based on half-yearly cycles. Phil believes this approach provides an escape route from legacy practices and is the best way to serve the demands of his internal customers. The strategy also helps IT to allocate its resources more efficiently.

Phil has split his Product Engineering into two sections, each headed by a chief technology officer (CTO). Both have end-to-end life-cycle responsibility for all Sainsbury's products, one facing into customer and data; the other into colleagues, suppliers and operations. These units are supported by three other organisations: Platform Engineering and Services, Information Security, and Supplier Management. Phil's role within this new organisational context is to deliver business transformation, maintain the

impetus for change and to promote technology as a key business differentiator.

### Leveraging customer data

In a world where technology itself is commoditising rapidly, Phil has adopted the mantra of 'the three I's' – innovation, information and integration. He believes information, or 'connected customer data', is the key differentiator for Sainsbury's across all its businesses. He has used Snowflake to build a cloud-based data platform and democratised data access across the brands.

This platform has led to some significant innovations within the business. For example, by applying machine learning to instore data, Sainsbury's can reduce the walk time of employees who are restocking shelves. By mapping data throughout the different business units, Phil has created a digital/data twin of the business that derives insight to deliver speed and efficiency gains in every aspect of the group's operations.

Data analytics is also helping Sainsbury's customers to make better buying decisions. Predictive analytics can help the company to personalise weekly shopping orders. This personalisation nudges customers towards more relevant products that offer better value. Sainsbury's seeks to continually



*"Combining great technologies with great people is the recipe for great customer experiences."*

**Phil Jordan**, CIO, Sainsbury's Group



Scan code to watch the full interview.





increase customer intimacy and trust. These improvements result in bigger basket size, both instore and online, and improved sales figures.

### Embracing open source and other innovations

Sainsbury's enjoys a strong engineering culture that is a constant source of new techniques. The firm's 800-strong engineering community looks for ways to exploit its technical expertise across a broader range of markets. Open-source technology has been embraced by the company's engineering community. The team uses open-source technology to share innovative ideas across the group as well as with external parties. One example is in increasing levels of e-commerce capability that was pioneered in-house and is now a showcase for what is possible.

Cloud has been central to Sainsbury's IT agenda for many years. The retailer has fostered a strong relationship with Amazon Web Services (AWS). The strength of this relationship is unusual amongst retailers given the potential for competitive overlaps, but Phil is pleased with the support Amazon provides. Line-of-business functions have adopted software-as-a-service solutions, and new IT products have been developed on public cloud platforms. Phil believes Sainsbury's will continue pursuing

a hybrid cloud strategy as he consolidates internal data centre resources.

A strong technological ecosystem is crucial to delivering results against 'the three I's'. Phil believes cloud is the essential platform from which to encourage partnering with external parties. His team now works with Google Cloud and Microsoft Azure in addition to AWS.

Sainsbury's continues to search for new innovations. Augmented reality (AR) and virtual reality (VR) present fascinating opportunities to retailers. Consumers can expect to enjoy fully immersive experiences both at home and in store. Sainsbury's is experimenting already with AR and VR and is investigating how the technologies can be used to enhance shopping missions. The company is also experimenting with imaging and video behaviour analytics to see what is possible in creating new customer experiences and to continue transforming the store operating model.

### Defining the qualities of a Master Chef

The role of IT has already evolved from maintaining systems of record and systems of engagement to becoming the very heart of the modern retail business – yet further change is coming. Phil believes the CIO role will evolve from a focus on service production to helping peers identify new digital businesses. He is building on the heritage of innovation at Sainsbury's to create an integrated business architecture that focuses on the end consumer across the company's brands and channels.

#### Tips

- Adopt the mantra of information, innovation and integration
- Help shape the business agenda as well as focusing on IT



# The UK Ministry of Defence

## Building a connected organisation

### Ingredients

- A passion for getting stuff done
- Persistence and patience
- Connecting people internally and externally
- A diverse and inclusive team

### Preparing the dish

Charlie Forte was appointed CIO of the UK's Ministry of Defence (MoD) in 2018 . With an annual IT budget in the multiple billions, he holds one of the largest and most complex IT positions in Europe. Charlie's belief at the time of his appointment was that a fresh approach to digital and IT could bring entirely new possibilities and opportunities to UK defence: he believes that 'All that is ever missing is a conversation.'

Forte's vision was to put transformational game-changing digital and information technologies on the front line and into core operations, making these tools integrated, simple to use and highly secure. He knew the key to success would be helping to increase organisational cohesion and integration in what is a very large and complex defence organisation, breaking down stovepipes and moving to work in much more integrated ways. He has worked tirelessly with the leaders of the four main military front-line commands – army, navy, air force and strategic command – and with the leaders of the other large enabling units that make up the UK defence family. He describes this part of his role as the 'chief connecting officer'.

Charlie believes the three main ingredients for a successful transformation of the UK's military backbone are: cohesion (working together to increase connectedness and alignment); integration (building

outcomes that work together); and adaptability (responding with speed and agility).

### Putting theory into practice

Charlie has developed an operating plan with five 'swim lanes' to achieve his vision of a highly connected, agile and innovative organisation:

- Exploiting data as a strategic asset at scale and speed – the digital foundry;
- Building a modern digital platform – the digital backbone;
- Resetting and modernising cyber defence;
- Creating a step change in digital delivery with new levels of trust and consistency in delivery;
- Investing in building talent, diversity and a new way of working across defence as 'one function'.

Defence is large and complex and to achieve this Charlie has used persistence and patience to establish the right conversations across divisional boundaries as well as with outside parties: 'Getting stuff done and making things happen is all about connecting people and ideas,' he says. He sees that being successful in today's technology landscape is a team sport needing multidisciplinary teams working to clear outcomes and avoiding

being process focused. This is a big cultural shift.

### Creating a new IT operating model

Charlie's new IT operating model is based on the ancient Chinese metaphor, yin and yang. He sees the two key forces (described below) as complementary rather than opposing, interacting to form a dynamic system in which the whole is greater than the sum of its parts:

- Yin: speed; an ability to build capability and to be close to the customer (which in the MoD's case means delivery at the front line),
- Yang: the need for the various parts of the organisation to give something up by adopting open standards and platforms.

Charlie leads an IT organisation that consists of three main sections. The first section contains the senior IT directors who serve each military service or function directly, and who have a matrix reporting relationship to Charlie. The second section is what he refers to as 'the engine room'; a set of shared services on which all defence systems and related programmes are managed. The third and new section is 'the integration glue'. Established by Charlie, this section focuses on the technologies and standards that are required in a



*"Getting stuff done and making things happen is all about connecting people and ideas."*

**Charlie Forte**, CIO, MoD



Scan code to watch the full interview.



modern and effective army. This section works across all service areas.

**Becoming the chief connecting officer**

Charlie says transforming and innovating a complex and sizeable organisation means he must position himself less as a technologist and more as a chief connecting officer. He also recognises that change is a ‘team sport’ that requires the full collaboration of parties across the organisation.

Charlie’s role is to help his peers understand and connect with new potential opportunities due to rapid developments in technology. He says there has never been a better time to apply the technologies emerging from the pipeline of innovation both in the UK and elsewhere. He believes IT creates a spark of possibility and must build strong partnership to achieve what is ‘doable’. Combining the possible and the doable is the key to success in any large organisation, especially within the military.

When Charlie joined the MoD, he spent a great deal of time visiting the front line to understand the different businesses. He was fortunate that his peers gave him access to important operational areas, which made

his task both rapid and productive. This introduction to the work of the MoD allowed Charlie to draw on the best resources across the businesses as he built his transformation teams. As he built these teams, Charlie focused on diversity and inclusiveness.

**Defining the qualities of a Master Chef**

Charlie recognises that transforming an organisation with strong traditions and more than 60,000 uniformed and civilian staff is an enormous task. However, his deep-seated belief is that, with persistence and patience, any leader can transform any organisation successfully.

He says the best leaders have a passion for their role and a clear vision about where the organisation should be heading. Given the emphasis on technology and innovation, Charlie also believes that success in digital leadership is powered by a deep sense of inquiry and the patience to use that to create aligned commitments to new outcomes.

His final advice for leaders is to, ‘never avoid a hard conversation and to be open minded to listen to diverse perspectives and views’. That human connection is the key underpinning principle.



# Port of Antwerp

## Putting innovation at the centre of the organisation

**Ingredients**

- New chief executive and leadership team
- Inspired talent – sprinters and runners
- Innovative technology tools – smart cameras, sensors, drones, RPA, data science
- Open-source platforms
- Ecosystems for continuous ‘outside-in’ inspiration

**Preparing the dish**

Antwerp is Europe’s second largest port. Being able to sustain its leadership position in the face of formidable competition is a constant challenge for the executive committee, including the port’s chief digital and

innovation officer (CDIO), Erwin Verstraelen. Geopolitical challenges, such as Brexit, and exponential technology growth, create further challenges. The port aims to turn these challenges into opportunities.

To survive and thrive, the Port of Antwerp must have an innovative culture that is embraced by every member of the organisation and the extended port ecosystem. Erwin says this integrated approach is essential: ‘I don’t believe in an approach where we create a separate innovation team. Innovation should be everywhere, but we must give it an opportunity to surface and blossom. This requires a structured approach to avoid innovation leading to chaos.’

His formula for innovation success includes: transforming the organisational culture into an opportunistic rather than a risk-averse mentality; experimenting constantly with new ideas and technologies; and building strong capabilities and



*"Innovation should be everywhere, but we must give it an opportunity to surface and blossom."*

**Erwin Verstraelen**, CDIO, Port of Antwerp



Scan code to watch the full interview.

partnerships. Erwin's digital and innovation team (DI), which includes the traditional IT department, has provided the vision and inspiration to transform the port as an innovation platform. For the Port of Antwerp, success means working closely with internal and external business partners.

### Creating an innovation culture

Erwin says his department fulfils a central role in helping to enable an innovative culture to emerge and prosper within the port and across its trading partners. This is dependent on three preconditions:

- Be clear and articulate about your strategic goals as a leading port;
- Have all the competencies in place to sustain leadership;
- Empower the entire workforce to take risks and experiment with new ideas.

As mentioned above, building an innovative team is critical to success – but not sufficient in isolation. IT must take its best-practice techniques, and enable and inspire an innovative culture across the organisation. IT can engender the trust of the business by performing consistently on its core tasks, such as running a complex infrastructure and building

new applications rapidly. But IT must also go beyond this remit and support innovation across every aspect of the port's operations.

### Supporting innovation through IT

There are many ways in which a leading port can apply new technologies to sustain its leadership position. IT can inform the business about the potential that technological innovation holds and assist in setting up proof of values, where the potential of a technology can be sensed in the context of the organisation. Recent examples include:

- Drones to provide situational awareness over the 120 km<sup>2</sup> port area, detecting oil spills and asset inspection;
- Smart cameras that can extract data from video for surveillance and asset detection;
- Robotic process automation to help streamline traditional processes, thereby improving speed and efficiency across the port.

At the end of the day, innovation has to support the realisation of strategic business objectives, aiming to differentiate Antwerp in its battle against other leading ports and stay competitive.

### Building the necessary capabilities

Since arriving at the Port of Antwerp, Erwin has expanded the digital and innovation capabilities of the port. In addition to digital business solutions and infrastructure services, IT now has four new competencies:

- Cyber resilience that is designed to deal with cyber incidents more effectively, as well as actively averting attacks;
- Innovation enablement that constantly places new ideas on the organisational radar and supports early-stage experiments;
- Data and analytics that looks for predictive patterns

amongst the huge amount of data that is produced by the port and its partners;

- A CDIO office that coordinates the many IT vendor relationships and contracts that exist across the organisation, and manages resources as well as the overall budget.

The successful operation of core systems and services is a necessary condition for success in these new areas. Keeping the lights on, even in the digital age, is still the foundation for credibility and trust from the organisation, a stepping stone towards authority and impact in the digital transformation.





Developing innovation talent and opportunities

It can be difficult for large, traditional enterprises to attract and retain innovative talent and leaders. Erwin has taken steps to ensure his vision spreads far and wide, both within and outside the organisation. The result? He has encouraged younger employees to join the port.

Erwin recognises that any organisation has four different types of staff – sprinters, runners, walkers and those ‘who will not move’. Instead of focusing efforts on the latter two groups, he identifies and enables the port’s sprinters and runners. He has created several new organisational units and functions, such as enterprise architecture, that help to encourage staff and skill development.

Participating in a global hackathon

One of the most exciting areas of innovation at the port is the harvesting of data to feed predictive and prescriptive algorithms. In 2019, a consortium of leading ports from around the world, called Chainport, came together to conduct a hackathon around several

potential use cases leveraging operational data. One of the themes was a better prediction of the expected time of arrival (ETA) of a ship into port.

The hackathon teams examined how combining different sources of data could improve the accuracy of predictions for the ETA of every vessel entering a port. More accurate ETAs would produce big benefits for stakeholders inside and outside the port. Such joined-up activity shows that collaboration is as critical as competition in helping businesses to maintain commercial leadership.

Defining the qualities of a Master Chef

The creation of an innovative culture is not a one-time task. It requires a continual process of enabling experimentation, strengthening capabilities, and motivating staff. Erwin says digital leaders are instrumental in helping to create a better future for their organisations. They should be visionary and active relationship builders, working alongside their C-suite peers and external partners, such as customers and suppliers.

Serves 2 hearty eaters

- 500g very fresh, raw tuna
- zest of 1 lime
- 2 tbsp ginger juice
- 2 tbsp Peruvian chilli paste
- juice of 6 limes
- 6 spring onions, finely chopped
- 1 handful of coriander leaves, chopped
- 1 small red chilli, finely chopped (optional)
- 2 tsp sesame oil
- 2 tbsp light soy sauce
- salt and pepper

The favourite dish of Dimitris Bountolos

Nikkei-style tuna ceviche

Nikkei cuisine has been taking the foodie world by storm, helped by support from renowned chefs like Ferran Adrià. But what is it? At the end of the nineteenth century, Peru became one of the first countries to have formal diplomatic relations with Japan; the first Japanese immigrants arrived in Lima in 1899. ‘Nikkei’ is the word given to them and their descendants around the world, and they had an immediate impact on Peruvian food culture – one which has continued and thrived there, and has also flourished in Brazil.

Nikkei cooking has been described as a Japanese take on South American food, with the combined influence and ingredients giving rise to something which both looks and tastes different to either cuisine.

Prepare all the ingredients first because you need to be quick. Chop the tuna into small cubes and put them in a bowl. Add the lime zest, ginger juice and Peruvian chilli paste, and stir. Now add the lime juice, stir, and marinate the tuna for just a single minute; the lime will cook the fish, and do so quickly – you can see it changing colour. Add the remaining ingredients, and stir everything together again. Check the mix for seasoning, add salt and pepper if needed, and serve immediately.



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# TWO

## REINVENTING THE BUSINESS

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### New concepts and menus

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The challenge for large incumbent organisations across Europe in the post-pandemic age is to grow revenues and increase profits, especially as digital natives remain stock-market darlings around the globe. In this chapter, our recipes focus on three major organisations that have accelerated growth and generated new products and services through the use of digital technologies and the reinvention of business models.

Our first recipe comes from Munich Re, which has identified exciting new opportunities in the insurance sector, such as mitigating cyber risk. Rather than disturbing its core business, Munich Re has adopted a greenfield approach to innovation. It has established a portfolio of new digital businesses that are backed by £100 million of venture funding. IT has created its own innovation unit to support this initiative, known as Business Technology, which provides a digital platform and tool set to accelerate business formation.

Tate & Lyle provides our second recipe. Over the past 10 years, the company has sold off its sugar division and

focused instead on food ingredients that can be used to improve the lives of people around the world. One of the key components of this new model is giving global customers the ability to test out ingredients in virtual kitchens. This shift has been enabled by IT, which has developed new ways of working that allow employees to harness the power of data.

Our final recipe in this chapter focuses on Signify. This recipe illustrates how technology can help transform commodity products – in this case lightbulbs – into sophisticated tools that can be used to support smart homes, offices and cities. Signify has introduced a new concept known as 'Li-Fi', which enables LED lamps to provide high-capacity bandwidth using light modulation. This transformation has added new sources of value to Signify's business.

The key message of this chapter is that IT can enable and accelerate business innovation by providing new tools, digital platforms and skills.



## Munich Re

### Becoming a serial innovator of new digital businesses

#### Ingredients

- A distinct group within IT dedicated to new digital business initiatives
- Value-based target portfolio and simplified access to funding
- Dedicated expertise from a pool of experts
- Platform of reusable technological components

#### Preparing the dish

To thrive in the digital economy, firms must diversify how they make money. Over the past few years, leading reinsurance company Münchener Rückversicherungs-Gesellschaft Aktiengesellschaft (Munich Re) has

ramped up its customer-facing digital innovation efforts significantly. Those efforts have led to, among others, Munich Re Ventures, cyber-insurance offerings, and several new internally developed business-to-business-to-consumer (B2B2C) digital offerings that provide new sources of revenue.

Two new digital offerings, Munich Re Internet Risk Assessor (MIRA) Digital Suite and Realytix, grew their revenue and customer base in just two years. The MIRA Digital Suite is a range of services that allow insurance companies to automate the process of handling complex life applications, including those that rely on lengthy manual processing due to pre-existing conditions. The Realytix platform uses cloud-based technology to reduce the time it takes an insurance company to underwrite non-life risks, such as in the case of factory construction.





### Becoming a serial innovator of new digital businesses

Munich Re was keen to experiment with a range of digital offerings simultaneously. After launching several initiatives, the company noticed that many experienced similar challenges. In 2016, Munich Re started to build a foundation to help its internally developed digital offerings to succeed. The foundation provided prioritised and staged funding, dedicated, hands-on expertise, and a digital platform of shared services. By 2020, more than 70 initiatives were relying on this foundation.

### Creating a new approach to innovation

Senior management defined a target portfolio to prioritise initiatives and ensure that they would help the company realise its strategic objectives. Munich Re's portfolio looked beyond typical three-stage innovation time horizons, prescribing which customers' needs to address and what business value to create. Munich Re's global head of innovation communicated the target portfolio in roadshows and online, encouraging employees across the company to pitch ideas related to the company's priorities.

Munich Re created a separate fund for digital innovation of about €100 million annually. Employees could

apply for a limited budget to jump-start an initiative by answering five questions. Munich Re then employed a stage-gated funding process: if an initiative reaches the jointly set goal for a stage, the initiative becomes eligible for an additional, larger, round of funding.

In 2018, Munich Re's IT leadership team created a new unit within IT, called Business Technology, dedicated exclusively to helping innovation initiatives build digital offerings. Business Technology gave these initiatives a range of experts, such as software developers, data scientists, and design-thinking and agile coaches. In addition to contributing their domain expertise to build, test and adapt prototypes, these experts helped innovators to develop sales pitches and navigate Munich Re's organisational structure.

At the ideation stage, major digital offering initiatives were assigned a senior architect to act as co-founder to the full-time, business-based product owner. Business Technology formalised the senior architect role through the introduction of chief innovation and technology officers (CI&TOs). Having complementary co-founders also helped build buy-in across multiple stakeholder groups, making it easier for qualifying initiatives to gain greater investment.

### Building a digital platform with shared software components

In its prior innovation efforts, Munich Re built a digital platform and expected initiatives to use the software components that were available. This time, Munich Re decided to first let digital offering initiatives experience what shared components they might need. As a result of this approach, lessons were learnt continuously. Early initiatives observed that developing capabilities, such as non-differentiating functionality for customer identity management or compliant cloud data storage, strained their limited resources and prolonged time to market.

Munich Re used the demand for capabilities from

these early initiatives to create Excite, which is its platform for digital offerings. The platform evolved as initiatives progressed and sought help. A year after it was launched, Excite comprised more than 30 shared software components.

Business Technology compelled, rather than forced, its digital offering initiatives to use Excite components. The platform was pitched as a set of managed shared services that unburden initiatives from building essential yet non-differentiating functionality. For each component, the Excite team developed service level agreements that make it clear to initiatives what they will get in exchange for the fee they pay.

Munich Re's digital foundation has evolved as it learns what factors help initiatives to thrive. The team at Munich Re responsible for developing the platform of shared resources measures its success along four objectives: accelerated time to market for digital products; improved experience for customers using offerings relying on Excite; revenue growth; and cost savings with component reuse.

### Defining the qualities of a Master Chef

To develop a successful digital offering, an initiative's team must learn how to address customer needs in a manner that is feasible and profitable. To become a serial innovator of digital offerings, as with Munich Re, a company will have to learn how to address systematically the common challenges of multiple initiatives in regard to funding, expertise and technological capabilities.

#### For funding:

- Define a targeted portfolio of digital offering initiatives;
- Extend funding in stages based on progress along jointly agreed goals, regarding both deliverables and value creation.

**For expertise:**

- Install an architect as a co-founder to the business for each major initiative;
- Provide each initiative with technology and methodology experts who are fully dedicated to its success.

**For technological capabilities:**

- Build a digital platform from the bottom up as initiatives recognise the benefits of shared components;
- Promote the platform to initiatives as managed shared services that provide relief from developing non-differentiating functionality.



# Tate & Lyle

## Reinventing business, redesigning work

**Ingredients**

- A contemporary brand promise: ‘improving lives for generations’
- Tools to enable remote working such as augmented reality remote access
- Robotic process automation to replace low-value human activities

turning raw materials like corn, tapioca and stevia into ingredients that add taste, texture, fibre and nutrients to food and beverages.

In the words of Sanjay Patel, Group CIO at Tate & Lyle: ‘Our purpose of improving lives for generations is why we do what we do. It guides every action we take and every decision we make.’ As global head of Strategic Business Transformation and then as CIO, Sanjay has been actively engaged with his C-suite and business peers in redesigning the business to suit its purpose.

**Preparing the dish**

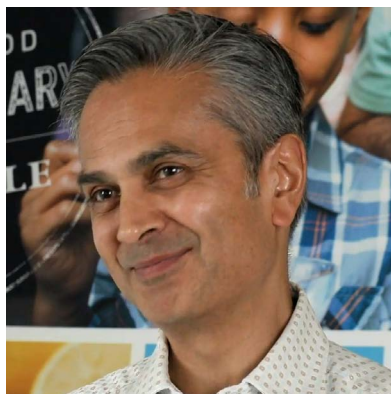
Tate & Lyle PLC is a British-headquartered, global supplier of food and beverage ingredients. It was originally a sugar-refining business, but it began to diversify from the 1970s, eventually divesting its sugar business in 2010. Today, Tate & Lyle specialises in

**Changing the way we work**

Prior to COVID-19, IT had focused on addressing infrastructure opportunities like global network access, refreshed user devices and secure desktop and mobile

Sources (available at <https://cistr.mit.edu/>):  
Fonstad, Nils and Martin Mocker (2020), ‘Becoming a Serial Innovator of Digital Offerings’, *MIT CISR Research Briefing*, Vol. XX, No. 9, September 2020.  
Fonstad, Nils and Martin Mocker (2020), ‘Munich Re: Building a Foundation for Innovating Digital Offerings’.





*"Our purpose of improving lives for generations guides every action we take and every decision we make."*

**Sanjay Patel**, Group CIO, Tate & Lyle



Scan code to watch the full interview.

collaboration software that would enable the company's 4,500 employees to work safely from anywhere. This groundwork, appropriately titled 'Better Ways of Working', enabled the group to respond to the initial lockdown quickly and to roll out universal home working in a matter of weeks. In March 2020, Tate & Lyle was able to close its year-end books remotely and provide virtual support to its many food, beverage, paper and packaging customers who had to adapt to the pandemic quickly.

In the post-COVID age, Sanjay and his team are enabling a hybrid model that encompasses both home and office working. This approach includes:

- Utilising office space around the globe for collaboration and teamwork, which provides an opportunity for a physical redesign of traditional office layouts and ways of working, e.g. smaller offices with mobile enabled booking apps, advanced video and collaboration tools;
- Enabling work from anywhere outside the office, including home and customer locations, by supplying virtual reality devices, video-enabled collaboration tools and home equipment including stand-up desks and wide split-screen monitors.

This hybrid approach allows Tate & Lyle's customers to join the company's staff in virtual tasting events and means Tate & Lyle employees can use travel kits (aka 'meeting in a box') to connect disparate co-workers at a customer site to help design and evaluate new food ingredients. Sanjay is proud that these capabilities have enabled his company to keep working and collaborating with customers to create new products and share knowledge and experience globally.

#### Building pathways to enterprise automation

In addition to redesigning the workplace, the team also focused on continuing to simplify the way people work. Tate & Lyle employs SAP for back-office automation but also uses software as a service (SaaS) products, including Workday in HR and Salesforce in customer relationship management, to enhance efficiency and global consistency. Sanjay is establishing a Digital Centre of Excellence, leveraging an AWS 'data lake' for consolidating all corporate information into one place and Power BI analytics and visualisation tooling so that staff can easily access and gain insights across recipes, finances and other information. The team is also establishing a 'bot factory' with process mining capability,

leveraging early use cases from finance and supply chain functions to drive further automation, removing manual work and paper-based processes and driving further automated workflow. The company's board recognised the strategic importance of artificial intelligence (AI) for its future growth and has been investing in emerging areas as an opportunity to secure the company's future as far forward as 2030.

Sanjay's approach to RPA is to 'crawl before you walk before you run'. His team has started a number of small projects with simple use cases. He envisages that bots will eventually manage bots within the factory environment, leaving humans to oversee this network of bots. This managerial approach will mean that employee administrative activities will be replaced by automation. This will allow employees to focus on higher-value tasks and help support non-linear growth in future revenues, with the prospect of higher group profitability.

#### Approaching citizen development

In the past few years, Sanjay has focused on eliminating 'grey IT' by imposing standards across the group and by consolidating data into one place in the form of a cloud-based data lake. Looking ahead, he welcomes the advent





of a low-code/no-code era, where a business's end users will be able to develop their own solutions, as well as buying cloud-based services. He believes this shift towards end-user empowerment will add speed and agility to overall business processes.

However, empowerment does not mean handing off responsibility. Sanjay is insistent that, for now, IT must own anything that touches code, so that his team can control data integrity across the group. He has deployed Power BI to foster a data-driven culture and is developing appropriate data-insight tools to support decision-making processes. One target for the future is around predictive forecasting. By using machine learning to understand past demand forecast accuracy, the 'machine' can supplement human insights and improve demand forecast accuracy, improving supply chain yields, reducing inventory and improving customer satisfaction. Sanjay believes that IT can help optimise many other complex business processes like this through AI and related automation technologies.

Reorganising the IT kitchen

To keep pace with the reinvention of the group, Sanjay's first task was to reorganise the way IT provides its services to the group's business units. He reduced IT costs by consolidating and rationalising IT activities across the globe, keeping competitive and intellectual property (IP)-based activities internally driven, and outsourcing everything else. His next step was to engage strategic partners to work closely with his function in four main areas:

- Secure operations that include infrastructure and applications maintenance;

- Strategy and solutions, where IT works with the businesses to develop new applications;
- Enterprise architecture and user experience that ensures standard deployments;
- A new digital tower that oversees data analytics and RPA.

Today, Sanjay employs around 120 internal IT staff, supplemented by over 250 external partner staff. This sourcing strategy means he and his team can spend more time on strategic issues rather than being preoccupied with all the operational, executional aspects of IT.

Defining the qualities of a Master Chef

Having been the former head of transformation at Tate & Lyle, Sanjay believes that successful CIOs must work closely with C-suite peers to understand the priorities and bottlenecks of the business. His key task is to listen to heads of business functions and understand their problems, matching these challenges to technology-based solutions. Building credibility through rapid delivery of value will earn IT the right to be an equal partner at the table. He believes curiosity and strategic thinking combined with an ability to operate at a granular level are key qualities of the IT Master Chef.

Tip

- Follow in the style of Mahatma Gandhi, who valued humility and dedication to cause above all else



Signify  
Mastering the customer experience

Ingredients

- LED lamps with digital capabilities
- New era of connected devices
- Li-Fi as an intelligent language

Preparing the dish

With a background in economics and experience in the chemicals sector, Kurt De Ruwe took a career turn by joining Philips Lighting in 2013. Just one year later, Philips demerged into two primary business areas: medical technologies and lighting. The latter undertook an initial public offering (IPO) in 2016 under the new name of Signify.

Signify focuses on the rapid growth of LED lighting, with

the potential for new connected customer solutions using light as an 'intelligent language'. Internet signals passed through the network cables can modulate light emissions from LED bulbs. Each lighting source has its own IP address, and can connect directly with smartphones, laptops and sensors. Next to this Signify also has Li-Fi, a communication technology that transmits data through light. Li-Fi offers a viable alternative to Wi-Fi with the following benefits:

- High-speed connectivity of around 150 megabits per second;
- Improved physical security by limiting connections to a defined space;
- Low latency of information transmission.

Estimates suggest there could now be as many as 50 billion devices connected to the internet. In a new age



*"CIOs must help their businesses employ data analytics and artificial intelligence to personalise the customer experience."*

**Kurt De Ruwe**, CIO, Signify



Scan code to watch the full interview.

of connectivity, Li-Fi opens new possibilities for the Internet of Things. This opportunity has helped Kurt position digital at the forefront of Signify's business strategy.

### Creating new sources of revenue

The lighting industry has consolidated rapidly during the past decade. Many leading brands have disappeared from the professional and consumer landscape. Today, Signify occupies the number one position in its sector and is a leading innovator of LED-related products, solutions and services. Signify has shifted its focus towards 'customer experiences' by transitioning from the large-scale manufacture of traditional lightbulbs towards the development of digital lighting solutions.

The prospects for growth in connected lighting are significant. From smart cities to smart homes, Signify's smart services provide vital intelligence on physical location, from how many people occupy an office to whether there's an intruder in a home. Such developments have sponsored a shift in lighting away from commodity products and towards customer services and associated user interfaces.

Signify spotted this trend quickly, investing in new lighting applications and introducing venture financing. This backing

has created a flow of start-ups and new product features, such as an app that controls the local lighting environment. Kurt has played a key role in helping Signify to shift from a focus on traditional, analogue products to a new era of smart, connected lighting.

### Considering the master of enterprise service

Prior to the demerger in 2014, Philips Lighting was driven by a culture of operational efficiency that enabled market leadership. The company was firmly focused on global manufacturing and local marketing through national organisations. The role of IT at this time was to implement and run global ERP systems, including an SAP platform that helped to integrate production hubs and automate functions such as finance, HR and procurement. IT responsibilities also extended out into the global supply chain. The technology team worked with suppliers and channel partners.

By helping to integrate operational processes under an SAP regime, the global CIO was seen as the 'Master of Enterprise Services'. IT projects were run on a waterfall approach. As SAP took root across the business, IT helped to streamline manufacturing and back-office processes. National organisations were expected to find their own marketing solutions to local challenges.

### Becoming the master of customer experience

The IT organisation had to pivot in response to Signify's shift towards LED technologies and customer solutions. Recognising the fast pace of development in this new field, Kurt promoted the widespread use of Agile and DevOps techniques. These techniques helped the company respond quickly to front-end and back-end challenges. He divided the IT organisation into three areas, which he calls 'tribes':

- Process tribes, which are aligned to key business processes, such as order to cash and invention to marketplace
- Enabling tribes, which continue to support back-office functions, such as finance, procurement and HR
- Technology tribes, which operate the core infrastructure, such as data centres, networks and office environments

This new tribe-led organisation helps IT to engage more closely with front-end business functions and deliver customer experience solutions, such as phone and web-based applications.

### Streamlining the IT organisation

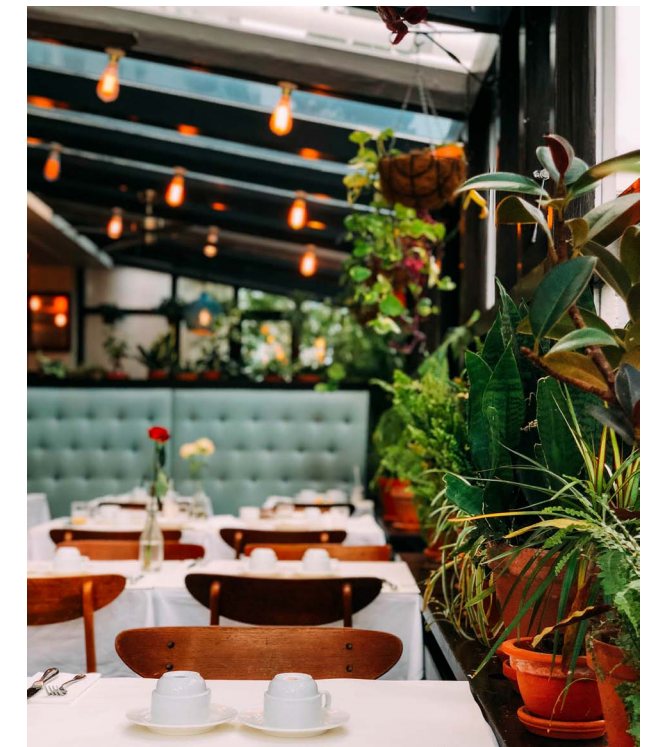
Kurt has consolidated IT operations into three geographic hubs: Poland, Mexico and India. He has also improved operational efficiency by automating repetitive jobs and introducing collaborative tools, such as Yammer, to encourage the sharing of information. Signify also deploys RPA and chatbots to bring further automation to back-office functions.

Since demerging from Philips, Kurt has reduced the number of applications from 4,300 to 1,400. He has promoted a cloud-first strategy for new applications, especially those focused on the customer experience. This consolidation and transformation has reduced the number of on-premise servers dramatically. Overall, IT costs and headcount are now down by as much as 40%.

### Defining the qualities of a Master Chef

Kurt says the role of the CIO has changed dramatically during the past 10 years. Traditionally, the CIO role was about ensuring that everything worked. Today, CIOs must focus attention on the user experience, whether that's in terms of the end customer or the employee. CIOs must help their businesses employ data analytics and artificial intelligence to personalise the customer experience.

Most importantly, Kurt believes that successful CIOs engage closely with business peers and are proactive in promoting new techniques. He has established a digital board with his business counterparts to develop roadmaps and priorities. He is proud to say that IT has increased its visibility considerably by helping to shape the company's vision for a connected future.





# Paneer tikka

- Serves 4
- 500g paneer
  - 3 red peppers
  - Spray oil

For the marinade:

- 1 tbsp lemon juice
- 2cm piece of fresh ginger, grated
- 1 large garlic clove, grated
- A generous pinch each of turmeric, ground cumin, ground coriander and paprika
- 50ml Greek yoghurt
- Black pepper

For the raita:

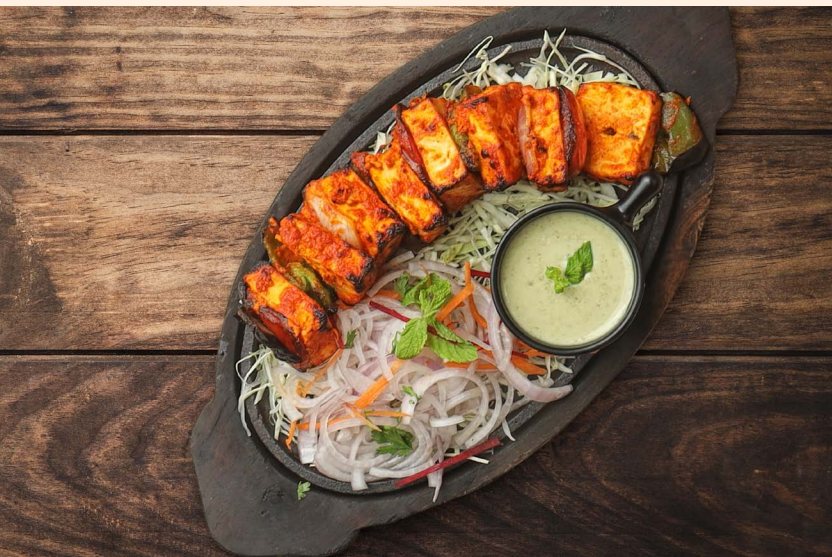
- 250ml yoghurt
- A small handful of fresh mint or coriander

Put the marinade ingredients in a large bowl, stir together well, and add a good grinding of black pepper. Cut the paneer into slices or cubes no larger than 3cm, then chop the peppers into similarly sized pieces. Add these to the marinade and mix them together carefully. Cover the bowl and set it aside for at least 2 hours – it can also be left in the fridge overnight.

Soak some bamboo skewers in water for 20 minutes, and preheat the oven to a high temperature – paneer tikka is traditionally cooked in a tandoor which can reach over 230°C. While the oven heats up, make a raita to serve with the paneer – finely chop the leaves from a handful of mint or coriander, and stir them into the yoghurt. Cover and set aside.

Line a baking tray with foil. Thread the paneer onto the skewers, alternating each piece with a chunk of red pepper. Brush the completed skewers with any leftover marinade and spray them lightly with oil – this should help prevent the paneer from going rubbery in the oven. Cook them in the oven for 10 to 12 minutes (timing will depend on the thickness of the pieces of paneer), then put the tray directly under a very hot grill for a further 2 to 3 minutes to char the paneer and peppers, turning the skewers as you do so.

Serve, accompanied by the raita and a green salad.



The favourite dish of Tarun Kohli

# THREE STRUCTURE THE BUSINESS ENTERPRISE

## Winning the best restaurant of the year award

Customer expectations and preferences are advancing at breakneck speed in our digital economy. If large organisations want to outperform their competitors and become the restaurant of the year, they must restructure rapidly to deal with this fast-changing external environment.

In the case of data analytics specialist dunnhumby, the chief product and information officer has recognised the need to productise his offerings to match the variations in maturity of the company’s retail customers around the globe. Open-source standards and scalable cloud platforms have enabled dunnhumby’s 3,000 staff to employ common tools and share vital data resources. The result of this work is that the company can address customer variations with speed and efficiency.

The focus of the CIO at telecommunications firm Proximus was somewhat different. To help the business retain its two million customers, he recognised Proximus would need to emulate Toyota and deliver a fault-free experience for home-based customers. Starting small with a five-person team, IT helped the organisation to

develop customer ‘data’ profiles. The company used these profiles to apply predictive maintenance tools. The result has been the introduction of proactive service measures that have led to an impressive 30% fall in reported faults.

In all three recipes in this chapter, legacy systems and tooling continue to haunt incumbent and digital organisations. In the case of digital native mBank, this reliance on older technology came as an unwelcome surprise to the recently appointed chief operating officer. Despite being just 10 years old, mBank was operating core systems on COBOL. These systems needed to be converted to modern, cloud-based platforms. By making this transition, mBank’s retail and corporate banking operations could create innovative customer offerings ahead of their competitors and set the direction of travel for the banking sector in Poland.

The overriding message is that industry leaders need to please their customers by adopting flexible business structures and IT systems based on open sourcing and Agile development methods.



# dunnhumby

## Human-powered business transformation

### Ingredients

- A customer-first vision for all stakeholders
- Productisation of data science services
- Open sourcing and platforms
- Data analytics and machine learning

### Preparing the dish

dunnhumby is a 30-year-old data sciences company employing more than 2,500 staff worldwide. It provides data monetisation and analytics services to leading retailers such as Tesco and Walmart and hundreds of the world's consumer packaged goods (CPGs). It processes the contents of more than a billion shoppers' baskets every day, which is worth half a trillion dollars in value.

David Jack, the company's CTO, has a passion for putting the customer first. And by customer he means the end consumer, the person that gets the right product at the best price with the most appropriate mix in their basket. He does this by not only influencing the retailer but by also participating across the supply chain, whether that's consumer product companies, wholesale distributors or onto the retailer's till and beyond. He believes every participant in this ecosystem can and should draw value from the insights that can be extracted from the transactional data.

David has led, with the other executives, a company-wide transformation. The transformation encompasses the science, the products and services, the processes and technologies that support the products, and the culture that builds and nurtures exceptional talent.

He has adopted the mantra of 'let people do people things and ensure that machines do all the machine things'. He loves the 'human-powered engine', which harnesses more than an aggregate of 3,000 years of data science experience that the business has gained. He aims to challenge his staff constantly: 'If you act like a parent, the team will behave like children. If you act like a peer, the team will challenge you and take you to a better place.'

### Engineering the best set of products

The demand for breadth and richness across dunnhumby's products and services is due to the company working with a wide and varied range of retailers and CPGs across Europe, the Americas and Asia with different levels of data maturity, diverse business pressures and complex global regulatory frameworks.

Rapid product development, high-fidelity deployment and operational repeatability are key to dunnhumby's success. There is a strong focus on productisation of the rich set of services that have been developed over the years. This means that standardisation, code reuse and adoption of industry platforms (where appropriate) are essential. The organisation makes widespread use of open-source standards and platforms.

This openness allows David's 500 data scientists to share resources and capabilities easily, which accelerates product and science development. It also means that, over time, more retail customers will be able to use and contribute directly to dunnhumby's open-source ecosystem. The result is an efficient and agile science product organisation which will constantly evolve and refine.

### Nudging the culture forwards

David recognises that no single individual can transform the culture of a large organisation. Instead, his role is to 'nudge the organisation forward' by celebrating successes and addressing weaknesses. This approach requires a new style of leadership that continues to reinforce dunnhumby's long-held values, such as celebrating courage and collaboration.

David says that going beyond simple understanding of consumer intent and really getting to the heart of the psychology (and even the language) behind the buying decision is a fascinating area of research for dunnhumby and that they have a rich academic programme that supports some of the long-term science and machine-learning innovation.

### Aligning corporate processes

The data-ingestion process at



*"If you act like a parent, the team will behave like children. If you act like a peer, the team will challenge you and take you to a better place."*

**David Jack**, CTO, dunnhumby



Scan code to watch the full interview.



dunnhumby might be focused on the retail transaction, but the insights and value gained from such data are valuable to all the stakeholders in the ecosystem. One priority for David and his team is to carefully manage the growing number of rich data sources. Consumers purchase their goods through a multiplicity of channels and dunnhumby has adopted a single, open platform to simplify the data-ingestion process.

The crucial role of data at dunnhumby means its management and protection is always a huge priority for the company. Effective data governance is a key tool when it comes to maintaining retail and consumer trust. Suppliers, retailers and their customers will only trust organisations that can demonstrate a respect for their

data and a deep understanding of the complexities of how to protect it.

The ability to draw insights without the need for the processing of sensitive personal data, the use of multiple layers of aggregation, anonymisation and encryption are just some of the aspects of delivering this respectful treatment of consumer data.

Applying appropriate technologies

dunnhumby has created its own data standards over time and worked with a number of key industry players to ensure that more and more clients are writing to dunnhumby’s standards. These ‘common domain

models’ (CDMs) are crucial to dunnhumby’s success and have been refined over years of experience working with many of the world’s leading retailers. As David puts it, ‘our CDM is common enough to enable all the downstream products and services but extensible enough to accommodate change and new client needs.’

dunnhumby has also welcomed the emergence of public cloud platforms such as Google Cloud and Microsoft Azure. It believes both platforms are well suited to absorbing not just the seasonal peaks associated to online retail but more importantly they are perfect for the intense and transient computational loads that are required to execute its rich science models. Cloud also provides the perfect environment for applying the open-source tools for data analytics and machine-learning processes. David is always interested in technology trends that will help take the business forward, including:

- Commoditisation of computer power and storage, enabling complex calculations to be achieved in minutes or seconds rather than days;
- Open platforms that encourage the sharing of resources, skills and tools across an ever-expanding data science and product community;
- Location and visualisation techniques that highlight consumer buying habits, helping retailers to identify what categories are performing or underperforming, what is the perfect mix of products (and which can be substituted for each other) and what the optimum pricing should be.

Defining the qualities of a Master Chef

David believes top-down intervention is no longer a successful formula for orchestrating large-scale change at a global level. Instead, dunnhumby has evolved to be an organisation of (largely) independent teams which are led by product, development and science leaders who have large amounts of autonomy, creative licence and accountability for delivering change.

David nudges his leadership team on a peer-to-peer basis rather than forcing a parenting relationship. It’s often uncomfortable but he enjoys being challenged by his executives and believes that this dynamic is the secret to a successful transformation. He also spends much of his time working with the executive committee to help shape and influence the direction of travel for the wider business. He sees his ‘people-powered’ mantra as being widely applicable beyond the technology divisions – focusing on freeing up time for people to think rather than do.

Tips

- Have a bifocal view of life, ensure that they have eyes on all the day-to-day things, and are looking to what comes next
- Let machines do repetitive work and focus humans on thinking and high-value activities
- Focus on technology trends rather than individual techniques





# Proximus

## Delivering five-star customer experience

### Ingredients

- Big data that encompasses all household devices and services
- Predictive analytics to spot and repair faults ahead of customer disruption
- Strategic clusters that manage end-to-end programmes
- Motivated and talented technical staff

### Preparing the dish

Geert Standaert is the CTO of Proximus, Belgium's leading telecommunications and information and communications technology (ICT) services company. In a fast-changing and technology-driven environment,

Geert's mantra is 'always look forward, never look back'.

Proximus's fibre and wireless networks support a wide range of consumer devices in more than two million homes. One of the biggest challenges facing the company is to help its customers experience fault-free operations across both fixed and mobile platforms. One way of helping to deal with this issue is to create a tech-led solution that anticipates and prevents points of failure before customers notice disruptions in service.

That's where Geert and his team are having an impact. By applying big data, machine learning (ML) and AI to fault-detection processes, Proximus has achieved a 33% reduction in calls to its service centres. This recipe describes how a small, five-person project was the genesis of a much larger transformation across the entire organisation.

### Starting small but thinking big

Geert set out to achieve transformational levels of improvement in network and software performance. The aim was to give every home outstanding network quality and reliability across a full set of multimedia services, including phone, TV and house alarm. He created a small team of five people to build a comprehensive dataset of devices in every home that Proximus serves. This 'big data' process, as Geert refers to it, generates more than five terabytes of information every day.

His team uses AI and ML to analyse this big data and has created a 'galaxy of stars' that illustrates visually each home's constellation of devices. At the centre of this graphical representation is a cloud that depicts on-target performance. For those devices that sit outside the data cloud, the possibility of a malfunction is identified, such as an imperfect reboot of TV software.

Proximus uses this data analysis to create a proactive approach. It can push out new software downloads or send out technicians before the customer experiences any sign of a disturbance. Proximus subscribes to the lean philosophy of 'shifting left', which is a practice that aims to find and prevent defects early in the software delivery process. The company can also post out

components, such as powerful routers or high-quality cabling, to improve the quality of customer experiences.

The company's proactive use of data has benefits in three key areas:

- Reducing volumes of complaints to call centres by a third;
- Informing field staff of possible issues ahead of a home visit;
- Improving the customer experience across all multimedia services.

### Initiating a comprehensive transformation programme

Proximus has brought its mobile and fixed service businesses together to transform network operations. It has placed speed and efficiency at the core of its ambitions. This initiative has changed every aspect of how Geert's more than 2,000 technical staff work, from the way they deliver new services through to how teams are empowered to work more closely with their business partners.

Geert believes in taking 'strategy to action' and has re-architected his technical organisation to boost the speed of delivery. The organisation has been assembled around eight strategic priorities that are empowering people to improve the customer experience



*"Always look forward, never look back."*

**Geert Standaert**, CTO, Proximus



Scan code to watch the full interview.



through proactive maintenance and continuous service innovation. Each strategic priority is led by an executive team member who oversees end-to-end strategic programmes.

One crucial component of this cluster-led approach has been the adoption of Agile working. Geert focused initially on digital front-end activities, such as omni-channel working. However, he is now applying Agile techniques to core network operations. The merger of the company’s mobile and fixed service businesses has made it possible to create a single platform for technical development. This consolidation process has led to higher levels of staff satisfaction.

Mobilising the workforce around change

Geert believes Proximus could do better at describing its transformational activities to prospective employees, including graduates. In his view, Proximus is ‘a candy store’ for people with technical curiosity. Geert says he discovers a new technology to apply to the business every day. Once new recruits see this inherent curiosity, it becomes much easier for Proximus to retain its talent.

Geert has created self-empowered teams that are tasked with completing projects quickly. He recognises that front-line staff are the key value creators for the organisation. Senior managers should focus

on empowering these employees. This focus on empowerment is an inversion of traditional top-down hierarchies and mirrors developments in manufacturing such as ‘The Toyota Way’, which is a set of principles focused on continuous improvement and respect.

Defining the qualities of a Master Chef

Geert says successful transformation is about making small steps up a high mountain. First, you need to define the destination – in the case of Proximus, customer service excellence is the peak of the ascent. Second, you need to understand the topography of the landscape and create a map of the capabilities needed to complete the journey. By applying lean thinking and Agile methods, such as short sprints, Geert believes digital leaders can guide the team successfully up the mountain to reach the summit. In doing so, he believes that teams will enjoy unparalleled satisfaction.

Geert understands that he can’t determine the pace of travel alone. Instead, he says digital leaders should energise their people – in his case, the more than 2,000 staff members in his function. His style as a Master Chef is to act as an amplifier or energiser. He translates commercial pressures into positive action. His own personal experiences, both as an actor and rock musician, lead him to suggest that successful leaders touch the heart as well as the mind of their audiences.



mBank  
Escaping technical legacy to build modern platforms for change

Ingredients

- Access to modern programming languages such as C#
- Migration to a cloud platform for operational flexibility
- Agile development to support changes in customer features

a disruptive player, offering free products, such as cards and accounts, that help to democratise banking.

When Krzysztof took up the role of COO two years ago, which also includes responsibility for back-office functions, security and IT, he was able to apply many of the techniques that he had learnt from IT to operations and vice versa. At the centre of his combined approach to IT and operations is ‘one culture, one way of doing things’. This approach requires the introduction of standard workflow practices and measurement systems.

Preparing the dish

Born as a digital native before the term FinTech was even coined, mBank was the first fully internet-based bank in Poland. Today, it sets the direction of travel for the future development of mobile and online banking. The digital bank’s former CIO and CTO and now chief operating officer (COO), Krzysztof Dabrowski, describes mBank as

Despite mBank being a digital native, Krzysztof discovered that the key obstacles to realising his plans were the legacy systems that had accumulated during the previous 20 years. As a COO, his secret sauce for success has been to tackle this problem across both the retail and corporate banks simultaneously.





*"Legacy is a universal problem that all CIOs must tackle."*

**Krzysztof Dabrowski**, COO, mBank



Scan code to watch the full interview.

### Tackling retail banking legacies

mBank has experienced exceptional growth since its inception – with an impact on IT. In Krzysztof's words: 'We often had to prioritise growth over perfection'. At its inception, the digital bank implemented a mainframe-based core system with its programs written in COBOL. This system provided critical customer features but was costly and slow to modify. It also became increasingly difficult for the digital bank to find COBOL programmers.

Krzysztof's solution to this challenge was to create a COBOL compiler that converted code to a .NET environment for Microsoft Windows. This conversion process allowed mBank's source code to run on a modern platform and to support the high-growth trajectory of the business. Krzysztof hired a local IT boutique to help with the conversion process and to provide ongoing support. Today, mBank runs a mainframe and a Windows platform in parallel. The benefits are:

- Most workloads can now run in the cloud, with the benefits of scalability and efficiency;
- A mix and match approach eliminates the need to rewrite old code-based features;
- New features can be written in a modern language using Agile techniques such as DevOps.

### Tackling corporate banking legacies

From the inception of the digital corporate bank, mBank adopted Temenos banking software, running on an IBM Unix platform. As in the case of the retail banking operation, Krzysztof realised that this approach was both costly and inflexible to changing customer needs. Once again, he adopted a translation method and converted prevailing code based on J-BASIC to C#. This conversion meant the Bank could cut its ties with COBOL and adopt modern languages such as C# and C++.

Both the retail and corporate projects were completed at the same time, allowing the bank to operate in a more responsive and agile manner to rapidly changing market conditions, especially during the recent coronavirus pandemic.

### Reorganising the kitchen

Krzysztof has arranged the IT organisation to align more closely with key customer segments and associated business units. These combined IT and business teams apply modern development methods. However, he has retained the established IT team to run operations across the group or what he refers to as 'keeping the lights on'.

In retail banking, there has been a complete reorganisation of

IT based on new development techniques such as Agile and Scrum. This reorganisation was enabled by mBank's escape from its legacy mainframe environment. Krzysztof recognises there is always constructive tension between the business and IT, where the former is driven by creativity and the latter hindered by system constraints. However, the move to a Windows environment has helped narrow the gap.

Within corporate banking, Krzysztof recognises that progress has often been slower due to structural and regulatory complexities. He has adopted a step-by-step approach that breaks complex workflows down into smaller chunks. Every month, his team delivers two or three redesigned processes into production. In this way, mBank has avoided a big-bang implementation that is risky within a highly regulated environment.

### Acquiring appropriate talent

Being a digital native, mBank has had less difficulty attracting IT talent than the incumbent banks in Poland. However, Krzysztof recognises that he faces a tough fight for the best resources. He has chosen, where possible, to train his own talent. He believes start-ups offer graduates more freedom to develop skills, but there is clearly

more risk involved when only one in ten start-ups survive. Banks and more established organisations offer greater job security, but at the price of greater role rigidity.

mBank has launched an incubator to test out new ideas and to encourage collaboration with start-ups. This link helps Krzysztof expose his staff to both traditional and emerging business environments. He also sees value in extracting experiences from the older workforce and passing knowledge to younger employees.

### Defining the qualities of a Master Chef

Krzysztof says effective CIOs should be on a par with business colleagues. He believes IT should generate the necessary flow of new ideas to help the businesses cope with challenges and opportunities. It took him two years to understand the finance business when he arrived at mBank from a non-financial career. Yet he says banks are not dissimilar to other organisations when it comes to their levels of complexity. Legacy is a universal problem that all CIOs must tackle.

His mantra, which has helped him move from CIO and CTO to COO, is to give people space to come up with new ideas. It's vital that CIOs trust and support their people.

### Tips

- You need to know 'the good music' when you hear it
- Learn from the best craftsmen and engineers
- It is easy to be complicated, but difficult to be simple



Makes approximately 20 bite-sized pieces

- 500g broad beans, podded
- A small handful of flat-leaved parsley
- 5 eggs
- Salt and pepper
- 1 tbsp olive oil

## Broad bean tortilla tapas

Bring a pan of water to the boil and slip the beans into it for a couple of minutes, then lift them out, retaining the water. The skins will have started to split, revealing the bright green beans. Peel them and discard the skins. This takes time, but is worth it. Discard the stalks from the parsley and chop the leaves finely; put to one side.

Return the beans to the pan and cook them until they are soft but not disintegrating; this will not take long. Drain them thoroughly.

Break the eggs into a large bowl and beat them together well, adding salt and pepper. Then stir in the beans.

Heat the oil in a small frying pan or omelette pan over a low heat, and preheat the grill. Pour in the mixture and, as it begins to cook, push up the sides with a wooden spoon to make a deeper edge – square it off, if you wish (this makes the tortilla easier to cut into uniform pieces).

When the tortilla looks firm you can turn it by inverting the pan over a plate before sliding the tortilla back into the pan for another few minutes, but you can also ensure the top is cooked by popping the pan under a hot grill. Don't let it overcook; when it feels lightly set, slide it out of the pan onto kitchen paper to drain off any excess liquid. Scatter the finely chopped parsley over it.

Cut the tortilla into pieces and serve as a tapa, cool or still warm, each one pierced with a cocktail stick.



The favourite dish of Mark Samuels

## SECTION 2

# HOW TO BUILD A FIVE-STAR KITCHEN THAT SATISFIES YOUR MOST DISCERNING CUSTOMERS



*"IT organisations that score a five-star rating understand that their end customers are ultimately a consumer or an employee."*



Within a rapidly changing business context, IT must be fleet of foot if it wants to maintain a five-star rating. High-quality IT often requires radical transformation followed by periods of continuous innovation. IT organisations that fail to adopt this approach risk becoming irrelevant, as end users increasingly choose to self-serve due to the wide availability of tools that make this shift possible, such as software as a service (SaaS) and low-code/no-code development tools.

### Optimising your kitchen to provide tasty new IT recipes

Any IT organisation that describes its customer as the 'business unit' would, at best, receive a three-star rating on Tripadvisor. In a world of digitally enabled supply chains and online interactions, IT organisations that score a five-star rating understand that their end customers are ultimately a consumer or an employee. These end customers might be soldiers on the battlefield, citizens claiming unemployment benefits, shoppers on the web or in a retail store, first-time homebuyers awaiting mortgage approval, or patients sitting in a doctor's surgery. Every actor within the supply chain must endeavour to improve the experiences for end customers by harvesting and then acting upon the data that emerges at every point of their journeys.

In a business environment where digital and data play an increasingly important role, IT organisations must help shape customer experiences. Great CIOs and their teams provide the tools and platforms to make sense of customer data. They help their business colleagues generate appropriate and timely responses in the form of tailored products and services across the connected supply chain. Digital leaders recognise that we are moving rapidly from a business-to-business (B2B) to a B2B2C world, where success is all about working directly with customers to meet their needs.

Business leaders that want to take advantage of these opportunities will need to optimise their IT kitchens. This

optimisation requires a great deal of effort and might require the refurbishment or even reinvention of the IT kitchen. Here are three tasty recipes that can help to satisfy today's most sophisticated diners.

### *IT is helping businesses to create a digital vision*

In the modern world of mobile apps, streamed content, online shopping and remote working, business executives must place digital at the centre of their strategic visions and operating models. Chief digital officers (CDOs), CTOs and CIOs should be considered as key partners to help shape tomorrow's successful enterprises.

### *IT is driving today's digital agenda*

The move to 'everything online' during the coronavirus pandemic has accelerated plans to transform traditional government and commercial organisations. IT has been instrumental in sponsoring new ways of working. IT is also helping to integrate complex supply chains, so they are responsive to changing customer needs.

### *IT is changing its products and services*

The traditional manner through which IT supports the business is less relevant in a digital world. Customised development programmes can be too lengthy and often produce the wrong outcomes. Instead, successful CIOs are productising their offerings to replicate the success of software as a service (SaaS) providers, such as Salesforce.

In all these recipes, CIOs and their teams are repositioning themselves away from a pure focus on operations and towards becoming critical business partners, in terms of working with both internal peers and external parties.

### Adopting new methods to suit a digital landscape

To qualify as a legitimate and respected business partner, IT must adopt new policies, methods and tools that are appropriate to working in a fast-moving digital environment. Traditional waterfall methods are too cumbersome and slow to meet new external conditions



that are typified by the VUCA (volatile, uncertain, complex and ambiguous) world.

The good news is that IT does have certain advantages when set against other corporate functions. Technology vendors are highly innovative in the ways they support their customers. Key examples include the growth of the public cloud and SaaS-based offerings. CIOs have learnt a great deal from the adoption of these approaches. Now, the IT department must emulate – if not supersede – its key vendor partners to retain the loyalty of the business.

A growing number of CIOs are replacing legacy systems with web-based applications that can flex to meet fast-changing external demands. Even for digital businesses, such as Telefónica, this replacement process is an enormous but necessary task, according

to the company's CIO. Ultimately, IT faces an existential challenge: either reinvent itself to become digital end-to-end or find itself circumnavigated by vendors that will then sell direct to its business customers.

As our recipes demonstrate, successful CIOs and their IT teams are facing this challenge head-on and adopting new methods to deliver service excellence. Here are three key examples:

- Working together with business partners. Most CIOs today recognise the need to embed staff deep inside their internal customers' functions. This embeddedness involves a matrix structure, where line-of-business CIOs have dual reporting lines.
- Adopting new delivery methods. Perhaps the most visible development in IT practices is to employ Agile methods to accelerate the delivery of new business

solutions. This widespread adoption of Agile ways of working is causing a constructive tension between people and departments that rely on traditional waterfall methods.

- Increasing IT governance. Agile working has many business merits, but it can create fragmentation if left unsupervised. Group CIOs suggest that developing and enforcing common standards is critical to preserving coherence across all new business applications.

Our conversations with CIOs around the globe make it evident that traditional IT structures and methods cannot keep up with the fast-developing pace of modern business requirements.

### Choosing the best ingredients and business partners

During the past two decades, emerging technologies – such as cloud computing, social media, data analytics and mobile applications – have revolutionised operational activities in many sectors. These technological advances have also provided the foundations for the rapid growth of digital leaders, such as the FAANG group.

It is worth remembering that Apple's iPhone only appeared in 2007 and the cloud first moved into common business parlance in 2008 – that's a relatively short time span from emergence to acceptance, especially given the disruption these technologies have caused, particularly to the IT sector itself. Yet more is to come. The pace of change continues to quicken, and we expect a further surge of new technologies in the coming decade. These technologies include AI, the Internet of Things, 5G and 6G mobile, blockchain, 3D printing, edge and quantum computing, and augmented, virtual and mixed reality.

Experience suggests that the expectations for new technologies are often overstated in the short term

but vastly underestimated in the long term. The digital leaders that we spoke with all recognised the potential impact of the fast-approaching second wave. Their task now is to inform peers at board level about the likely consequences of these technological advances.

### Open source is the way to go

Many CIOs are turning to open-source strategies, both within their organisations and out across their partnerships with external parties. The combination of application programming interfaces and open-source architectures is encouraging the reuse of modern applications and accelerating the adoption of microservices.

### Cloud changes everything

Virtually all CIONET members have adopted a cloud-first strategy. However, many are encountering difficulties when it comes to implementation, especially with respect to legacy applications that are often based on ageing code and mainframe systems. The cost, complexity and risk of re-platforming such core systems often hinders their best intentions. At the same time, all Agile developments are concentrated in the cloud. The result is often a bi-modal, two-speed regime.

### The vendor landscape is evolving rapidly

The combination of public cloud platforms and open-source technologies has transformed the IT services sector during the past decade. The speed of change has left many major incumbents on the back foot. The phenomenal success of AWS, Azure and Google Cloud has brought into question the traditional IT practice of outsourcing service towers, such as data centres, networks and applications maintenance. Smart CIOs are instead pursuing a mix-and-match approach to service sourcing, with the prospect of lower-cost, more scalable infrastructures.

### Technology-fuelled innovation

Alongside these seismic developments, CIOs are exploiting a broad range of emerging technologies to



ensure that their organisations remain ahead of the curve. The use of RPA and AI is being piloted as an effective way of creating a fully automated enterprise. Artificial intelligence is also being used extensively in data analytics.

The pressure is on CIOs to evaluate technologies and then inform their boards about how these advances will push dramatic change during this decade. Corporate survival will depend on early action to embrace these developments and fend off newcomers.

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# FOUR

## DIGITAL OPERATING MODELS

### Optimising your kitchen to provide tasty new IT recipes

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All organisations – even digital businesses – are beset by legacy systems, skills and cultures. Radical new business designs and ways of working are required if we are to genuinely transform the customer experience and undertake continuous innovation of products and services. As we will see in the three recipes in this chapter, IT plays a central role in helping businesses to optimise organisational structures and to innovate products and services.

The CIO of BW Paper Systems discovered he could create a multi-fold increase in collaboration and connectivity between suppliers and customers by building a digital layer across a highly fragmented supply chain. This layer represents ‘one source of the truth’, which has enabled BW to move from a reactive to a highly proactive treatment of customer needs, helping the company to increase loyalty and boost revenue streams.

The CDO of KBC Bank, meanwhile, has supported the replacement of physical branches with omni-channel routes to market. This digitisation allowed the bank to compete with the services offered by fleet-of-foot FinTechs. This transformation process also created a

one-time opportunity to integrate separate banking and insurance platforms, providing a single view of the customer. Subsequently, KBC has been able to attract third-party vendors to its integrated platform, increasing cross-selling opportunities and customer stickiness.

Finally, Telefónica’s CIO took a hybrid approach to dealing with the enormous challenge of transforming one of the world’s leading telecommunications companies. The CIO has helped organise global business hubs to consolidate back-office functions, such as finance and procurement. At the same time, he has introduced a common architecture to enable national organisations to build systems that suit the requirements of their respective local marketplaces.

Common to all these approaches is the move to semi-autonomous teams of IT and business staff. These teams undertake change programmes at breakneck speed using Agile development methods and sprints. In all respects, our Master Chefs are helping to bring about rapid and fundamental change to their organisations. This change will inspire greater creativity and innovation in the longer term.





# BW Paper Systems

Letting joined-up ecosystems create big business value

### Ingredients

- A connected ecosystem of suppliers and customers
- Standardised data that provides a single source of truth to all parties
- An effective integration layer that connects disparate applications
- Change teams that combine internal and external staff

### Preparing the dish

When Nino Messaoud arrived at BW Paper Systems five years ago as chief digital officer, he discovered a successful and growing business that comprised more than 100 companies worldwide. The one thing missing

was a digital infrastructure to connect all the firm’s warehouses and manufacturing sites to thousands of suppliers and customers across the globe. Nino saw a unique chance to question everything: ‘I wanted to build a roadmap into a digital future where markets and customer requirements would be changing at an ever-faster pace.’

He has built a digital layer above prevailing systems and applications to support full connectivity between all parties in the BW ecosystem. This approach has transformed how BW anticipates and responds to customer needs, harnessing the power of its trade partners in a truly digital manner.

### Building a digital ecosystem

Nino’s earlier leadership experience highlighted how no company can survive without intensive collaboration with both its customers and suppliers. Common

datasets and processes help to bind customers into the supply network and, in BW’s case, lower the cost of servicing their maintenance needs. Automated ordering, across 100 geographically disparate companies within BW, supports speedy and seamless customer service.

Nino chose Paper Systems as a test case for how BW would build an integration layer between applications across the globe. At the heart of his design is the ability to ingest data from different sources and produce a single version of the truth. He describes this layer as ‘the sauce on top of the spaghetti’. His approach is characterised by:

- Standardised data that creates genuine independence over local systems and applications, which is crucial as BW continuously acquires new companies into its ecosystem;
- An integrated database that operates on an intersystem platform, IRIS, which has helped to simplify merger activities;
- A custom-built Java system for data integration and a presentation layer, provided by Salesforce, that provides a unified interface for mobile and fixed devices.

These activities are supported by a workbench in Ukraine, which takes advantage of local skilled talent and is culturally aligned with

BW. In Nino’s view, the results of this data-led approach have been even better than might have been anticipated. Parties across the supply chain, from suppliers to customers, receive replies to their enquiries in milliseconds rather than hours or days.

### Designing processes for the future

Nino chose to ignore historic ways of operating in favour of a genuine reengineering of critical processes across the supply chain. He saw this as a once-in-a-lifetime opportunity to question how the business operated. He convened a team of experienced staff from three geographic regions to undertake this momentous task. He also co-opted customers and suppliers on to this team to ensure a seamless view of data across the supply chain.

The first area of attention was the supply of spare parts to customers. Historically, front-line BW workers would ring warehouses to locate parts. Nino’s team envisaged a more efficient future, where spare parts could be 3D-printed by customers. His team designed a process to transmit designs electronically to customers. This process enabled a near real-time response to breakdowns. It delighted BW’s customers as it reduced disruption in their own manufacturing facilities.

Nino’s team then went further.



*“No company can survive without intensive collaboration with both its customers and suppliers.”*

**Nino Messaoud**, CDO, BW Paper Systems



Scan code to watch the full interview.

They developed tools that tracked component life cycles to automatically sense when parts might need to be replaced. Instead of waiting for a breakdown, BW now supplies new parts ahead of potential interruptions. It also furnishes customers with vital information on the health of their manufacturing operations. This has been a gamechanger for customer loyalty, and their willingness to pay for BW services.

Aligning the IT organisation to new practices

Nino was keen to build a new foundation for his IT organisation. He implemented a five-part programme that included Agile working, multidisciplinary business and IT teams, a 360-degree view of the customer, and connected processes. Nino believes successful business innovation is more about people than technologies: ‘You need to take the people with you, including customers, suppliers and internal staff. Everyone must be included right from the start of a change programme.’

He has built a close working relationship with an implementation partner in Berlin to help build Agile techniques and cultures. Nino has also strengthened links with his Ukraine-based workbench to accelerate technical projects. In all these respects, Nino has transformed the structure and mindset of what was a traditional IT organisation.

Currently, about 70% of the IT organisation is engaged in keeping the lights on, or what Nino calls ‘the silent running organisation’. Encouragingly, the remaining 30% focuses on building the future roadmap, which draws on

small, diversified teams of business and technical staff. Nino uses success stories to convince BW executives of the merit of his novel approach.

Defining the qualities of a Master Chef

Nino sits on a global board of five digital leaders who oversee IT across the BW group. It took him two years to gain their full trust in his future-oriented approach to change and innovation. As with his own IT staff, this trust was earned by demonstrating successful outcomes.

Now, Nino is on a quest to find ‘tomorrow’s people’ to support his transformation efforts. He works with leading universities to develop a taste of the future, and to attract the talent to help modernise his IT organisation. Nino believes IT should be a value contributor rather than a cost centre.

His personal style is to be the conductor of change, with an orchestra staffed by business and technical experts. Nino’s qualification to lead the orchestra is that he knows what sounds best.

Tips

■ Gain the trust of your peers to deliver fundamental change

■ Adopt a human-centric approach to change

■ Collaborate with the entire ecosystem when developing new schemes



# KBC Bank

## Change the context if you want to transform IT operations

Ingredients

■ Emphasise cultural change ahead of technology

■ Adopt a collaborative approach to IT and business

■ Develop an innovation pipeline sponsored by the business

Preparing the dish

As both a marketer and digital leader, Rudi Peeters has been driven by curiosity and a constant desire to innovate everything around him. A notable career achievement was the launch of KBC’s internet bank in 1996. KBC is a universal multi-channel bank–insurer, focusing on private clients and small and medium-sized enterprises in Belgium, Ireland, Central Europe and Southeast Asia.

Rudi recognised quickly on becoming CIO at KBC that

changing the banking culture would be the most difficult part of his job: ‘You can have the best plans, road maps and technologies but if the culture doesn’t fit, it just won’t fly.’ Rudi believes firmly that you must first change the context if you want to change how people operate. This has been his guiding principle in realigning the IT organisation to support KBC’s transition to becoming a digital bank.

Starting the journey to digital banking

Physical branches have given way to multi-channel operations across web and mobile channels. This movement has changed the relationship between the bank and its customers. Front- and back-end processes are under constant development. A case in point: the bank recently introduced Kate – a virtual assistant that gives its customers the best financial advice anywhere, anytime.





*"You can have the best plans, road maps and technologies but if the culture doesn't fit, it just won't fly."*

**Rudi Peeters**, CIO, KBC Bank



Scan code to watch the full interview.

The coronavirus pandemic added even greater impetus for change at a business level, says Rudi: 'What we tried to do in three to five years, we had to do in just two months following lockdown in March 2020.' The pandemic made the bank's customers more receptive to digital banking channels. It also meant 60,000 members of staff had to transition to home working quickly. Being able to arrange this transition in days raised IT's credibility enormously.

### Becoming the WeChat of European banking

Since the 1990s and the advent of internet banking, KBC's business has been in a state of constant evolution. It has integrated its banking and insurance businesses to become a leader in both sectors. KBC now has single IT and finance functions serving these two businesses. This integrated approach has proven invaluable in helping the bank to collaborate closely with third-party providers and expand customer services.

By offering an expanded range of day-to-day services and features, such as travel tickets, on the KBC mobile app, the bank and its partners encourage customers and prospects to interact with them. This extension in service provision has enabled KBC to gain

the data to understand customer needs. Big data analytics and artificial intelligence have taken on a strategic role here, and this specialist group reports directly to the bank's chief executive.

### Changing the IT model

KBC's traditional approach to IT was to stand apart from the business. Business projects were 'thrown over the IT wall' to be priced and placed in an orderly queue that often took years to deliver. This traditional approach became untenable in a constantly changing business environment. Instead, Rudi organised cross-functional teams of business and IT staff to focus on product features and value streams. This joined-up approach meant IT could contribute directly to enhanced business performance. The current approach includes:

- Placing new features into a pipeline that is prioritised by business leaders monthly;
- Organising two-week sprints to test out new ideas and develop proof of concepts;
- Co-opting customers into IT projects to encourage an outside-in mentality.

### Innovating at scale

The current IT model is supported by the constant drive to innovate

the business – and this drive is based on seamless collaboration between IT and its business partners. Rudi chairs the KBC innovation board and has introduced a formal innovation process, which consists of:

- An R&D budget to encourage staff (IT and business) to pitch ideas to the innovation board;
- Pilots and proof of concepts that are supported by the board, and that include customers;
- Co-creation with business partners in areas such as the impact of climate change.

Kate was one of the innovations that emerged through this approach. Activities are reviewed monthly by the innovation board. To further stimulate innovation within the enterprise, Rudi organises 'inspiration days' that bring start-ups and vendors into the bank. Staff are encouraged to attend these days and interact with the visitors.

### Reforming the IT operating model

Rudi says three essential elements help to reform IT so that it is closely integrated with the business: culture, architecture and technology.

### Culture

Rudi believes that you can only change people if you change the





context in which they operate, which he describes as ‘the smell of the place’. IT staff in the bank’s old operating model were sitting with businesspeople, but not working together. Rudi introduced business DevOps tools to bring the two parties together in mixed teams of up to 12 people.

Architecture

Rudi has adopted GitHub, an open-source platform that encourages the development and use of open-source software. This process accelerates software delivery and ensures consistency across the group. As well as open sourcing the IT organisation, the bank is moving to cloud as its preferred development and run platform.

Technology

Rudi is happy with the current banking system, based on mainframe technology. While this platform has not constrained digital transformation projects to date, he recognises that new developments, such as artificial

intelligence and machine learning, will present new challenges and opportunities over the coming years, especially regarding customer experience.

Defining the qualities of a Master Chef

Rudi sees a future where IT provides the run platform on which the business develops its own applications. He recognises that IT is core to the bank and must transition to business ownership. This movement will require greater digital maturity across the group – a key role for the CIO.

Tips

■ Celebrate success and use storytelling to engage the organisation

■ Do what is best for the company rather than what is best for you



Telefónica

Teaching elephants to dance

Ingredients

■ A combination of global and local change initiatives

■ A future vision based on software-defined networks

■ Recognise that your future competitors could be robots

Preparing the dish

With a 30-year background of senior executive positions within global banks, such as Santander and Barclays, Angel Valero is now using his unique experiences to help Telefónica make the challenging but vital journey

to becoming a digital leader in telecommunications and media.

Telefónica, which is a Spanish multinational group headquartered in Madrid, is one of the largest telephone operators and mobile network providers in the world. The company provides fixed and mobile telephony, broadband and subscription television across Europe and the Americas.

As Corporate CIO of Telefónica’s Spanish business-to-business division, Angel is providing the strategic vision to help transform the organisation into a digital leader. Angel recognises the scale of this task, especially when it comes to converting generations of legacy systems, processes and skills: ‘You can only teach an elephant to dance one step at a time,’ he says.

Rudi left KBC to become CEO at Vandersanden in October 2021.



*"I give each team 100% independence, but I give 100% personal dedication to helping them solve a problem."*

**Angel Valero**, Corporate CIO,  
Telefónica



Scan code to watch  
the full interview.

### Understanding what drives the transformational agenda

Telefónica must upgrade its products and services almost constantly to maintain its competitive advantage. The company must also focus continually on how it engages and cares for its customer base, which includes 343 million fixed-line subscribers and 272 mobile customers in 17 countries spread across Europe and Latin America (LatAm).

Angel says three specific areas of digital transformation are crucial: enhancing the customer experience, providing industry-leading customer care post-sale and undertaking internal transformation of national and global operations. Fixed and mobile technologies continue to advance at rapid speed. Angel recognises that the platforms his company uses to support its customers must also evolve alongside these advances. Relevant developments include:

- The introduction of an end-to-end fibre network infrastructure (already 100% in EMEA, and 50% in LatAm);
- The network is becoming software-defined, which eliminates the requirement for a significant proportion of traditional switching equipment;
- Mobile is evolving from 4G to 5G, and there is already hype about the long-term shift to 6G;

- Low-orbit satellite networks are entering service and competing with terrestrial networks.

### Baking a multi-layered cake

Angel has layered Telefónica's transformation programme geographically to reflect the multi-national nature of the company. He says a combined global and local approach is necessary to create a fully digital organisation.

Globally, Angel is standardising many back-office functions, such as finance and procurement, to exploit internal synergies across the group. He envisions the creation of a global business platform that is common to all national subsidiaries. Building this platform requires the redesign of end-to-end business processes, including lead to order, order to cash, and cash to collection.

For client-facing commercial systems and processes, Angel expects to create a localised approach, where the group establishes a common architecture, but allows national organisations to implement technological solutions that fit the prevailing cultures and regulations. One of the key areas of attention here is data analytics, where he expects national organisations to exploit the most advanced tools available in their respective markets. He encourages developers to adopt open sourcing to maximise creativity as well as

to use market platforms such as Salesforce and Velocity.

Infrastructure modernisation is another challenge at the global level, especially given the ongoing move to fibre and software-defined networks. Once again, Angel expects the group to set standards that support national-level roll-out programmes. The rise of the digital infrastructure is helping to bridge the traditional separation between IT and network operations. In Angel's view, IT is now the key enabler for digitisation.

### Adopting a greenfield approach to transformation

Angel says a greenfield approach to building digital businesses can help CIOs avoid being constrained by heritage systems and processes. He has selected skilled individuals from across Telefónica's IT and business functions to lead digital programmes around the globe. With strategic guidance from the centre, these highly skilled teams are deployed at every level of the multi-layered transformation.

Cloud has been a key focus of the company's journey to digital. Practical experience from earlier in his career has led Angel to concentrate on quick wins, such as implementing the cloud in multimedia communications. He has also tapped into the selective use of robots to automate





repetitive processes. However, Angel envisages a phased approach to other areas, including:

- Migrating enterprise systems to the cloud with appropriate software modernisation;
- Implementing big data solutions in the cloud with appropriate tools;
- Rebuilding core systems and software-defined networks in the cloud.

The latter rebuilding phase is likely to take a few years due to the complexity of this programme of work. Even further out, Angel expects to draw on edge-based computing, where servers are located close to clients.

Defining the qualities of a Master Chef

It’s an enormous task to make change happen across a group that spans 17 countries with 120,000 staff. Success depends on the quality and creativity of the ‘change the business’ teams that Angel has selected and deployed. His philosophy is simple: appoint the best individuals, give each team a large degree of autonomy to complete their missions, but support them along the

way: ‘I give each team 100% independence, but when they come to me, I give 100% personal dedication to helping them solve a problem.’

As the Master Chef overseeing 20,000 IT staff worldwide, and with 500 IT staff at the centre of the group, Angel takes full responsibility for the success of the change programme at Telefónica, stating: ‘You can delegate the job but you cannot delegate the responsibility.’

He believes effective staff development comes from a combination of education and experience during execution. He asks teams to submit annual plans and milestones, and conducts monthly reviews. The most important thing for Angel is to see results.

Tips

- Empower your teams but be prepared to offer support
- Encourage individuals to take risks and try different approaches
- Treat people with respect and always be truthful

Chicken and mushroom cream with an avocado and green salad

Preheat the oven to 200°C. Skin the chicken breasts, and squeeze the lemon into a baking dish. Add the bay leaf and the chicken breasts and cook for approximately 45 minutes or until any juices run clear, turning them over to make sure they are cooked. Take the chicken out of the oven and set it aside to cool slightly.

Chop the mushrooms and finely chop the garlic. Mix the crème fraîche with the mustard in a small bowl. Cut the chicken into pieces no bigger than 3cm.

Then prepare the salad as the chicken doesn’t take long to finish. Peel the avocado, chop it into cubes and sprinkle them well with lemon juice. Make up a couple of salad plates with leaves but don’t add the avocado until the last minute.

Put the oil in a large frying pan, add the mushrooms and garlic and let them cook until the mushrooms are starting to brown. Add the chicken and cook everything together, stirring, for a couple of minutes until the chicken is hot again. Then spoon in the crème fraîche and mustard mixture, turn the heat right down, and mix together until everything is coated in the sauce. Check for seasoning and add salt and black pepper as needed.

Scatter the lemony avocado on the salad leaves, drizzle over a little olive oil and grind some black pepper on top. Serve alongside the chicken, accompanied by some crusty bread.



The favourite dish of Mark Foulsham

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# FIVE

## NEW BUSINESS METHODS

### Changing the kitchen to suit a digital landscape

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At the start of this decade, many incumbent businesses were adopting a cautious approach to digital transformation. The start of the coronavirus pandemic in early 2020 changed attitudes at all levels of business. Billions of employees transitioned to working from home; customers, meanwhile, completed all transactions online. This transition pushed digital leaders into taking big leaps forward in regard to digital-led business transformation.

Some organisations were already ahead of the curve. When a new CTO was appointed at insurance giant Prudential in 2014, he discovered a startling lack of digital awareness and a strong resistance to change. A radical approach was needed to shift mindsets and set the firm on a course to digital leadership. He immediately entered strategic partnerships with leading IT vendors, including Apigee and Diligenta, to accelerate adoption of new methods such as data analytics and digital platforms.

The pandemic crisis hit KfW, Germany's leading promotional bank, in a different manner. The

government had to react suddenly and organise billions of Euros of loans to support vulnerable businesses. KfW was called upon to manage this process in weeks rather than months or years. This programme of work required new Agile development methods that could help KfW meet tight timescales. Having already introduced Agile within controlled pilots, the CIO was able to scale agile teams to cope effectively with the crisis.

The rise of digital competitors brought a new sense of urgency to telecommunications giant Orange. The CIO's response was to promote open innovation as a way to maintain global leadership across a range of convergent technologies. He recognised that successful innovation involves converting good ideas into new sources of revenue and profit. To put this into practice, he adopted open sourcing and open processes to support a culture of open collaboration.

Across these different experiences, one common factor is evident: Master Chefs must be accomplished storytellers if they wish to energise and transform prevailing cultures.



## Prudential

### Creating a fully digital business

#### Ingredients

- A cloud platform as the digital foundation
- Conviction at board level about being digital
- A humility to accept failures alongside successes

#### Preparing the dish

Tarun Kohli, the recently appointed Managing Director and Head of New Propositions at Swiss Re, describes the main course of the leadership feast he's preparing: 'We don't need a digital strategy for business, we need a business strategy for a digital future.'

Swiss Reinsurance Company Ltd, commonly known as Swiss Re, is a reinsurance company based in Zurich, Switzerland. It is the world's largest reinsurer, as

measured by net premiums written, and provides Tarun with a unique platform to create new digital businesses in the years to come.

However, it's in Tarun's earlier role, as CTO at financial services giant Prudential, that we get a tempting taste of how he has already converted a traditional insurance company into a fully digital business. Tarun's success in this endeavour, which we detail below, helped set the context for his move to Swiss Re.

#### Laying the digital foundations

When Tarun joined Prudential from BP in 2014, nothing could have prepared him for the analogue business practices that persisted throughout the company. The organisation was still building new data centres. The firm's business model was epitomised by 'the man from the Pru', who used to walk from house to house selling





*"We don't need a digital strategy for business, we need a business strategy for a digital future."*

**Tarun Kohli**, ex-CTO, Prudential;  
MD, Swiss Re



Scan code to watch  
the full interview.

a conglomeration of insurance and wealth management products.

In 2014, there was no evidence of a cloud strategy or any widespread adoption of data analytics to drive business decisions. The IT organisation itself was resistant to change of any kind, and senior business executives had little grasp of how digital could change the business for the better. As his first step, Tarun established a partnership strategy to begin to convert Prudential into a digital business. The key elements of the Digital Foundation programme included:

- Adopting public cloud with open APIs, through a partnership with Apigee, so that applications could be migrated away from legacy, on-premises mainframes.
- Adopting a platform approach: life and pensions applications were migrated from in-house mainframes to Diligenta's BanCS platform, asset management applications were transformed into Blackrock's Aladdin platform and wealth management applications moved into Bravura's Sonata platform. Thousands of legacy applications were decommissioned as part of this move.
- Establishing digital labs that could act as innovation hubs to address board-level challenges

by leveraging emerging digital technologies.

Tarun embraced software as a service (SaaS) and platform as a service (PaaS) as the future foundation for digital business in Prudential. In so doing, he reduced the dependency on legacy hardware and software.

### Bringing a digital business mindset

His next step was to launch the Reconnection Programme, which aimed to illustrate the power of data analytics and artificial intelligence (AI) in helping both Prudential customers and internal business units to achieve greater value from the company's range of insurance and wealth management products.

Tarun chose a practical use case to launch the programme. Talking to people in the industrial branch of Prudential, he discovered there were millions of lost insurance policies dating back to the Second World War. These policies represented an outstanding liability to the business, but also a loss of benefits to the next of kin of the original policy holders.

Tarun leveraged his connections with a leading big data and analytics provider and set up an agile team to work on this problem. The team was able to develop a solution in

three months that ingested more than 500 million records across 11 different mainframes and married those records with publicly available data, such as the government's death registry, to source next of kin details. This not only helped in identifying over a million next of kin beneficiary contact points, details that otherwise could not be located, but also enabled an accurate liability of the industrial branch book to be put into the records.

This successful project helped to illustrate the power of data analytics as a problem-solving tool to the rest of the business. Executives welcomed the positive impact of the project, both in terms of the beneficiaries and on the company's bottom line. In Tarun's view, this data-led project created a fundamental shift in mindset across the organisation.

### Achieving quantum leaps into the future

Solving historic problems, such as the use case above, has clear economic value. But Tarun saw that bigger steps were needed to achieve a fully digital mindset. He believed the key was to explore fundamental business issues and opportunities rather than focusing on the technology itself.

Tarun cites an example of how, with the shift in mindset, Prudential moved



from optimising the claims process in health insurance to preventing claims by striking a partnership with Babylon Health, leveraging AI and analytics technology.

Tarun’s guiding philosophy is that technologies, including cloud and big data, are merely tools to help businesses solve their problems. Hying a technology such as blockchain for its own sake is a lost cause unless businesses have defined needs. We need to have business-led innovation and start with business problems or business opportunities that technology can serve to solve or enable growth.

Defining the qualities of a Master Chef

Tarun’s personal style is very much hands-on. During his early days at Prudential, he took time to visit call centres and observe how staff were interacting with customers.

This helped trigger new thinking about the ways in which technology could streamline operations and increase both customer and staff satisfaction.

He also promotes high-performance team thinking, where he prefers to guide rather than dictate the direction of travel. In this respect, he believes successful Master Chefs empower and inspire their trusted teams. Tarun is a big promoter of servant leadership which he feels is needed in leading teams in the digital world.

Tips

- Adopt a lifelong learning approach to your career
- Enjoy the journey, not just achieving an end goal
- Show humility and practise authenticity



KfW

How to turn a crisis into an opportunity

Ingredients

- Agile methods and cross-functional teams
- Cloud skills, and partnership with hyperscalers
- Platform with automated interfaces to partners and customers
- Purpose – motivation to reach a goal, which is close to the hearts of all employees

Preparing the dish

With a distinguished career in consulting and IT, Melanie Kehr was appointed as member of the executive board (CIO and COO) of KfW in 2019. One of the world’s leading promotional banks, KfW is committed to improving economic, social and environmental living conditions across the globe on

behalf of the Federal Republic of Germany and the federal states.

At KfW, Melanie advocated to transform how IT engages with the business to produce beneficial outcomes for all parties. She focused on creating closer integration between teams through the application of Agile practices, such as Scrum, to business projects. The outbreak of the coronavirus pandemic in March 2020 was the trigger to accelerate her plans and to complete the transformation journey across six steps, which are outlined below.

Step 1: Building an Agile way of working

Prior to the pandemic, Melanie and her leadership team had already begun to introduce Agile practices in an attempt to address the pervasive gap between IT and the business. The aim was to encourage IT and business lines to team up and look at business problems together





*"It's about starting an agile movement bottom up, letting employees participate in defining the setup."*

**Melanie Kehr**, CIO and COO, KfW



Scan code to watch the full interview.

rather than relying on IT to propose solutions. She started small, with single pilots to demonstrate results. The benefits were evident: the projects went better, faster and delivered precise results. Above all, the most valuable outcome was that the projects increased the motivation of all involved employees as they worked for common, meaningful goals.

The pilot was then encouraged to propagate the approach more widely across the bank. Melanie also provided resources for Scrum masters and coaches to accelerate this take-up process: 'This was about starting an agile movement bottom up, letting employees participate in defining the setup.' By 2020, 80% of all IT projects were employing Agile techniques. Across all areas, IT has elevated itself from being a cost centre to a change agent, driving the Agile culture into the whole bank.

#### **Step 2: Taking the journey to the cloud**

Melanie also recognised that strong cloud-based foundations are needed to support the rollout of an effective Agile approach. Here, KfW's digital office got things started by trying out different application ideas using cloud and testing them with the business lines. Once the major benefits for KfW were identified, Melanie and her leadership team took the next step for getting the bank cloud-ready by bundling the

cloud expertise into a dedicated IT team, the so-called Tech Foundation. Given the regulated nature of financial institutions, skills had to be built in various fields of the bank, such as IT security, compliance and procurement. Development skills are also key for a successful cloud journey.

#### **Step 3: Making sure you can reach your customers quickly**

KfW does not have any branches for its domestic activities and, therefore, relies on about 1,400 on-lending bank partners, who interact directly with end customers in Germany. In 2014, KfW started to set up a platform with automated interfaces for its sales partners. The bank subsequently migrated its products to the platform. This new platform allows the majority of commitments to be processed automatically within seconds.

#### **Bringing the dish to the boil: in the epicentre of a crisis**

In March 2020, it became evident that the COVID-19 pandemic had arrived in Germany and urgent action was required. As a government-owned bank, KfW was called upon immediately by the German Ministry of Economics and Ministry of Finance to set up large, domestic aid programmes to provide liquidity and financial support to German companies that were facing an existential crisis due to the pandemic.

Melanie's task as a member of the executive committee was to ensure that the KfW Special Programme went live at lightning speed. This task was complicated by major contact restrictions, forcing the majority of KfW employees to work from home, and banks to close parts of their local branches and instead rely on telephone and web-based channels.

#### **Step 4: Putting agility on a new scale**

The KfW employees were highly motivated to contribute to the Special Programme: many volunteered to participate in the task force, despite juggling with various challenges such as working from home and providing home-schooling to children. Business lines and IT worked in cross-functional teams, applying Scrum methods to deliver fast and precisely tailored results. The executive committee instituted a daily 'corona call' to take quick and immediately binding decisions, which enabled the teams to continue working on solutions. As a result, while new programmes usually take nine to eighteen months before going live, this time it took less than a month from the initial idea to the first automated payment. The experience of acting in concert to reach ambitious targets had a galvanising effect on the prevailing culture of the bank in the shorter term and has continued to align mindsets with a new post-pandemic normal.



**Step 5: Letting platform benefits play out**

A huge benefit of the platform became evident during the pandemic. In times of contact constraints and closed bank branches, the platform enabled KfW to stay connected to its banking partners, implement the new programme quickly, and handle a large amount of traffic. As many as 99% of loans up to €3 million were granted automatically, thereby reducing the response time significantly and providing certainty to applicants. This resource-efficient process also enabled KfW to employ staff for the handling of more complex financing.

**Step 6: Using cloud-readiness to speed things up**

KfW faced immense interest in its programme. Customers flooded the KfW call centre. There was a tenfold increase in the number of calls with requests for information in March 2020. Therefore, KfW developed the funding assistant app, which allowed businesses to check their eligibility for KfW programmes and prepare the application form. Based on acquired cloud skills and the use of predefined cloud services to significantly improve development speed, the first release of the app was ready in just 12 days. The app handled 60,000 customer requests in the first two months.

Overall, the Corona Support Programme turned out to be the largest Special Programme in KfW's history, with domestic commitments amounting to €44 billion in 2020, thereby doubling KfW's business activity in Germany.

**Defining the qualities of a Master Chef**

Melanie has driven a change in the bank's perception of IT. She transformed the role of IT, which was previously measured in 'IT man-days'. Now, with the advent of Agile working, executives recognise that IT has become a team partner in all business-related activities.

Melanie recognises that her role is evolving rapidly. She is the primary change agent, helping the board to define the digital future of the bank. She acts as a connector, working across silos and hierarchies to eliminate obstacles that block change. This activity takes an external dimension, as KfW also examines other organisations and sectors for techniques to help innovate the bank.

Tips

- Think big but start small: changing organisations and setting a digital agenda is a learning journey, which requires a step-by-step approach
- Love the problem, not the solution: focus on solving the business problems rather than applying a certain technical solution
- Make IT a change agent: enable IT and business lines to work towards a joint goal in cross-functional teams



# Orange

## Leading through open innovation

Ingredients

- Innovation is the only way out
- Play outside your niche areas
- 'Culture eats strategy for breakfast'

27 countries, working with local CIOs. He is responsible for global IT governance, strategy and development, and oversees all group-level innovation in service and product offerings, from home connectivity to Wi-Fi, TV, commercial and financial services for business-to-consumer (B2C), B2B and wholesale markets.

**Preparing the dish**

Orange is a French multinational telecommunications corporation with 580 million customers worldwide, employing 89,000 people in France and 59,000 throughout the rest of Europe, Middle East and Africa. It has an annual turnover of €42 billion.

Koen Vermeulen is the group CIO of Orange Group and senior vice president of Orange Innovation IT and Services. He has oversight of more than 25,000 staff in IT and service platforms and innovation teams across

**Understanding the forces of disruption**

Massive technological and economic change is occurring. As the lines between industries have become blurred, the emergence and convergence of technologies provides opportunities for the cross-fertilisation of solutions across sectors. Major industry players are experimenting outside of their core niche areas, such as Toyota building smart cities and Google building self-driving cars. As these innovators enter fresh markets, they benchmark their businesses against new players. Emerging start-up and scale-up businesses add to





*“The best way to innovate is to use open technology, have open processes and create an open culture.”*

**Koen Vermeulen**, group CIO, Orange Group; senior vice president, Orange Innovation IT and Services



Scan code to watch the full interview.

the rate of market disruption. These new entrants exploit their inherent agility and awareness of emerging technology to render redundant the business models of incumbents, sometimes at breakneck speed.

That narrative is as true in the telecommunication industry as any other sector, where large incumbents have had to diversify their product offerings to navigate a rapidly shifting and highly competitive environment. The exponential growth in demand for faster, cheaper and higher quality broadband connectivity does not mean customers are willing to pay more for services. Incumbents have had to explore ventures in new areas, such as mobile banking services, and new industries, including on-demand television services and home- and cyber-security.

### Innovating on behalf of customers

Telecommunication operators must invest heavily in their networks – in the case of Orange, to the tune of €7 billion annually with a massive deployment of fibre and 4G/5G – to satisfy their customers’ insatiable demands for connectivity and services, while maintaining historical networks for a long period of time. This perfect storm of tech-led disruption means fundamental and ongoing change in the DNA of telecoms organisations is crucial. Agility and innovation is the way to deliver this change.

Koen is keen to push an agenda of open innovation at Orange, yet he says R&D is not necessarily the same as innovation. He says innovation is about connecting the dots between R&D, IT and the functions of an organisation, and then across the business as a whole, with its ultimate goal being the creation of value for customers. Koen believes the best way to innovate is to use open technology, have open processes and create an open culture.

### Embracing open technology

Open-source technology is the default choice for Koen. He believes Red Hat is the ‘inventor of open source’, where the merits of collaboration and the contributions from users consuming the services have helped to cement open technology as the default development model.

Koen has what he refers to as a ‘four-quadrant approach’ to managing legacy and technical debt in an incumbent company. In the case of Orange, he has mapped more than 1,200 applications into four quadrants that must be dealt with through corresponding actions:

- First Quadrant: modern technology with strategic purpose – invest;
- Second Quadrant: older technology with strategic purpose – migrate;

- Third Quadrant: legacy technology applications that no longer have strategic purpose – phase-out;
- Fourth Quadrant: non-strategic but sound technology stack – manage in the most cost-effective way and tolerate.

Koen has also made a distinction between innovation in new technology and applied technology. In the case of new technology, Orange has created energy-autonomous objects, such as microcomputer components that rely on solar, wind or ambient energy. These objects can then be integrated into powerful networks to aid agriculture in rural areas. In the case of applied technology, Orange has applied augmented reality and virtual reality to smartphones to create object-recognition systems that provide real-time information.

### Developing open processes

Koen believes that successful innovation requires the creation of connections or serendipitous encounters between technology, people and problems. He has created an internal open process of innovation with his 5,000 IT staff.

He sets no limitations – except that ideas must be ethical and legal – and follows start-up practices, where staff can launch their ideas, invest their ‘Orange coin’ to fund the building of prototypes, and then test these products and services internally before launching to customers externally. His Orange Innovation has to date incubated more than 500 collaborations in 18 countries.

### Creating an open culture

Koen says that transformation and change in culture is the most important element of innovation – however, he also recognises that the necessary shift in mindset is the most difficult part to achieve.

Changing cultures is fundamentally about changing habits. It requires constant reinforcement and it needs



senior managers to lead by example, accepting that cultural change takes time and cannot be rushed or dictated. Koen says CIOs looking to change culture must change the context – and changing that context starts at the very top of the business.

### Defining the qualities of a Master Chef

Koen’s commercial engineering background has helped build his digital leadership credibility. While he is a business executive, he is also genuinely interested in understanding how technology works. He emphasises consistency and transparency in communication with his team. Koen believes the management team should be capable of explaining the full strategy, also outside their domain expertise.

Many senior executives can talk about how much IT costs annually, but few can explain the value technology brings in terms of revenues and growth. Koen is dedicated to providing this clarity around value, leading his IT team from being a cost centre to become a profit-generating unit.

#### Tips

- Learn to trust and articulate your instincts
- Have a plan but be realistic enough to keep your options open

# Barbecue cedar-plank salmon

- Serves 4 to 6
- 900g to 1kg salmon fillet, about 4cm thick, skin on
  - 2 tbsp grain mustard
  - 2 tbsp clear honey or maple syrup
  - Grated zest of a lemon
  - Salt and pepper

The cedar plank should be large – approximately 14cm x 37cm. Immerse the plank in water and soak it for 2 hours. Prepare the barbecue grill for direct cooking over medium hot charcoal, or a medium to high heat for gas. Open the vents on the lid and bottom of the grill.

Put the mustard, honey or maple syrup and lemon zest in a bowl, and add a good pinch of salt. Grind in some black pepper and mix everything together well. Put the salmon on a large plate, skin side down, and spread the mixture on top. Leave it to stand at room temperature for 15 minutes.

Put the soaked cedar plank on the grill over direct heat and wait until it begins to crackle and smoke. Turn it over and place on indirect heat. Carefully put the salmon on the plank, skin side down. Cover it with the lid and grill it for approximately 15 minutes until the salmon is just cooked through. Check the core temperature of the fish; it should be 62°C – don't let it overcook. Let the salmon rest on the plank before serving.



The favourite dish of Melanie Kehr

# SIX DIGITAL TECHNOLOGIES

## The best ingredients and suppliers

The race to implement digital business models and processes in recent times has necessitated the adoption of new IT architectures and tooling. This shift has called for corporate intervention to coordinate experimentation and learning across large and devolved organisations.

The CDO of technology giant Red Hat has taken an industry-leading approach to this challenge by promoting open sourcing both internally and to all her clients. The result is a process that enables rapid transformation and continuous innovation. The approach has also fostered an open culture that encourages collaboration across organisational silos, open processes that employ modern tooling such as DevOps and RPA, and open architectures that can integrate data and associated analytics techniques.

The CIO of PKO Bank Polski recognised the unifying effects of public cloud at an early stage of his journey to digital banking. The move to mobile- and online-banking services required a complete overhaul of traditional infrastructures. This revamp coincided with the transition to hybrid working as the pandemic swept across the

globe in 2020. Partnerships with hyperscalers, such as Microsoft Azure and Google Cloud Platform, have enabled a smooth transition to frictionless customer and employee experiences.

The group CIO of MAPFRE Insurance was grappling with margin pressures in a highly devolved structure. Recognising the need to modernise and consolidate business processes on behalf of her 29 national subsidiaries, she chose a two-pronged programme. The first stage was to establish regional hubs for back-office processes such as finance. She was fortunate that the group had just one instance of SAP. The second stage was to adopt a greenfield approach to two front-office processes: insurance quotations and claims processing. She used common tooling, such as optical character recognition, robotic process automation and speech recognition, to engineer these new processes.

In all these recipes, group coordination under strong digital leadership has enabled rapid and cost-effective deployment of new techniques that have helped to speed up the transformation of traditional business structures and ways of working.





# Red Hat

## Embracing open transformation to accelerate change

### Ingredients

- A clear vision and supporting metrics
- Open culture, processes and architectures
- Staff diversity and gender equality

### Preparing the dish

For the past six years, Margaret Dawson has been vice president and chief digital officer at Red Hat, a company founded in 1993 that provides open-source software to enterprises worldwide. With a background in marketing and journalism, Margaret offers a unique perspective on how open transformation delivers outstanding customer experiences. Working with her team of more than 100 employees, she promotes the benefits of open transformation both internally and externally.

Margaret says there are three vital ingredients for digital leaders who want to bake open transformation into an organisation: open culture, open processes and open architectures. She believes this 'three-legged stool' will be the foundation for all enterprise strategies in the future: 'I am passionate about inspiring teams and colleagues to change the world for good. What is needed is courageous leadership and a shared vision.'

### Building an open culture

Building an open culture at Red Hat means breaking down organisational silos and hierarchies. The result? Great ideas can surface from anywhere in the 15,000-employee organisation and be shared amongst thousands of customers. The spirit of an open organisation is to foster individual passion, encourage collaboration between teams and develop a risk-taking appetite.

'Open leadership is all about focusing on people and behaviour rather than pure technology,' says Margaret. Open leadership also requires a clear vision, which has been demonstrated by Barclays and its attempt to become 'the bank of the future', in an echo of its earlier innovations such as being the first bank to introduce credit cards and cash machines. Airline Cathay Pacific has also fostered an open culture by adopting DevOps practices. This approach produces innovation through collaboration at ten times the speed of traditional methods.

Margaret says an open culture requires diversity across gender, colour and background. Recent benchmarking exercises show organisations that encourage diverse collaboration can double the speed to innovation in only half the number of meetings. Margaret is on a mission to increase diversity within the IT sector, which remains disproportionately balanced towards men. She traces this imbalance to childhood inputs that encourage girls to steer away from science, technology, engineering and maths (STEM) subjects.

### Creating open processes

Open processes demand open ways of working. This openness must be baked into an organisation-wide view of what it wants to achieve, and its measurement via

clear metrics. That's where modern tools, such as agile teams, DevOps and a fail-fast philosophy, can serve up dramatic improvements in workflow speed and efficiency, as well as genuine innovation in the way things get done.

A second important factor for creating open processes is to define where human effort should be focused and how repetitive and low-value tasks can be automated. Margaret believes that a large portion of office work can be automated, leaving humans to undertake high-value tasks that align with the company's broader strategic vision.

### Developing open architectures

Software is at the centre of modern business activities. The central role of software means application development experience is fluid and often distributed across the enterprise and beyond. Open architectures can help developers to use the tools they want and to foster collaboration with any individual or team, regardless of location. Infrastructure is the enabling force for this openness, but it should remain out of sight of work teams.

Just as data is at the heart of modern business operations, so it is becoming the essential ingredient that helps enterprises make key decisions. However, many



*"I am passionate about inspiring teams and colleagues to change the world for good. What is needed is courageous leadership and a shared vision."*

**Margaret Dawson**, vice president and chief digital officer, Red Hat



Scan code to watch the full interview.

incumbents have accumulated multiple IT stacks over time, each containing different applications and data structures. Open architectures allow organisations to consolidate their data into a single integrated resource that is accessible by all. Such openness makes it much easier for organisations to use data to optimise business performance and customer experience.

Margaret says cloud, which gives developers the opportunity to move across different environments, is the critical platform for architectural openness. Red Hat is using containers and Kubernetes to make it easier to move and run applications and workloads across a range of cloud platforms. This approach also reduces the possibility of becoming locked in to a single cloud vendor.

Identifying key technologies for the future

As CDO, Margaret sees a rapidly growing pipeline of new technologies that will help digital leaders to achieve innovations in customer service while also overcoming current obstacles such as technical debt. She points to the following trends:

- Distributed or edge-based computing that moves data ingestion closer to customers and associated work processes. This trend will be accelerated by 5G connections and sensors.
- Quantum computing, robotics, AI and ML technologies, which are beginning to intersect as we reach a point of singularity.

- Microservices that encourage productisation and reuse of IT services, as well as supporting infrastructure as code.

The rapid application of emerging technologies requires an open architecture that makes it easier to integrate these tools seamlessly with more traditional systems and services.

Defining the qualities of a Master Chef

Margaret says the CDO is responsible for every aspect of a customer’s digital journey. They should inspire their companies to produce a highly personalised omni-channel experience across the web, social media platforms, and physical, face-to-face interactions.

To achieve her ambitions as CDO, Margaret sets clear objectives for her team and discourages hierarchical behaviour. At an individual level, she helps people discover their identity and purpose. She is also religious about achieving an operational cadence that gets things done.

Margaret says success is dependent on attracting, training and retaining the best talent from across the globe. This can be achieved through a combination of demonstrating continuous growth, operating an open culture, and ‘doing cool stuff’. She recognises that her objective of changing the world can only be achieved by focusing on one person at a time.



# PKO Bank Polski

## Be brave and humble on your digital journey

Ingredients

- Learn to trust your colleagues
- Accelerate digital with new techniques
- Envision new working practices

Preparing the dish

With 17 years of banking experience, Adam Marciniak has spent the past decade as CIO of PKO Bank Polski. He is helping to transform Poland’s largest bank into a digital behemoth. He believes digital will transform lives profoundly. He says technology leaders must assist boards as they transition towards a digitally enabled future.

PKO was founded in 1919 and has a long tradition of giving both strategic and practical support to Poland’s

wider economy. Today, it is recognised globally as a digital leader in banking practices. The three drivers that necessitated the bank’s digital transition were: growing competition from non-traditional players such as FinTech, tighter regulation and business assurance, and low interest rates that had reduced margins and affected returns on equity.

Adam believes successful CIOs are brave, but also humble within the organisations they serve: ‘Humility is about listening, observing, finding the best values and demonstrating the best behaviours.’

Embarking on a digital journey

Adam says digital banking must provide customers with a frictionless experience. This requirement has guided the bank’s 10-year journey from e-banking to mobile apps and beyond. The early development of these





*“Humility is about listening, observing, finding the best values and demonstrating the best behaviours.”*

**Adam Marciniak**, CIO, PKO Bank Polski



Scan code to watch the full interview.

electronic channels was crucial in 2020 when the physical branch network had limits for a long period due to the coronavirus pandemic.

PKO holds a 20% share of the Polish retail banking market, but a 30% share of all mobile interactions. Ready access to mobile banking channels means customers with simple banking issues can now ‘self-serve’. This digitisation frees up banking staff to focus their time on high-value tasks, such as advising customers on financial matters.

One of the basic steps in PKO’s digitisation journey was the adoption of public cloud services. This was not a straightforward shift, as tight local regulations discouraged investment from hyperscaler providers such as Google and Microsoft. True to his mantra, Adam was brave – and was convinced that PKO could make progress. He worked with external parties, such as Microsoft, Google, Accenture and BCG, to undertake a world tour and examine the cloud in other countries. The outcome of this tour was a commitment by Google and Microsoft to invest in local facilities that conformed to Polish regulations.

The shift to the cloud paid big dividends in March 2020 when it provided the foundations for the bank’s shift to home working. As many as 13,000 staff were able to work remotely within just two

days thanks to a combination of Microsoft Teams and Azure cloud services. The cloud also helped PKO to support the rollout of the COVID-19 vaccine programme. In just six weeks, Adam organised joint teams from the Ministry of Health, PKO, Polish Cloud Operator, Google, Microsoft, Accenture and PwC to develop and deploy a comprehensive, complete system that enabled Polish citizens to book vaccine appointments in real time.

### Taking a digital approach to workflows

Adam says data analytics and AI are the key tools in helping his team to transform organisational workflows. The bank has introduced intelligent robots to help customers make their own financial decisions. PKO is experimenting with chatbots that listen to customer enquiries using natural-language recognition. These bots then reply with personalised advice or conduct the requested action. In 2020, over one million bot-enabled conversations took place.

The bank has also used robotics to help automate repetitive work processes. PKO has installed about 110 robots to take on the workload of 500 full-time human equivalents. Adam says RPA is a powerful tool that can help business staff to undertake their own software development projects. He believes non-IT staff will use low-code and

no-code tools on a regular basis within the next five years. This adoption will have a big impact on the future role of IT.

### Embracing a digital workplace

For 100 years, PKO’s operating model relied on the physical proximity of its staff. The recent adoption of remote working during the pandemic changed such assumptions forever. Now, there is a long-term preference for hybrid-working models. The IT team has worked with Microsoft to ensure employees have access to the tools that will make hybrid working a success. The IT team has also focused on making both office- and home-working environments as comfortable as possible.

One example of how the adoption of hybrid working will affect the workplace is the plan for PKO’s new head office. For the first time, the bank is adopting a hot-desking policy that will enable 3,000 staff to work in a flexible fashion across just 2,000 desks. Mobile apps will be an essential component to making this practice work, with staff deciding where to work each week.

### Reimagining the IT organisation

For much of the bank’s history, IT has been a servant to the business. For a digital bank, this approach is

unworkable. Instead, PKO bravely established 18 tribes that draw on both IT and business staff across the main divisions and functions. These tribes work on business challenges in combination and they have had a radical impact on organisational culture. Non-IT people are becoming familiar with how technology works; IT staff are gaining a much deeper understanding of business processes.

The IT department has expanded dramatically during the past 10 years from 600 to 2,000 staff. Adam has placed ever greater trust in his management team and the tribes. Such empowerment means he can spend more time listening to individual IT staff and peers across the business. He says that being on the board has been invaluable to helping him guide the bank into the digital world.

### Defining the qualities of a Master Chef

Adam sees IT evolving primarily into a governance role as the business becomes more self-sufficient in software development techniques. IT will be more about frameworks than solutions, especially in the case of PKO as it becomes digital to its core. However, Adam also recognises that security and business continuity will remain the foundation stone and purpose of the IT organisation.





# MAPFRE

## Adopting a parallel design path to enterprise automation

### Ingredients

- A corporate mandate to coordinate IT strategy and tooling
- National teams to carry out local development work
- Modern techniques such as cloud and open source

### Preparing the dish

Vanessa Escrivá García, corporate CIO of MAPFRE, is designing a technology strategy aimed at digitisation, modernisation of systems, redesign of technology processes and a new IT operating model, all in parallel with the maintenance of existing systems.

A key example includes building a hub instead of modernising current operations. Here, MAPFRE is adopting new architectures based on microservices and the open-source orchestration system Kubernetes. The aim of this work is to extract full functionality from heritage processes as the company builds new ones.

MAPFRE is a global insurance company with a worldwide presence. It is the benchmark insurer in the Spanish market and the largest Spanish multinational insurance group in the world. It is the number one non-life insurance group in Latin America and one of the 15 largest European groups in terms of premium volume.

### Changing the operating model

As an insurance group operating throughout the world, MAPFRE has depended historically on a decentralised

organisational structure for IT operations. Of the company's 2,000 IT resources, only 400 are located at the corporate centre under Vanessa's direct control.

However, several factors are now challenging this decentralised approach to business and IT operations in insurance, including:

- The commoditisation of products through the emergence of comparison websites;
- The associated erosion of margins and the need to streamline operations;
- The rise of sophisticated consumers who are used to exploiting online channels.

This combination of market-disrupting factors means MAPFRE must undertake an end-to-end redesign of core processes and systems. This redesign will allow the company to deal with the challenges of dramatic improvements in speed and efficiency that characterise the new market environment in insurance.

Vanessa also recognises that local conditions vary considerably according to market maturity. This variability is particularly clear across Latin America. She understands that to be successful, the company will need to maintain a broad range of product sets and channel activities. As Vanessa says: 'There is no single

solution to a global marketplace.'

Vanessa must help MAPFRE to balance these demands. As corporate CIO, she says the group centre will play a crucial role in helping the company's local subsidiaries to reengineer IT and associated business operations in the coming years.

### Laying out the vision for a future operating model

Vanessa's vision for the group focuses on two main components. The first element recognises that transforming legacy systems in the countries in which MAPFRE operates will take too long and cost too much. Instead, she is executing a parallel strategy.

In this parallel strategy, legacy processes will still be supported but at the same time there will be development of greenfield technology platforms. This parallel strategy will lower any potential risks to the business and will mean the IT organisation can focus on delivering entirely new IT operating models for each national organisation.

The second element of Vanessa's vision is to establish processing hubs that will serve each region and create a common business platform for each subsidiary. These hubs will deliver economies of scale and ensure a standardised approach to technology across variable markets.



*"There is no single solution to a global marketplace."*

**Vanessa Escrivá García**, corporate CIO, MAPFRE



Vanessa gives as examples the financial process that is homogeneous for all operations and has allowed having a single version of SAP for more than 10 years, and the human resources processes, where the group has adopted the Success Factors cloud-based platform for general use in all its subsidiaries.

Understanding the two targets for process reengineering

Vanessa has selected two key business processes for a greenfield development programme that will address end-to-end functionality:

- Online insurance quotations that can help MAPFRE respond effectively to the challenges posed by comparison websites, where multiple quotations are required in quick succession;
- Claims processing, where new technologies such as optical character recognition (OCR) can be applied to help speed up claims settlements.

As part of the process reengineering, Vanessa is applying automation, such as intelligent OCR, artificial intelligence and machine learning, to read incoming documents automatically and make better decisions on behalf of the business. The capturing of images associated with car crashes, for example, can be automated by using image-recognition technologies.

When it comes to legacy systems, Vanessa recognises that many of these processes will remain in operation for some time and will require incremental treatments. She is piloting RPA as a means of streamlining existing systems and processes. She has installed several robots already in an attempt to measure potential business outcomes.

Transforming the IT operating model

To enable the reengineering of vital business processes and the consolidation of back-office activities within regional hubs, Vanessa has taken a radical approach to

IT operations across the group that centres on two key areas:

- A cloud strategy for all new applications and business services, with limits to the number of cloud vendors that are used to help reduce complexity. She is also exploiting IT partnerships across regions to carry out core-system upgrades.
- The adoption of modern techniques, such as software as a service, microservices, open sourcing, and Kubernetes, to provide the foundations for reengineered systems and processes that will operate in the cloud. This adoption opens the door for the implementation of DevOps and Agile methods across the group.

Defining the qualities of a Master Chef

Vanessa is now adopting a coordinated approach to group IT policy, where she develops strategy and technical architecture for all subsidiaries. She is also assembling an associated toolset that will be used

across the group to encourage knowledge-sharing and the movement of expertise.

Many global organisations find it difficult to harmonise IT policies across an organisation that is set up as individual national units. The fast-changing nature of modern business, including the establishment of effective operations in the post-COVID age, means CIOs must adapt radical change. The only route to success is tighter central control and active investment in modern methods.

Tips

- Avoid betting on legacy upgrades as a future business strategy
- Pilot new techniques at the corporate centre rather than allowing local experimentation
- Use software as a service as an evergreen solution to back-office challenges



# Tofu with black beans and red pepper

Serves 4, with rice

- 400g extra-firm tofu
- 2 heaped tbsp fermented black beans
- 2 red peppers
- 10 spring onions
- 1 red chilli (optional)
- 2 tbsp sunflower oil
- 2 tbsp dark soy sauce

For the marinade:

- 2cm piece of fresh ginger, grated
- 1 clove of garlic, grated
- 2 tbsp rice wine
- 2 tbsp light soy sauce

To serve:

- A few coriander leaves, chopped
- Boiled rice

Marinate the tofu first. Drain it and cut it into 1.5cm cubes, put them in a large bowl and then add the marinade ingredients. Stir gently, cover the bowl and set the tofu aside for at least 30 minutes. Soak the black beans in warm (not hot) water for 10 minutes or follow the instructions on the pack.

Chop the peppers into small pieces or fine strips, slice the spring onions and prepare and finely slice the chilli (if using). Drain the beans. Put a wok over a high heat and add the sunflower oil. Carefully lift the cubes of tofu out of the marinade; cook them in batches, or they will steam instead of frying. Put the tofu cubes in the wok – it will spit – and allow them to sizzle on each side, crisping them up. Lift them out and set them on kitchen paper to drain.

Once they are all done, add the chopped vegetables and dark soy sauce to the wok and stir fry for a few minutes. Carefully add the tofu cubes and any remains of the marinade, and cook the tofu until it is tender but not breaking up. Scatter with the coriander and serve immediately, accompanied by boiled rice.



The favourite dish of Jennifer Gearheart-Tang

## SECTION 3

# WHAT IS EXPECTED OF TOP-RANKING IT CHEFS AND THEIR SUPPORTING TEAMS?



*“Every member of the IT kitchen team plays a pivotal role in enabling sustainable and successful change”*





As the journey towards digital continues to accelerate across the globe, CIOs are expected to play a central role in helping their peers navigate the emerging digital terrain. The increasing pace of technology-driven innovation calls for closer engagement between IT staff and their business counterparts. In this respect, the CIO becomes the orchestrator of change across the business. Working under this orchestrator, every member of the IT kitchen team plays a pivotal role in enabling sustainable and successful change.

### Deciphering the DNA of the Master Chef

The style of IT management is changing and so is the DNA of successful technology leaders. CIOs can no longer continue to adopt a static, top-down approach, with many moving parts to manage. On the one hand, CIOs must put in place effective governance to ensure the cohesion of all IT-related activities. On the other, they need to encourage local experimentation and ideation to help the business embrace change. Charlie Forte, CIO of the UK's MoD, described this dual role as the 'yin and yang of IT management'. Here's how the best IT chefs are adapting their leadership styles.

#### *Sharing the vision – propagating the big 'why'*

In an increasingly uncertain world, CIOs must put forward a compelling vision that is credible to all business partners and that helps motivate IT staff to achieve moon shots rather than incremental steps. Getting people to buy into this vision requires full trust and understanding from peers at the executive level. CIOs must also develop an ability to tell compelling stories.

#### *Leadership is about nudging and coaching*

Several CIOs that we interviewed have split their large IT organisations into small units of just five to ten staff, or what Amazon calls the 'two-pizza team'. This approach enables the teams to be more agile when generating and testing ideas. It also places a different responsibility on the shoulders of the CIO – one of nudging and

coaching, rather than commanding. Top IT chefs encourage continuous learning and curiosity among their staff.

#### *Personal qualities are all-important today*

The profile of the CIO has never been more critical to achieving an effective leadership approach. IT is frequently ahead of other functions in applying new methods and tools. In a world dominated by technological innovation, this focus on personality remains a prerequisite for top IT leaders.

The rapid churn in top-level IT appointments illustrates both the shortage of top chefs and the increasing number of prizes on offer to attract pioneering CIOs to large and complex organisations. CEOs would be well-advised to recognise and reward unique talent as we enter the digital era.

### Assembling a dream team for your digital kitchen

The role of IT, and its structure within the broader business, has evolved constantly for decades as new technologies, tools and vendors have swept into the sector, often generated by innovative start-ups. Computer science is still a relatively young profession, blossoming in the 1980s and maturing in the third millennium. However, there is little indication that developments have slowed down recently, as illustrated by the transition to the cloud, the rise of big data and the uptake of Agile development. In fact, IT leaders believe the coming decade will generate even more demand for technology talent than preceding periods.

A new breed of talent is now required that can bridge the gap between technology and business. This capability needs to understand the potential of new technologies, but at the same time relate these advances directly to the specific business context. In the words of Tarun Kohli of Swiss Re, we must learn, unlearn and relearn constantly to maintain our capabilities.

### ***Expanding IT competencies for the digital age***

Leading CIOs constantly expand and improve the range of capabilities they offer to their business partners. Attention is often focused on developing specific areas of competence with appropriate leadership. In many leading organisations, the CIO has chosen to establish a digital ‘community of practice’ that encourages the sharing of techniques and experiences within a continuous learning context.

### ***Sourcing and retaining talent***

Many large organisations struggle today to recruit and retain the talent they need to fuel their digital transformation programmes. This is especially true in the government sector, where wages might not be as high as in some private industries, such as financial

services. Equally, ambitious millennials see start-ups and digital natives as exciting places to work. Leading CIOs within large incumbent organisations must offer compelling visions to the market to win the battle for talent.

### ***Setting the pace***

There are notable variations among IT staff when it comes to pace and ambition. Take the CIO of a large public sector organisation, who recognised he has sprinters, runners, walkers and those who don’t move. His preference is to encourage the sprinters and runners in the hope that the rest will catch up. The severe shortage of digital skills means CIOs must develop closer partnerships with academia to harvest new talent as it emerges into the market.



There are few professions that compare to IT. Imagine a constantly changing menu, which is supported by a kitchen that demands new skills monthly and replaces its top chef at two-year intervals. Running this kitchen successfully is no easy task. The IT cookbook approach that we offer here provides valuable lessons for all those who simultaneously work in the kitchen, manage their staff and contribute to the success of the broader establishment.

### ***Developing winning cultures that promote better collaboration and communication***

Culture pervades every organisation, large and small, and has a strong influence on how staff behave – especially when change takes place. Within the context of digital transformation, culture can be an unhelpful roadblock unless it is addressed head-on. As many executives will admit, culture is hard to decipher and even tougher to change.

But do we understand what culture is? According to the dictionary, culture is an umbrella term that encompasses the social behaviour and norms found in any human society, as well as the knowledge, beliefs, arts, laws, customs, capabilities and habits of the individuals in such groups. Culture is a complex topic and its effective management requires both empathetic and analytical skills. While many CIOs have had successful careers by applying well-tuned analytical skills, social and empathetic qualities are equally important to IT leadership excellence today.

Here are some of the most enlightened examples of how leading practitioners are helping their organisations to build winning cultures that can promote collaboration and communication.

### ***Bringing the voice of the customer into every conversation***

In times of economic turmoil and rapid change, many organisations look inwards to try and discover

their future. This inward-looking approach has been compared to arranging the deckchairs on the Titanic. In contrast, the most successful Master Chefs and their teams use an ‘outside-in’ approach that brings the voice of the customer into every conversation. This approach has a galvanising effect on culture and is often seen as the most effective way to deal with a volatile and uncertain world.

### ***Learning a few tricks from our Asian friends***

By adopting a culture of continuous improvement, leading Japanese car manufacturers such as Toyota have long succeeded in building reliable cars that outstrip their competition. Although newcomers such as Tesla might upset this apple cart once in a while, most industries can evolve progressively by emulating cultures that promote continuous learning and improvement. This approach is akin to organic life, which has survived through adaptation for many millennia.

### ***Promoting diversity to encourage higher levels of innovation and creativity***

Traditional IT organisations have followed a well-trodden path for hiring and developing engineering talent. However, this talent is often male-dominated and frequently middle aged. This recruitment policy has supported a stable regime of waterfall development and optimised underpinning infrastructures. In the emerging world of design thinking and Agile development, organisational approaches to diversity and inclusivity must extend across individual characteristics, values, beliefs and backgrounds.

To be successful in the emerging digital era, Master Chefs need to address many of the softer issues that have been noticeably absent in stable market situations. Dealing with these concerns includes developing adaptive cultures, digital skills and agile organisations. This focus on softer issues calls for a balance of left- and right-brain capabilities that are defining the next generation of successful digital leaders.



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# SEVEN

## DECIPHERING THE DNA OF THE MASTER CHEF

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This cookbook showcases the achievements of Europe's digital leaders. But what are the personal capabilities that support the outstanding accomplishments of these Master Chefs? This chapter reveals the many qualities that characterise a successful leader. Foremost are curiosity and passion for business innovation and transformation.

Ferrovial is a global leader in construction, which is a sector known for its conservative approach to technology-led innovation. The group chief information and innovation officer (CIIO) recognised that the corporate centre must be the active eyes and ears around which emerging technologies can add value in a highly decentralised global organisation. To operationalise this vision, he established centres of excellence for automation, knowledge-sharing and artificial intelligence. These centres helped transform the operational activities across the different businesses within the group.

The COO of Kensington Mortgages, a leading UK provider of specialist loan products, recognised that exceptional business circumstances, such as the coronavirus pandemic, also create opportunities for

growth. He completed a root-and-branch review of the organisation covering workplace, workforce and workflow. This review ensured that the best resources and technologies are deployed to help the business maintain market leadership. His approach is encapsulated by a three-pillar model that is based on data analytics, technology and digital capability.

To identify the essential ingredients for success in digital leadership, it is also useful to turn back the clock and examine how senior careers have evolved over the decades. In the final recipe in this section, the CIO of the Houses of Parliament Restoration and Renewal project typifies how a wide range of past experiences prepare a leader for success in today's turbulent and fast-changing world. One of the key strands in his story is an elucidation of the way in which cloud platforms have contributed to improvements in government performance.

The consistent theme across our digital leaders' recipes is the breadth and depth of digital experience they have gained across a multitude of public sector and private business capacities. These experiences have added new flavours to winning menus.



# Ferrovial

## A chef for all seasons

### Ingredients

- Curiosity and a passion for everything new
- Ability to simplify complex problems so they become simple solutions
- Follow ideas through to execution

### Preparing the dish

Take a well-seasoned executive with wide experience in consultancy, large corporates and start-ups, and place him as CIO in a global environment, and you have the recipe for innovation and transformation. That's the perfect description of Dimitris Bountolos, who joined Ferrovial in 2020 to take up his current group role as CIO. Ferrovial is a Spanish multinational company involved in the design, construction, financing, operation and maintenance of transport infrastructure and urban services.

A taste for transformation means Dimitris is always on the search for fresh ingredients for success: 'I feel like a free electron, bouncing left to right and up and down to keep the atom moving towards its target.' With a deep curiosity for everything new, he and his central team are addressing complex problems and opportunities on behalf of the group. He brings a unique ability to simplify and execute business solutions across a highly distributed landscape that includes semi-autonomous businesses such as Heathrow Airport.

### Making changes from the top

One of Ferrovial's primary functions as a construction and operating company is to manage risk. In a post-COVID world, where change has become a new constant, the future has never been more uncertain for all the company's distributed businesses, from aviation and transportation to roads and utilities. This uncertainty

poses unprecedented challenges when it comes to predicting demand for services. Rapid technological change adds another radical ingredient to that mix. From 5G to 3D printing and on to AI, blockchain and IoT, Ferrovial faces a tech-led inflexion point that could transform the construction sector, which has traditionally been stable and conservative, in the coming years.

On his arrival, Dimitris was presented with a five-year corporate strategy, Horizon 24, that set out a new path for the company. His challenge was to convert this far-ranging strategy into manageable chunks that could produce great results across a widely dispersed set of national organisations and local construction projects. Overcoming this challenge means his staff have had to work at group level to connect more closely with local communities and partners to execute fundamental changes.

### Building momentum for change

Given the highly decentralised nature of the company's global operations, Dimitris has adopted a multi-layered approach to disseminating his recipes for change across the group. This approach has fostered a connected change environment:

- Establishing centres of

excellence at group headquarters in Madrid, which includes both technical experts and product managers;

- Connecting operating units such as large construction sites by providing knowledge-sharing tools enabled through a digital workspace;
- Working with external partners such as MIT to harvest the latest techniques within construction, including 3D modelling and asset management;
- Encouraging gender diversity to help accelerate innovation.

### Creating a three-level approach to business innovation

Dimitris believes innovation takes place at three levels: workplace, workforce and workflows. He recognises that a hybrid way of working will persist well beyond the coronavirus pandemic. This new form of workplace will require far higher levels of electronic connectivity within and between operating units to share best practices. His vision is to create a group platform for knowledge-transfer that will operate on any device at any location across the globe.

Dimitris is a fan of workforce centralisation, where his core team of 150 experts based in



*"Innovation takes place at three levels: workplace, workforce, and workflows."*

**Dimitris Bountolos**, CIO, Ferrovial



Scan code to watch the full interview.



Madrid can fashion new ideas and oversee execution across the group. He recognises that large operating companies such as airports will need their own IT staff. However, they can also benefit from group-led ideas and investments. Given the ever-expanding pipeline of technological innovation in construction, he says innovation activity needs to be coordinated to maximise commercial returns.

One of Dimitris's priorities is the automation of workflows. He believes the potential for RPA is exponential and is keen to keep a tight grip on the technology's implementation, particularly given the diversity of suppliers and techniques in today's market. He is already selecting partners such as UiPath to guide RPA developments across all business units. He recognises that AI will be a powerful tool in helping to break down organisational silos and is keen to manage how this technology is exploited from the centre on behalf of the group.

Defining the qualities of a Master Chef

As head of both innovation and IT, Dimitris is keen to preserve a careful balance between ideation (right brain) and execution (left brain). He achieves this balance by helping to stimulate individual initiatives within the company's businesses, while also capturing and amplifying successes through his human networks and centres of excellence. He believes that group functions should be catalysts for innovation because of the pressures on operating units for short-term performance outcomes.

Driven by curiosity, Dimitris constantly looks for weak signals in emerging areas of technology such as AI. Spotting these signals early and testing their viability enables his team to stimulate business innovation in a timely fashion. Once again, this approach exemplifies how he believes the need for coordination at group level is apposite, especially given the potential for replication within relatively autonomous business units.

One of the critical capabilities of a Master Chef is to structure the solutions to complex problems. This is something Dimitris learnt as a consultant at McKinsey. He uses frameworks to convert these problems into simpler solutions that can be executed in practical situations. This approach provides a bridge between the centre (ideation) and operating divisions (execution). Each new idea that is treated in this way can produce compelling narratives that encourage adoption across the company's many operating units. Storytelling is a principal asset of today's digital leaders in all aspects of innovation and transformation.

Tips

- Stimulate individual innovation
- Listen for weak signals
- Harness all such innovations at group level



# Kensington Mortgages

## Designing an agile and adaptive operating model to support growth

Ingredients

- A strong shared vision that helps unify corporate culture
- Automation of administrative activities to increase efficiency
- Application of data analytics to improve decision-making processes

Preparing the dish

As a respected CIO, CDO and CTO, Mark Foulsham was well prepared for his next step up the career ladder when he became COO at Kensington Mortgages in 2019. With a 25-year heritage, Kensington is the UK's

leading specialist mortgage lender. It serves fast-growing segments, such as self-employed individuals, people with multiple incomes and those aged over 55.

Mark recognised the exceptional opportunities for Kensington to deal with increased demands for specialist mortgages, loans and servicing in an ever-increasing digital ecosystem. He also knew that big high-street banks were not well equipped to deal with such specialist needs.

'The challenge from the outset was to accommodate growth whilst increasing efficiency and remaining compliant in a highly regulated sector,' says Mark. The solution was to design a new operating model that was both agile and adaptive to fast-changing market requirements.



*“Leaders of the future will be able to adjust rapidly to changing circumstances.”*

**Mark Foulsham**, COO, Kensington Mortgages



Scan code to watch the full interview.

### Reinventing the business

Mark says Kensington’s business strategy is all about establishing a model for growth that takes advantage of societal shifts due to the pandemic, including home working and technical advances in areas such as automation and data analytics. His plan includes three connected elements:

- Remodelling the workplace to reflect a new era of hybrid working
- Realigning the workforce to create an agile and adaptive organisation
- Introducing new technology, including automation to increase growth-related functionality and to reduce the administrative workload

The unifying factor linking all these elements was a shared vision of how technology could help the company meet its objectives and support the creation of a more flexible and collaborative culture.

### Changing the workplace and workforce

The move to home working during the pandemic was an important catalyst for re-examining the role of the workplace. Mark says corporate offices in the post-pandemic era will have a specific purpose around building teams, encouraging collaboration and developing

people. Other types of work, such as administration and meetings, can be undertaken at home effectively.

He recognises there are wide variations in terms of where people live and how much space they have in their homes. To access new sources of talent, Kensington has broadened its recruitment beyond south-east England to the whole of the UK. Despite greater geographic dispersion, Mark feels that all employees should meet occasionally to maintain cohesion and ensure less-experienced staff gain from working alongside more senior colleagues.

The extensive use of video-conferencing technology has helped to flatten hierarchies and made it possible for managers to check-in regularly with their teams regardless of location. This access has boosted flexibility and helped create a more adaptive workforce within Kensington during the past two years. In this increasingly virtual organisation, Mark says leaders must trust their staff to do their jobs: ‘Supervision is all about measuring outcomes rather than inputs.’

### Automating workflows

Mark has paid special attention to the core processes that underpin Kensington’s business operating model, such as loan authorisation, customer acquisition and retention, and performance reporting to

investors. The latter is especially important as the firm is backed by private equity.

During his first months as COO, Mark restructured his teams to support improvements in process performance. Two case examples illustrate how he was able to introduce tangible improvements:

- Extending RPA to support colleagues at the front end of the business. Robotic process automation has minimised

administrative tasks such as document management and helped to maximise time spent with brokers and end customers. This successful application reinforces the firm’s overarching culture of customer centricity.

- Using data analytic tools such as Microsoft’s Power BI to generate insight that improves the quality and granularity of decisions that affect internal operations and external customer experiences. The company used these

techniques to shorten the loan approval time from twenty to five days – a key competitive advantage in the mortgage marketplace.

### Aligning IT to support the new operating model

Mark has adopted a three-pillar model to ensure that IT supports fast-evolving business requirements. The three pillars are: technology, data analytics and digital capabilities.





When it comes to technology, Mark wants to build strong external partnerships. He believes key partners such as banking-technology specialist Sopra can provide contemporary core infrastructure solutions in an increasingly commoditised world.

In contrast, Mark believes data is a core asset of the organisation. He says any tools and capabilities, such as Power BI and data science skills, should reside within the organisation. Finally, Mark has focused on developing digital capabilities around tailored customer solutions. This focus helped the company to meet the requirements of both brokers and customers, increasing the relevance of products matching customer needs and supporting brand loyalty.

Defining the qualities of a Master Chef

Earlier in his career, Mark used his IT leadership position to help pull solutions together from across different functions. He refers to his tactic as ‘joining the dots’. Since he always looks to work across functional boundaries, Mark has often been asked to take responsibility for closely related activities, such as procurement and risk management. This cross-boundary working has served him well before and now as COO at Kensington Mortgages.

Mark believes the right language is crucial to gaining greater responsibility and influence within an organisation. Instead of talking about technology stacks, he prefers to focus on business phrases such as earnings and customer impact. His attention is centred on the three key outcomes that relate to his revised business model: growth in revenues and profits, operational efficiency and regulatory compliance.

His guiding principle is to be open and honest, and to have an ability to listen to others. He believes the leaders of the future will be able to adjust rapidly to changing circumstances.

Tips

- Learn to ignore functional boundaries
- Recognise that not making a decision is the worst thing you can do
- Trust people to do their jobs and focus on outcomes
- Be mindful of context – consider the impact of decisions on others



# Restoration and Renewal Authority

## No challenge is too big for a Master Chef

Ingredients

- A constant search for areas where technology has a transformation impact
- Recognition that cloud platforms will transform both IT and business effectiveness
- Ability to combine strategy and vision with a strong focus on execution and outcomes

Preparing the dish

As we search for the DNA of Europe’s most successful Master Chefs, we roll back the clock to discover the primary ingredients that have helped shape and form the successful career of Martin Bellamy. Martin is now CIO of the Houses of Parliament Restoration and Renewal Authority where he is putting digital at the heart of restor-

ing the Palace of Westminster. His career achievements across more than 40 years illustrate the steps necessary to achieve a top rank in every field of endeavour.

Understanding that no challenge is too big

Martin’s career has been guided by a simple adage: ‘seek out the big challenges and plan for success’. By design rather than by chance, he has chosen jobs in sectors where he has been able to foresee technology having a high impact. This has enabled him to contribute to some major changes.

His career began in the financial services sector prior to the introduction of personal computers. At that time, in the 1980s, Martin predicted the dramatic changes that he could help shape:

- He led an undergraduate project at Imperial College



*"Seek out the big challenges and plan for success."*

**Martin Bellamy**, CIO, Houses of Parliament Restoration and Renewal Authority



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London to build a business case for a UK cash-dispensing network for a leading bank;

- At Reuters, he was involved in the development of a pioneering digital TV service, and a news search engine, well in advance of Google, to provide traders around the world with up-to-date news throughout the business day.

After nearly 20 years in financial services, Martin believed his next move should be into the public sector, where historic under-investment in technology offered major opportunities for innovation and development. This was supported by his personal commitment to public service:

- At the UK's Department for Work and Pensions, he helped orchestrate a dramatic transformation that reduced the elapsed time for claiming state pension from six weeks to 15 minutes, simultaneously enabling a 50% reduction in workforce at the department.
- In Her Majesty's Prison and Probation service, he oversaw the national deployment of a case and risk management system that improved the overall efficiency of the department.
- At the University of Cambridge, he established what was the UK's most powerful academic

supercomputer, accommodating petaflop processing on petabytes of data.

- At the Financial Conduct Authority, he instigated a cloud programme to enable the organisation to respond to rapid changes in the regulatory environment.

Having pioneered many developments in financial services and the public sector, Martin has chosen now to focus on construction through his new role as CIO of the Houses of Parliament Restoration and Renewal Authority. While construction has traditionally not been one of the leading investors in digital transformation, a rapid catch-up is now underway.

### Pioneering UK government cloud policy

One of Martin's landmark achievements has been his contribution to cloud policy across the UK public sector. Appointed by the Cabinet Office in 2010 as inaugural director of the G-Cloud framework, he developed a comprehensive government strategy for adoption and deployment of public cloud services. This development was necessary to enable government departments to release the vice-like grip of just a few dominant IT vendors on lucrative IT contracts.

To undertake this task, Martin succeeded in co-opting 120 external, voluntary resources to establish a cloud policy and develop a government cloud services store. This approach has become a gamechanger for suppliers and government departments in their quest for more flexible and responsive partnerships with the vendor community.

Imperial College London took an

academic interest in Martin's work, and he completed a PhD in cloud computing in 2014.

### Demonstrating the benefits of cloud platforms

Through his work with G-Cloud, Martin was early to recognise the strategic value of cloud as an all-pervasive IT and business platform.

In this respect, cloud has opened

the door to replacing individual responses to user requirements with a more generic capability based on cloud services, especially in the case of software as a service (SaaS), which offers 'evergreen' solutions to functions such as finance, HR and customer relations.

Cloud also provides a modern architecture that can support Agile development tools – reducing IT responses from years to months





or even weeks. Generic capabilities can help productise IT services, with subsequent quantum improvements in efficiency.

Detailing the changing role of the CIO

By adopting cloud and simplifying service delivery, the CIO can focus on business-related opportunities. Martin foresees an evolving portfolio of responsibilities for the modern CIO:

- Business innovation – how can technology contribute to business outcomes?
- Building capability to implement the vision – empowering people to get things done;
- Establishing and sustaining a technical community of practice to support business;
- Focusing on delivery to ensure that full value is achieved in every project;
- Strengthening IT governance at every level by engaging top executives.

Defining the qualities of a Master Chef

Martin is confident that IT and the position of the CIO remains stable and secure over the coming decade due to the innovation challenges that organisations must resolve as they become digital businesses.

He recognises that with the advent of quantum computing, cybersecurity will remain high on the CIO’s agenda. He believes that we are approaching a pivot point for automation as new tools such as RPA and ML become commonplace. He also foresees the convergence of IT and operations in areas such as manufacturing, distribution and construction.

In all these respects, the challenges of applying and securing IT systems will continue to demand specialist expertise within businesses of all kinds.

Tips

- Seek out the big challenges and plan for success. Agree achievable goals, construct a realistic plan and never be deterred by challenges, as you might be just a step away from success
- Choose sectors where technology has yet to have a fundamental impact
- Be participative – recognise that the whole is often greater than the sum of the parts
- Balance in life is essential, including family, physical wellbeing and personal integrity

Makes a 23cm diameter torte

- 450g dark chocolate, minimum 85% cocoa
- 225g unsalted butter, or 100ml coconut oil and 125g butter
- 50g coconut sugar
- 6 tbsp clear honey or coconut nectar
- 1 tsp vanilla extract
- A pinch of ground sea salt
- 50ml coconut milk or Bailey’s
- 6 medium eggs

The favourite dish of Margaret Dawson

Gluten-free dark chocolate torte

Preheat the oven to 180°C/fan 160°C/GM 4, and lightly grease a 23cm ceramic flan dish with butter or spray with coconut oil. Do not use a loose-bottomed tin.

Break up the chocolate into small pieces and put them in a large mixing bowl. Cube the butter and add that to the bowl (with the oil, if using a mixture), then add the coconut sugar. Cover the bowl with cling film, pierce a few holes in it and microwave the chocolate mixture very briefly until it is soft but not molten.

Whisk the mixture until smooth. Add the honey and the vanilla extract, plus a little salt, and whisk thoroughly again. Then add the coconut milk or Bailey’s and stir that in. Now add the eggs, one at a time, and whisk the mixture smooth after adding each one. Stir the mix gently to make sure everything is blended together.

Pour the mixture into the prepared flan dish using a rubber spatula to ensure nothing is wasted. Put the dish in the oven and bake the torte for 20 to 25 minutes. Check at 20 minutes; it should still be a bit glossy and wet in the middle. If you wait until it looks fully baked, it will be too dry; it will continue cooking and solidifying after it is removed from the oven.



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# EIGHT

## A DREAM TEAM FOR YOUR DIGITAL KITCHEN

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As the pace of digital transformation hots up in the aftermath of the coronavirus pandemic, IT is being challenged to deliver great results across an ever-increasing pipeline of work. CIOs have adopted new approaches to recruit, deploy and support the best digital resources available globally.

For Euronext, Europe's largest equity trading organisation, the combination of a new microsecond-based trading platform and the integration of several acquisitions called for a rapid expansion of IT and related business resources. This was met in part by a new centre of excellence based in Portugal, combined with expanded links with leading universities that encourage accelerated learning.

At Maersk, the world's largest logistics company, the CIO inherited a fragmented team of IT professionals that was failing to meet business needs. To address this shortfall, he developed a mission and set of processes that have enabled staff to engage more actively with end customers, backed up by Agile methods and a clear focus on business outcomes. The turnaround has been

decisive and has won huge recognition from Maersk and its customers.

At leading pharmaceutical company AstraZeneca, the need to develop a vaccine in months rather than years posed a formidable challenge for innovation teams. Automation tools such as RPA and AI have provided a practical way of amplifying the contribution of human talent to meeting stretched business goals.

Traditional waterfall development methods were found to be inadequate at Norway Post, an organisation with a 400-year heritage. The CIO has introduced new methods based on design thinking and Agile development to enable his cross-functional teams to create innovative solutions faster and more effectively than through traditional methods.

Across all these four recipes, team empowerment, shared learning and cross-functional working feature heavily, as does the need to focus available resources on the most value-intensive tasks.



## Euronext

### Managing and empowering a busy kitchen to deliver great results

#### Ingredients

- Multilingual, multicultural IT resources
- Access to expertise outside the organisation
- A culture of empowerment combined with control

#### Preparing the dish

Manuel Bento is the CEO of the Technology Centre of Euronext, based in Portugal. Manuel is also CTO of the group holding transversal functions such as managing diverse global teams that include Cybersecurity, IT Operations, Infrastructure and Cloud Services, Enterprise Architecture and Corporate Functions.

Euronext is the leading pan-European market infrastructure and it operates regulated exchanges

in Belgium, France, Ireland, Italy, The Netherlands, Norway and Portugal. As of the end of September 2021, it had close to 1,920 listed issuers and around €6.5 trillion in market capitalisation. Since his arrival at Euronext four years ago, Manuel has been busy supporting the development of the next-generation trading system, integrating new acquisitions, mainly stock exchanges and other companies that operate in the capital markets, and expanding his team to more than 300 staff across Europe. He says access to fresh talent is critical for the business: 'The only way to grow skills is to empower people and guarantee that they have success.'

#### Preparing the team to develop and support a new trading system

One of the biggest challenges facing Manuel and his IT organisation since his arrival was to make sure the team





*"The only way to grow skills is to empower people and guarantee that they have success."*

**Manuel Bento**, CEO, Technology Centre of Euronext



Scan code to watch the full interview.

was ready to develop and support the next-generation trading system. The trading system is the core of the stock exchange, and the new-generation trading system was essential to support the acquisitions of new stock exchanges. Creating new systems was a complex task because of the need to implement trading algorithms and the requirement to add new expertise. Manuel recruited 150 staff in Portugal, where he was able to take advantage of fast-improving economic conditions.

One of the key attributes of the new trading system is the speed of operation. The platform can run transactions in microseconds rather than milliseconds, which is the situation in other parts of the business. These super-fast speeds can only be achieved by adopting specific software languages, such as C++, and by running trading calculation in solid-state rather than using disk memory. In order to find specialist expertise and to attract appropriate skills, Manuel reached out locally to both universities and companies.

A key success factor for the project was the constant support that Manuel has offered, together with colleagues in other locations. He attended daily progress calls with multinational teams in Porto and Paris, and weekly calls with customers. He believes a close connection with customers is

vital for business leaders who want to innovate.

### Growing the IT kitchen

In addition to the introduction of the new trading platform, named Optiq, the IT organisation has been working on the integration of stock exchanges across Europe. Manuel has adapted the size of his original team in order to cope with these new demands. Once again, he also ensured that he maintains constant communication with Euronext's customers. His tactics to attract and retain talent include:

- Exploiting the Euronext brand, which is well known across Europe and generates a constant pipeline of talent;
- Placing staff into challenging projects, with sufficient freedom and empowerment to enable them to learn constantly on the job;
- Expanding the scope of the IT team's projects to include business as well as technical aspects, which offers workers the opportunity to expand their expertise.

One distinct advantage of being located in Portugal is the country's ready availability of multilingual talent, especially MBA students. Manuel says that this broad base of languages is an essential ingredient for a company looking to create a multicultural team



that is able to operate seamlessly across national boundaries.

### Establishing a security team

Manuel also supported the chief security officer (CSO) role at Euronext. He is responsible for a dedicated security team that has four main duties:

- Regulation and risk assessment;
- Engineering security into IT solutions;
- Penetration testing and risk mediation;

- Security operations to monitor infrastructure.

Manuel is keen to encourage diversity within his team and has recruited talent from a variety of sectors. To enable the team to reach critical mass quickly, he has combined young, high-potential staff with mature and experienced professionals. This mix gives younger staff the opportunity to develop rapidly on-the-job and to learn from their more experienced colleagues.

### Defining the qualities of a Master Chef

In a high-growth and increasingly digital environment, Manuel has focused on building a capable team that is constantly learning and adjusting to its new environment. As responsibilities broaden from trading operations and security to the central role of data within Euronext, Manuel has worked hard to ensure his staff are involved in every aspect of the business – and that includes a constant dialogue with key customers.

His view is that the team will only manage to constantly improve and adjust if they are empowered to make important decisions. Manuel has a combination of personal qualities that contribute to the success of his team:

- A strong focus on execution. Manuel believes that tough challenges are an essential ingredient for personal and team development. He also recognises that control is necessary to keep projects on track and to deliver stretching outcomes.
- A concentration on constant study. Manuel believes education and experience are crucial to helping people grapple with changes in business and technology, and says, 'Success in the past does not guarantee success in the future'.
- An honest approach to situations. Being honest helps teams to communicate more effectively and avoid blind alleys. Manuel believes honesty and pragmatism

are guiding principles when it comes to leading his teams in a challenging business environment.

Manuel advises future leaders to take account of context and to be adaptable to change. As a person who thrives on change, he welcomes the ever-more complex and innovative environments of trading markets as we move closer to a digital world.

Tips

- Having strong leadership qualities such as honesty and commitment
- Grasping the potential of emerging technologies
- Taking a pragmatic and results-driven attitude to team management
- Staying close to the business



# Maersk

## Empowering a world-class kitchen team

Ingredients

- Use data to speed up decision making across global IT
- Adopt Agile and Scrum to improve responsiveness
- Seek new technology-enabled opportunities to grow revenues

Preparing the dish

Rui Pedro Silva joined Maersk Logistics and Services in 2016 as global head of customer technology. Maersk is a Danish integrated shipping company, which is active in ocean and inland freight transportation and associated services, such as supply chain management and port operations. It has been the world's largest container

shipping line and vessel operator since 1996. The company is based in Copenhagen with subsidiaries and offices in 130 countries, employing 83,000 staff.

In his global IT role, Rui (who was recently appointed chief digital and information officer at ERIKS Group) was responsible for all aspects of technology relating to major customers such as Nike and Samsung. Despite the critical nature of the IT function, Rui was dismayed to find that the reputation of his team was extremely poor, with some businesses describing it as a cancer. His task on joining the company in 2016 was to make rapid and sweeping changes to the IT organisation to redeem its reputation both internally and with external customers.

Breathing life into the patient

Rui inherited an unstructured global IT team, with decisions made in a slow and arbitrary manner. Despite





*"If you have a competent and experienced team, you just have to get them to work right."*

**Rui Pedro Silva**, former global head of customer technology, Maersk



Scan code to watch the full interview.

high levels of IT expertise, with some individuals boasting more than 30 years with the company, the teams were scattered across the globe with little coordination and no meaningful roles. There was a significant lack of data about current projects. It took Rui two months to gain a full picture of ongoing activities, which was unacceptable for a customer-facing IT function.

Rui's first priority was to develop a roadmap to clarify the purpose of his function. At the heart of the roadmap was Rui's desire for his team to be close to major customers. He wanted his staff to be able to respond quickly to changing customer requirements. Rui avoided being too prescriptive about steps along the roadmap, preferring his team to assume responsibility for individual tasks: 'If you have a competent and experienced team, you just have to get them to work right.'

### Building trust across the global team

The first stop on the roadmap was to ensure that everyone in the IT function embraced the mission of becoming a recognised centre of excellence for technology, both within and outside Maersk. There were four essential elements to achieving this mission:

- Building trust within the team by applying an empathetic

approach. Rui was keen to understand the sources of pain within the team, and to address them.

- Adopting modern methods such as Scrum and Agile to speed up project delivery and to engage customers throughout the development process.
- Focusing individuals on individual tasks rather than having them dispersed across multiple projects. The efficiency ratio, which measured this focus, improved from 7% to over 80%.
- Supporting the team with accurate and timely data that meant decisions could be made in minutes or hours rather than days or months.

Rui placed emphasis on empathy and trust as the means to improving his team's performance. His approach paid off handsomely. Using the same internal resources, he was able to increase team performance by more than 250%. At the same time, a customer satisfaction survey across Maersk indicated a high performance score of 4.3 out of 5.0.

### Creating new levels of personalisation

Having empowered his team to achieve top-level performance in day-to-day operations, Rui's next step was to concentrate on areas

that would truly differentiate Maersk as a global leader. Rui recognised that availability of goods in sectors such as fashion and electronics was becoming a key competitive factor. Fortunately, Maersk boasted full visibility across the entire supply chain, from raw materials and factories to shops and warehouses.

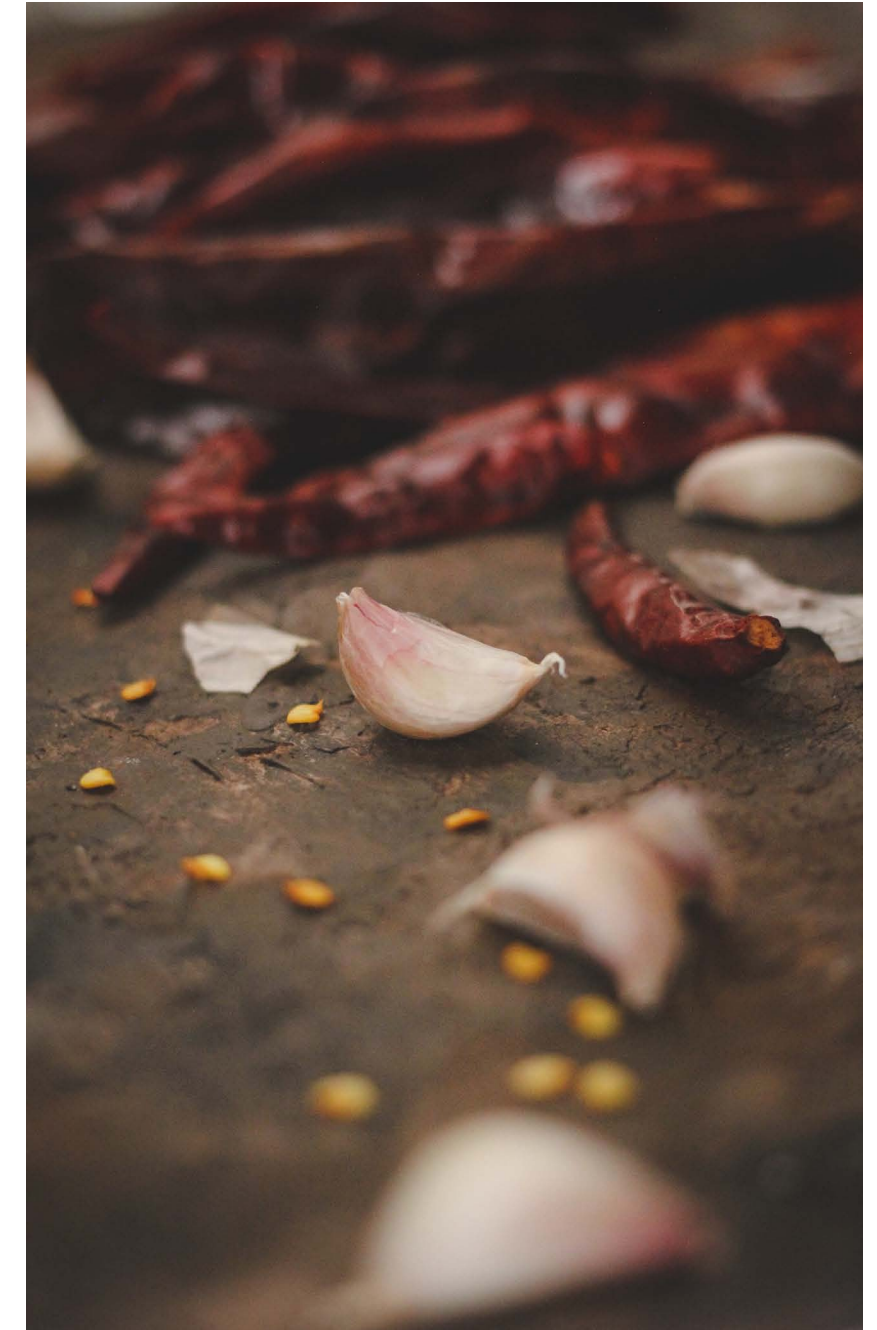
Equipped with predictive data techniques, Rui was able to offer his retail customers tools to locate and pre-assign goods at every stage of the supply chain. This process helped Maersk's retail clients to provide tailored solutions to individual customer requirements, such as pre-ordering a good when on vacation. This personalisation has boosted delivery reliability and cost efficiency.

### Reorganising the kitchen

Rui rapidly organised his function into two main streams across 14 countries:

- Requirement engineers or business partners who could work directly with internal and external customers to propose solutions;
- Staff who worked on technical products, which covered classical IT systems, such as ERP, and digital capabilities, including e-commerce and data analytics.

To make the new organisation effective, Rui introduced a range



of collaboration and communication tools to increase connectivity between his staff. Rui favoured face-to-face and video collaboration tools over audio because of his emphasis on empathy.

With a diverse and multicultural staff spanning 14 countries, Rui recognised that everyone in his team had their own opinions. He believes that encouraging people to think as well as act is an important motivator for success, especially in new areas such as e-commerce.

Defining the qualities of a Master Chef

The logistics sector is famed for its conservative approach towards the application of technology. In this context, Maersk might appear to be a less attractive destination for job-seeking graduates than digital natives and start-ups.

However, Rui has always stressed the potential for new entrants to make a difference. Maersk is a market-

leading company and technology staff at the company have significant opportunities to help innovate the customer experience.

His message to new recruits during his time at the company was clear: ‘You can work in any job, but you cannot always make a difference.’ This mantra helped Rui to attract people who understood his mission and were committed to making a big difference.

Tips

■

 Step up to what you believe in and don't give up

■

 Give people the benefit of the doubt – trust them

■

 Apply critical thinking to every aspect of your job

■

 Spend your time right – recognise that time is our most valuable asset



AstraZeneca

Leveraging technology as a competitive advantage

Ingredients

■

 Purpose-led mission and values

■

 Leverage technology to identify new business opportunities

■

 Bring your C-suite executives and board with you on your digital journey

■

 Engage strategic partners to work across ecosystems to co-create and co-innovate

Most recently it became known for its partnership in developing the Oxford–AstraZeneca COVID-19 vaccine. At the close of 2020, the company reported an annual turnover of \$26 billion, with 76,000 employees globally.

AstraZeneca has a predominantly insourced IT organisation comprising 4,800 internal staff. There are five separate verticals: R&D, Operations, Commercial, Alexion (AstraZeneca’s rare diseases subsidiary) and Corporate Services. Additionally, a number of horizontal technology services oversee innovation, architecture, data and AI, infrastructure, cybersecurity and enterprise capabilities.

Preparing the dish

AstraZeneca is a British–Swedish multinational pharmaceutical and biotechnology company. It has a portfolio of products for major diseases in areas including oncology, cardiovascular, gastrointestinal, infection, neuroscience, respiratory and inflammation.

In a post-pandemic world, the measure of digital success will be in how technology is used to identify new business opportunities and new therapeutic modalities. Cindy Hoots, CDO and CIO of AstraZeneca, identifies four key pillars as part of the company’s IT-2025 strategy:

Rui is now CEO at ERIKS Digital





*“When you focus on the people, you will get the results.”*

**Cindy Hoots**, CDO and CIO,  
AstraZeneca



Scan code to watch  
the full interview.

- Lead with AI and insights;
- Accelerate delivery and innovation
- Optimise how we run
- Be a great place to work

**Lead with AI and insights**

One of the IT organisation’s top priorities is embedding AI to fundamentally change the way they approach science, make a meaningful impact for patients, and run their business.

AI has played an integral role from advancing areas of drug discovery to enhancing their operations and ‘smart factories’ and providing data-led insights that help AstraZeneca gain a better understanding of the dynamics of their workforce. Additionally, AI plays an increasingly important role in the organisation’s cybersecurity efforts, enabling the IT team to proactively identify threats and risks at a much greater speed and sharpen their risk and management processes.

**Accelerate innovation and delivery**

Delivery in pharmaceuticals is measured in days and weeks not months and years. The organisation’s employees must acquire new skills and capabilities to rapidly meet the growing demand for innovation and speed of delivery. Successful teams are increasingly agile, proficient in

navigating ambiguity, and have a strong focus on outcomes.

The best teams are able to quickly identify products and services that can be enhanced over time instead of stalling decisions until the perfect solution is found. Leveraging AI, they are able to iterate different hypotheses rapidly with limited hesitancy to pivot at speed. Successful CIOs are those who create the right culture within their teams to embrace this mindset and help accelerate the innovation process.

**Optimising processes in IT and the rest of the company**

Optimisation involves looking at all the processes within a company with a fresh pair of eyes. IT teams should partner closely with business units to analyse processes with the intent of identifying areas of complexity, driving out waste and finding new ways of applying technology, such as RPA and AI.

One example at AstraZeneca has been the recent development of an AI assistant to extract medical terms from any adverse events during clinical trials. These are required for regulatory authorities but this task is traditionally incredibly manual and time consuming. Early estimates indicate this approach may lead to a 50% reduction in time taken (with potential cost savings). This tactical use of AI frees up staff to focus on



strategic rather than operational matters.

**Making the organisation a great place to work**

The key to attracting and retaining great talent is finding people whose passion and purpose mirrors that of your organisation. CIOs must connect these people to the company’s values at a deeper level and bring to life a purpose-driven mission that is aligned with personal goals.

One of AstraZeneca’s key values is ‘doing the right thing’ and with employee engagement measured at 92%, it’s a clear indicator that the

combination of a clear company purpose and the empowerment of teams to believe they can change the lives of patients through their work is critical to sustaining a great work environment.

This engagement manifests itself in staff becoming good stewards of company money. Every dollar spent must be impactful and deliver clear value. IT employees must work with partners to find cost-effective ways of delivering technology that ultimately increases overall patient access to cheaper and better healthcare. Essentially, every dollar spent to support the process has the potential to make the treatment less expensive for the patient.

Cindy has built and championed diversity within her team, where differences in cultural and personal characteristics are embraced and celebrated. Employees at every level are encouraged to build learning moments into their daily schedules and to seek on-the-job learning experiences to build breadth and depth of expertise. Cindy ensures that teams across her organisation have access to the right job opportunities, and encourages employees to move around different roles in the IT organisation and other business functions: ‘When you focus on the people, you will get the results,’ she says.

Defining the qualities of a Master Chef

Cindy believes that CIOs should focus on driving innovation and leveraging technology as a competitive advantage across the broadest spectrum of business functions. At AstraZeneca, Cindy’s focus is to leverage technology to drive better patient outcomes, modernise the business to be equipped for the future, simplify the lives of employees and define how the business ultimately works in a broader ecosystem to tackle some of the world’s most difficult problems.

CIOs continue to be uniquely positioned to help businesses navigate the world of digital and the impact this will have. While in many instances they still play a key role in running company infrastructure, applications, etc., the pandemic means CIOs and the transformative work they do have been pushed to the forefront. These CIOs have fresh opportunities to bring essential thought leadership to the boardroom, helping the business understand how to leverage technology as a competitive advantage and identifying new business models and potential adjacencies.

Successful CIOs combine vision with execution. Cindy is an inspirational leader who shares her vision of where she sees the company in the future. However, she is also

grounded and results-oriented, with an eye on the sharp execution of strategy. Rather than focusing on theory for too long, she believes value is created at the point of execution.

Cindy is passionate about her strong work ethics, integrity and above all her love for lifelong learning. She believes it is important to be a mentee as well as a mentor, and works with digital natives under the age of 25 to help ensure she and her skills remain relevant in a rapidly evolving landscape. Cindy’s aim for life is to leave things better than when she found them.

Tips

- Be inquisitive, curious and ready to learn
- Step outside your core job and participate in other areas to increase your breadth of knowledge
- If you do not have the confidence to do new things, have a healthy dose of courage and do it anyway
- Do not limit yourself; push the boundaries
- Focus on co-creating and networking with others



Norway Post

Learning to innovate greater value faster

Ingredients

- A clear, consistent innovation process that defines a learning journey
- A learning journey that consists of multiple stages
- Led by a cross-functional team and joint leaders, representing the interests of end users and the business – and the capacities of digital
- An innovation process that consists of a menu of different approaches – such as design thinking, Agile and Scrum – from which the team leading an initiative can select

Preparing the dish

Established in 1647, Norway Post is a Nordic postal and logistics group that develops and delivers integrated

solutions in postal services, communications and logistics, with the Nordic region as its home market.

Traditionally, business innovation at Norway Post focused on operational improvements. Leaders allocated funds in response to business cases developed by individual business units. The business unit then handled IT-related requirements. IT then developed the innovation using waterfall methods. Based on specifications set up at the start of a project, a team committed to a budget, scope and delivery date. The IT team was rewarded for meeting its commitments.

This anticipate-then-build approach produced valuable innovations. Using advanced digital technologies and algorithms, such as neural networks, Norway Post developed a system that could read handwritten addresses faster and more accurately than any other system in the world. On the mail side of the business,





Norway Post was considered to be one of the most efficient and automated mail companies in the world. The company's successes reinforced its commitment to its approach to innovation.

### Understanding what didn't work well amidst constant flux

Despite all the benefits, an anticipate-then-build approach wasn't right for the logistics side of the business. The delivery needs of logistics customers are unique and change frequently. A process of testing and learning was essential to figuring out what kinds of offerings would be desirable to end users, which were feasible to Norway Post and which made good business sense for all parties concerned.

Inspired by a successful effort within the company to develop a set of services in logistics, Norway Post adopted a new approach to digital innovation that delivered valuable offerings faster. The new approach discouraged pursuing innovations of little or no value, increased the likelihood of creating competitively advantageous innovations and helped Norway Post become more agile.

### Developing a new recipe for innovation: defining value

Norway Post introduced two fundamental changes to how it approached innovation. First, drawing on design thinking, Norway Post anchored the new approach in a careful definition of a valuable innovation. Valuable innovations can be measured by the degree of overlap of three attributes:

- Desirable – customers/end users wanted it;
- Feasible – Norway Post could provide it;
- Viable – it made business sense.

Traditionally, a team could develop an offering that was simply feasible. However, because the concepts of

desirability and viability were evolving as frequently as uses of digital technologies, it was important to revisit all three attributes and examine whether they overlapped to produce valuable innovations.

To put this new approach into practice, the company also redefined the innovation process into three phases, each generating a distinct set of insights:

- Boundaries of an opportunity (What do end users want? What is feasible for the organisation? Is there an overlap?);
- Offerings within an opportunity (If there is an opportunity, then what services are desirable, feasible and profitable?);
- Limits of an offering (If there is an offering, then to what extent is it scalable?).

### Developing a new recipe for innovation: empowered decision-making processes

The second change to how Norway Post approached innovation involved shifting decision-making processes from a top-down system to one built on empowered cross-functional teams. By giving a team of experts across the three key attributes – desirable, feasible, viable – decision rights over what offerings to develop and how, Norway Post expected to increase the velocity and speed of the value generated by individual efforts.

In the first phase, Explore, the team leading an innovation effort articulates and tests assumptions regarding the boundaries of an opportunity for valuable innovations. The team finishes the Explore phase when it has developed insights that either identify an opportunity that is desirable, feasible and seemingly viable, or reveal that such an opportunity no longer exists. If there is an opportunity, then it receives funding for the next phase, Create.

In the Create phase, the team develops and tests several potential solutions within the opportunity, building

minimum viable products (MVPs), testing how desirable, feasible and viable each is, and adapting them based on learnings. The team persists until it settles on one or more solutions to implement and scale, or until it reaches a point where it believes there are no viable solutions.

During the Implement stage, the team scales an MVP iteratively by incrementally adding new types of users and functionality.

### Defining the qualities of a Master Chef

Most companies are starting to empower cross-functional teams and encouraging them to take a test-and-learn approach. However, their outcomes often remain questionable. Norway Post's approach offers lessons on how companies can drive benefits from their teams by changing their targets and decision rights – and ensuring they fund and reward teams accordingly.

#### Tips

- Invest incrementally in hypotheses and reward teams based on outcomes. If not, it is time to rethink how your organisation funds and rewards innovation efforts
- Embrace the paradox that to innovate greater value faster, cross-functional teams need to take time to learn
- Make it safe to learn, rather than to fail

#### Sources (available at <https://cistr.mit.edu/>):

Nils Olaya Fonstad (2020), 'Innovating with Greater Impact at Posten Norge', MIT Sloan CISR Working Paper, No. 440, January 2020.  
Nils Olaya Fonstad (2020), 'Innovating Greater Value Faster by Taking Time to Learn', MIT Sloan CISR Research Briefing, XX, No. 2, February 2020.

# Sweet curd dumplings with plum compote

Serves 4

For the dumplings:

- 250g curd cheese
- 1 large egg
- 1 tbsp sugar
- About 2 tbsp plain flour

For the compote:

- 500g red plums
- 1 tbsp clear honey
- 50ml water
- 2 tsp brandy (optional)

First, prepare the dumplings. Beat the cheese, egg and sugar together in a bowl and add as much flour as necessary to bring them together in a soft but firm dough. Put the bowl in the fridge for 30 minutes.

Then make the compote. Chop the plums, discarding the stones. Put them into a non-stick pan over a moderate heat and add the honey and water. Stir thoroughly. As the plums cook they will begin to break up; add the brandy if using, allow the compote to cook down a little, and remove the pan from the heat. Pour the plums into a bowl to cool a little.

Put a large pan of lightly salted water on the heat and bring it to a boil, then reduce the heat to a gentle simmer. Take the dumpling dough out of the fridge.

Form the dumplings using two spoons – dip the spoons into cold water first and then use them to mould the dumpling mixture into ovals; this will make approximately 16 using teaspoons. Drop them into the water carefully and cook them for approximately 7 minutes with the water at a gentle simmer – if you use larger spoons and make fewer dumplings this takes about 10 minutes. They will rise to the surface; when they are just firm take them out of the water with a slotted spoon and drain them on kitchen paper. Serve with the compote, and some cream if wished.



The favourite dish of Nils Fonstad

# NINE WINNING CULTURES PROMOTE BETTER COLLABORATION AND COMMUNICATION

In almost every conversation about digital transformation our CIONET community stresses the importance of having a well-aligned organisational culture. Implicit within this dialogue is a diversity of thought and a strength of vision that inspires people to participate in the fundamental changes needed for success in the fast-emerging digital age.

At global HR services organisation SD Worx, change is brought about by embedding the customer into every conversation – whether that’s in the front or back office. This insertion has a galvanising effect on corporate culture. It induces a sense of common purpose and value at every level of the organisation. Equally, the focus on constructive dialogue between established and new operations helps to achieve a balanced business outcome.

One might expect global banks to feel threatened by enterprising start-ups operating in an open-banking environment. But in the case of Morgan Stanley, the change director is confident that a process of continuous improvement aligns well with the prevailing culture. By introducing the concept of guilds, she has

accelerated collaboration and learning across the bank to help accelerate change. She is also introducing a mentoring programme entitled ‘career allies’, which encourages tighter inclusion within a highly diversified workforce.

The Randstad Group in Belgium has an extensive global network of 360 offices. The CIO recognised the need to combine global capability with local solutions to compete effectively in every national market. A well-articulated portfolio management framework that incorporates Agile methods has helped to align cultures and skills across the company’s diverse geographic landscape.

Throughout the recipes in this cookbook, there are numerous references to diversity as a core competence for digital leaders who want to deliver a winning culture. This requirement for diversity extends beyond gender equality in IT departments, which remains out of balance in most parts of the world. Organisational approaches to diversity and inclusivity must extend across individual characteristics, values, beliefs, and backgrounds to ensure corporate cultures align with the emerging digital world.





# SD Worx

## Building an organisational culture for digital transformation

### Ingredients

- Digital transformation requires an appropriate organisational culture
- Organisations need to give explicit attention to culture in a digital transformation journey
- Certain cultural values are key enablers for digital transformation success

### Preparing the dish

SD Worx is a leading European payroll and human resource (HR) services provider. The company has its roots and headquarters in Belgium and provides solutions and services relating to the employment of

personnel that cover the whole employee life cycle: payroll calculation and administration, social legislation, international payroll and tax, and human resources in the broadest sense. Businesses can also turn to SD Worx for outsourcing their remuneration and all HR activities. More than 76,000 small and large companies around the world rely on the services of SD Worx. The company offers its services in 150 countries, calculates the salaries of around five million employees, and is one of the top five HR service providers worldwide. Its more than 5,300 employees are active in 18 countries: its headquarters in Belgium, Austria, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Luxembourg, Mauritius, Netherlands, Norway, Poland, Spain, Sweden, Switzerland and the UK. In 2020, SD Worx achieved a consolidated turnover of more than €825 million (pro forma).

SD Worx recognises the necessity of digital transformation. More specifically, SD Worx's services are digitised and will undergo further digitalisation in the future. The company considers this a logical and necessary response to changing customer expectations and behaviours.

In the context of this journey, SD Worx explicitly recognised the importance of organisational culture as an enabler of digital transformation success. The company took appropriate action to ensure that its organisational culture acted as an enabler of digital transformation. To this end, SD Worx focused on three cultural values: customer centricity, willingness to learn and communication.

### Focusing on customer centricity

At SD Worx, the customer perspective is carefully considered in every decision. Net Promoter Scores (NPS) are frequently surveyed and communicated throughout the organisation. If deemed necessary, actions are planned to increase these scores, and the results monitored. SD Worx also connects back-office departments to customer perspectives by showing customer testimonials, such as videos. These videos show back-office employees how their work contributes to customer experience. SD Worx's

back-office employees are proud their work is perceived as valuable.

SD Worx believes a customer-centric attitude is crucial to a successful digital transformation. The customer is the burning platform for change, and the need for a digital transformation is linked to changes in customer behaviour and expectation. The business model must transform in response to these changes.

To stimulate a culture of customer centricity, SD Worx keeps close to its customers. The company brings its products and services to customers as early as possible. It develops minimum viable products swiftly and then seeks customer opinions. The company uses customer panels, where customers discuss features they would like added or removed. The customer, therefore, has a direct impact on the development of products and services at SD Worx.

### Focusing on willingness to learn

SD Worx believes that the willingness to learn is an essential cultural value to enable successful digital transformation. The company has a strong skill development and training-oriented culture. For example, mentorships are organised for employees. The company also offers access to e-learning platforms. SD Worx ensures that sufficient training

budget is available. Job rotation is also stimulated, but not obligatory. Management will support employees who would like to rotate to a different role, while also identifying and offering supportive training.

SD Worx believes people learn best when they have to perform actual tasks. The company has identified essential skills that need to be developed and acquired by its employees. These skills are described in a skills framework for different organisational roles. The company believes it is necessary to map out the necessary skills that people have to acquire in order to support the ongoing development of capabilities.



Focusing on communication

SD Worx believes that the success of any transformation boils down to an open and convincing communication about the need for change. It is crucial that people in the organisation understand the need for transformation, and do not perceive it as merely a ‘new way of working’ imposed by management. In other words, effective communication can help to manage employee resistance.

An important aspect of this communication is managing the possible tension between the people who are working on the existing business and the people working on innovative products and services. The former group generates the financial means that makes innovation possible. If the first group does not

understand the benefits and necessity of innovation, they can perceive it as a wasted expense. Businesses must emphasise an appreciation for the people in the existing business departments, who are running the business as cost efficiently as possible, which makes innovation and growth possible in the first place. These people who generate cash need to be proud of their achievements and their value should not be underestimated.

At SD Worx, the management team organises town-hall meetings and strategic update seminars to communicate the ‘why’ behind investments and the need for organisational transformation. The gap between C-level executives and operational people needs to be bridged by line managers. While executive management sets the good example, managers at all

layers in the organisation should communicate directly to their people. As a result, every employee in every department needs to understand why transformation is necessary, and how their work contributes to success.

Defining the qualities of a Master Chef

Organisational culture is one of the most important differentiating factors that separate successful digital transformations from unsuccessful ones. SD Worx understands this importance, and gives explicit attention to organisational culture in the context of its digital transformation journey.

SD Worx believes the most important cultural values are customer centricity, willingness to learn, and communication. Organisations should understand that a digital transformation is a logical and necessary response to a change in customer behaviours and expectations. To do this successfully, an organisation

needs to understand the behaviours and expectations of its customers.

Internally, the company needs to understand the importance of communicating why the organisation needs to transform, which is a crucial aspect in managing resistance to change. Focusing on these cultural aspects ensures a good breeding ground for the digital transformation to ultimately succeed.

Tips

- Give explicit and appropriate attention to organisational culture in a digital transformation journey.
- Focus on customer centricity, willingness to learn and communication, as these are the key enabling cultural values for digital transformation success.



Tim Huygh, PhD; Steven De Haes, PhD; Anant Joshi, PhD. Antwerp Management School, Antwerp, Belgium





# Morgan Stanley

## Employing diversity to accelerate change

### Ingredients

- A measured rather than radical approach towards change and innovation
- A culture of continuous improvement to deliver business value
- Guilds and communities of practice to share experiences and lessons

### Preparing the dish

With a distinguished career in global banking and financial services, Dr Bijna Kotak Dasani MBE, FRSA was this year voted one of the top 100 female business leaders in the world (from across industries and sectors), for the fourth consecutive year by Yahoo Finance and Involve People. She recently earned an MBE in the UK

for her services to the areas of diversity and inclusion. She has also been awarded the title of 'Digital Leader of the Year 2021' by Seamless Middle East which hosts 12,000 participants, under the patronage of HH Sheikh Saif Bin Zayad Al Nayhan.

Bijna is currently Morgan Stanley's Executive Director, focusing on Transformation in the Asian region and Global Automation. Additionally, she serves over a dozen groups internally on the diversity, equity and inclusion (DE&I) agenda.

Morgan Stanley is an American multinational investment bank and financial services company headquartered in New York City. With offices in 42 countries and with more than 60,000 employees, the firm's clients include corporations, governments, institutions and individuals.

### Leading a revolution in banking

In Bijna's words: 'Banking is essential, but banks are not'. With the advent of open banking and the rapid rise of FinTech companies and non-financial services players entering the financial services ecosystem, global banks such as (her former employer) Lloyds Banking Group need to find ways to stay relevant and close to their clients. Digital start-ups are chipping away at traditional banking franchises and are threatening to erode margins. This situation is particularly true in the case of middle-income customers who constitute rich pickings for newcomers.

Bijna believes established players have the necessary scale and scope to respond to the FinTech onslaught, but they must remain vigilant. Established banks are increasingly seeking to exploit their data lineage to retain and gain customers in a renewed effort to increase revenues. At the same time, these institutions need to streamline their global operations to reduce costs and increase margins. The bank's global change programmes address all these factors.

### Adopting a measured approach

Given regulatory constraints and the reduced appetite for risk following the 2008 financial crisis, global banks such as Deutsche

Bank and Goldman Sachs (both also former employers of Bijna) are adopting a measured approach to business innovation. In many cases, this approach is centred on modernising existing factories rather than building new ones. Goldman Sachs has put its toe in the water with its recent launch of Marcus, its new retail-banking business. However, the majority of mainstream global banking players are adopting a continuous improvement strategy that is geared to optimising their current operations.

At the core of Morgan Stanley's transformation is the adoption of Agile ways of working that provide a test and learn environment for teams across the globe. This approach focuses on the ability to fail fast and learn from every experience. This measured approach has helped the organisation to embrace new ways of mobilising change at a global level that relate to the future of the workforce and the workplace.

### Leading the rise of the corporate guilds

Bijna has led the introduction of a new concept in business transformation that is based on the formation of guilds within her working environment. These guilds bring technology, business strategy and innovation experts together as agile teams that are an integral



*"If you don't understand the problem, you will never reach a satisfactory solution."*

**Dr Bijna Kotak Dasani**, Executive Director, Morgan Stanley





element of the bank's change programme. Her vision is to create guilds of technical and business staff who can share experiences on a regular basis to ensure that any lessons learnt are communicated rapidly around the globe.

The first guild was launched in Asia in 2020. This guild aimed to build case studies around process improvement. Members of the guild used monthly video sessions and online communication tools to discuss topics of interest and to share experiences. This collaboration has accelerated innovation and

prompted continuous improvement across the region. These benefits have drawn the attention of senior stakeholders in the firm, says Bijna: 'It is all about getting buy-in from the top. The guilds must be empowered to work collectively at a time of immense commercial disruption.'

### Introducing diversity to accelerate change

Bijna is fully conversant with the many differences in race and gender that pervade the Asian region. In many respects, the region remains conservative, with

women accounting for less than 20% of the workforce in populous countries such as India. Bijna envisages a workforce and workplace of the future that is more evenly balanced. One of the mechanisms that helps promote a positive diversity policy is the use of 'career allies'. Becoming a career ally is now a critical component of a leader's role within the bank. Career allies such as Bijna actively identify and encourage the development of ethnic and gender minorities.

Bijna believes the coronavirus pandemic has provided new possibilities to elevate industry's culture by exposing weaknesses that were less of a priority in stable times. Bijna is positive that the combination of guilds, agile teams and career allies will help the banks make the necessary changes to excel in the coming years.

### Defining the qualities of a Master Chef

To be effective, business leaders within the bank need to articulate their vision for the future by giving the guilds and other communities of practice crucial knowledge, which includes:

- An understanding of the business strategy and associated measures that matter to the bank at board level;

- An awareness of the way in which the workforce and workplace of the future will evolve to fulfil this strategic vision;
- A comprehension of the role that each key function will play in the new banking landscape and the contribution of technology.

To meet these conditions, Bijna has placed strong emphasis on demystifying and simplifying many of the digital concepts that permeate the bank and the finance sector. She is keen to ensure that everyone works from a common foundation of knowledge. This foundation strengthens the prevailing culture and invites open conversations about issues that need to be resolved. In Bijna's words: 'If you don't understand the problem, you will never reach a satisfactory solution.'

### Tips

- Embrace collaboration and inclusion to accelerate business value creation
- Emphasise the overlap between strategy, technology and innovation
- Introduce new schemes to overcome current limitations in diversity





# Randstad Group Belgium

## Agile portfolio management in dynamic environments

### Ingredients

- Adaptive business and IT strategic planning
- Sensing and rapidly responding to environmental changes
- Systems view across solution delivery, with inbuilt feedback loops

### Preparing the dish

Randstad Group Belgium is a leading global HR services firm. With around 1,800 employees in over 320 offices and client locations, the company employs about 43,000 temporary staff on a weekly average through its clients. The company outperformed its market and earned €1.4 billion in revenues last year despite the coronavirus pandemic.

Gunther Ghijssels, CIO/CDO of Randstad Group Belgium, says technology is critical to sustaining the firm’s market leadership position through effective digital capabilities. He aims to ‘bring digital to the DNA of the company’. The company’s data-driven, cloud-native technology platforms combine global IT capabilities and localised solution delivery. This approach creates efficiencies in existing business models and supports new opportunities to serve clients, talent and consultants.

Driven by a need to increase the speed of solution delivery, Gunther and his team embarked on an Agile transformation journey in 2016 using the Scrum framework. Over time, they adopted the Scaled Agile Framework (SAFe), which was tailored to the company and its capability maturity. Randstad Group Belgium evolved a portfolio management capability to support its Agile adoption and address six key aspects impacting IT agility.

### Using portfolio management capability to support agility

#### Portfolio strategic alignment

The company maps its ICT efforts into four strategic domains: three domains aligned to business strategies and one foundational IT domain. Domain managers define each domain’s roadmap and track progress, which promotes transparency and alignment across business and IT. The Business Excellence function analyses trends in the talent market, evaluates competitor product offerings, and coordinates the technological response. The Shared Services Direction Board (SDB), a cross-functional leadership group, reviews portfolio roadmaps every quarter to commit investments to prioritised feature requests.

#### Enabling continuous delivery

Alongside quarterly portfolio reviews, Randstad Group Belgium conducts Program Increment (PI) Planning events to synchronise solution delivery cycles and ensure developers have adequate information on upcoming features. Portfolio reviews are timed with this planning process to maintain a consistent cadence.

#### Adaptive planning

The domain managers define epics and features in their domain roadmaps as ‘mini business cases’, with just enough information to

determine investment viability, which are progressively refined before the next PI Planning event. The domain managers also participate in the delivery process as product owners for the features they request. They work with agile teams to adapt to changes or uncertainties they encounter while delivering the features. The ICT team maintains an architectural runway, allowing developers to quickly build solutions based on agreed principles.

#### Organisational learning

The transparency of the portfolio process helps business and IT teams to better understand dependencies in solution delivery and to plan more collaboratively. The Business Excellence function contributes to organisational learning because it explores business demands to identify strategic opportunities instead of merely translating requests as features scheduled for delivery.

#### Financial processes

Randstad Group Belgium adapted its portfolio budgeting to reflect funding for team-level capacity. The SDB collectively approves features based on available capacity and business value. Instead of elaborate return on investment evaluations, Gunther brings the business stakeholders closer to technical delivery processes to minimise value leakage.



*“Keep the internal world as simple as possible to handle the complexity in the outside world.”*

**Gunther Ghijssels**, CIO/CDO,  
Randstad Group Belgium



Scan code to watch the full interview.

**Performance indicators**

The ICT team continues to evolve its performance indicators and metrics. The Business Excellence function monitors business outcome measures with each released feature, including implementation, usage and operational KPIs, while the IT team tracks PI efficiencies and team effectiveness.

**Organising the agile portfolio capability**

Project investment portfolios are inherently complex and rely on a range of interactions. Gunther drives home the need for an agile portfolio to foster a mindset that balances internal and external complexities: ‘We should keep the internal world as simple as possible, just to make sure that we can handle the complexity in the

outside world,’ he says. The agile portfolio capability is organised through a system-thinking approach across five structural sub-systems:

- Portfolio operations. Gunther says at the core of the agile portfolio capability is the process of ‘getting everything ready to keep the teams occupied and to deliver as much of the business value as we can, given certain priorities and given the capacity that we have within ICT.’ Portfolio refinements through the feature intake process and the portfolio prioritisation during the PI Planning events are crucial portfolio operations activities.
- Portfolio coordination. The strategic domain roadmaps act as guardrails for the portfolio planning process and

guide the Business Excellence function to coordinate portfolio epics and features across business functions.

- Portfolio management and control. The annual planning process and the quarterly portfolio reviews help with portfolio cohesion and alignment to business strategies. The oversight and approval of epics and features by the SDB reflects the broader strategic objectives. Aggregated funding at the portfolio level allows the company to make informed trade-offs during feature prioritisation. Finally, visibility of progress at the executive committee level ensures the necessary focus on outcomes.
- Portfolio intelligence. The ICT team monitors operational and strategic environments by tracking market developments, regulatory expectations, competitor actions, technology advances, and global ICT architecture directions. The agile portfolio capability balances changes sensed in the environment with internal capabilities to formulate appropriate responses.
- Portfolio identity. Gunther and the executive committee play a significant role in guiding Randstad

Group Belgium’s digital transformation and related cultural changes. They define the overall portfolio directions by defining the high-level strategic domains and key objectives that are the ‘true north star’ for solution delivery.

**Tips**

- Allow the portfolio to reflect a holistic view of the organisation’s context
- Shorten planning cycles and align funding to solution-oriented teams
- Continuously adapt the portfolio to reflect environmental dynamics
- Communicate the portfolio roadmap broadly
- Focus on outcome measures to drive decisions
- Prioritise around broader strategic objectives, as opposed to individual demands
- Deploy formal and informal mechanisms to sense changes within environments



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- Serves 4
- 4 underripe pears (Comice, Williams, Anjou, Bosc or Bartlett)
  - 150g sugar
  - 50g clear honey
  - 6 rooibos tea bags
  - 1.5 litres water
- To serve:
- Greek yoghurt or vanilla ice cream

## Pears poached in rooibos tea

Prepare the syrup first. Put the sugar, honey and tea bags in a pan with the water. Bring to the boil, then take the pan off the heat and set it aside for 10 minutes while you prepare the pears.

Peel the pears, leaving the stalk on. Extract some of the core by cutting a small hole in the base (and cut a small slice off the base if you want to serve them standing upright).

Take the tea bags out of the pan, squeezing them well to extract more flavour. Bring the liquid back to the boil, then carefully add the pears. Cover the pan and cook the pears for 15 to 20 minutes. Check during this time; pears vary enormously and they should be tender but not over soft. They may need cooking more, or less, and a little more liquid may need to be added accordingly.

Remove the pears from the liquid and put each one in a serving bowl. Increase the heat under the pan and cook the remaining liquid down until it reduces to a light syrup, being careful not to let it reduce too much or catch.

Pour the syrup over the pears. They can be served at any temperature, and are delicious chilled with a spoonful of Greek yoghurt or ice cream.



The favourite dish of Roger Camrass

# CONCLUSIONS

## And a call for action

As we have witnessed in every chapter of this IT cookbook, a new digital landscape is emerging at an unprecedented speed. Within this environment, our Master Chefs are being placed centre stage in the business as a revolution plays out, comparable in its scope and scale to the Renaissance that took place in Europe during the fifteenth and sixteenth centuries. Perhaps we should think of the internet as a ‘steroid-fuelled’, modern-day equivalent of Gutenberg’s printing press? What we can be sure of, however, is that further, radical change will come. No one can predict where we will end up even 20 years from now. However, we already know that the corporate world of the future will be very different from the one we all grew up in.

How, as leaders and active participants in this revolution, do we navigate safe passage for our families, organisations and nations in these turbulent times? At CIONET, we have a deep belief in the power of the community to assist in this endeavour. Across almost two decades, we have established leading communities of practice in more than 20 countries across Asia, Europe and the Americas. With the active support of our national advisory boards, we have built a flourishing community of 10,000 technology executives.

The power of this community of practice lies in the constant interaction between our members. CIONET holds more than 1,000 community events annually, ranging from roundtable events and national community programmes to large international gatherings, including CIONEXT and CIOFEST. Our members testify to us that this constant sharing of experience and best practice has helped to elevate the CIO role to full parity with those positions held by their C-suite peers.

Every year, we undertake ‘deep dive’ TV interviews with 50 of Europe’s most influential digital leaders. We publish these interviews on YouTube. These personal stories provide the community with unique and valuable insights into the DNA of its most accomplished Master Chefs. They also help our business partners to engage more effectively with IT leaders at the highest levels of their organisations. We encourage you to access these interviews on the CIONET TV YouTube channel.

In addition, we undertake a constant stream of research programmes to capture and document the insights that arise from our community events and executive interviews. This IT cookbook is just one outcome of our research. We hope that you will take full advantage of the many other

*“The corporate world of the future will be very different from the one we all grew up in.”*

reports that we publish each year in areas spanning technology strategy, innovative methods and tools.

In conclusion, we hope that by reading our IT cookbook and tasting its successful recipes you will be better equipped to deal with the many challenges and opportunities ahead of you on the journey to becoming digital. As we continue to capture and document recipes from digital leaders, especially via CIONET TV and our

many events, we plan to publish further editions of this book as we travel through a unique moment of digital development. In this respect, we acknowledge our gratitude to Red Hat and Intel for sponsoring this first edition of the IT cookbook.

We thank you for your interest and participation in this exciting adventure and encourage you to join us at our many local and global events during 2022.



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## ABOUT THE AUTHORS

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**Antwerp Management School**

Antwerp Management School (AMS) delivers state-of-the-art management knowledge, anchored in a business and organisational context. One of the key thought-leadership domains of AMS focuses on leading the digital transformation journey, with a special focus on digital governance, architecture and security. Together with its international academic and business partnership, the ambition of AMS is to positively impact the digital transformation of society. Contributors to the SD Worx and Randstad recipes are:

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**ABOUT CIONET**



CIONET is the leading community of 10,000 senior digital and IT executives in more than 20 countries across Asia, Europe and the Americas. Through this global community CIONET helps orchestrate peer-to-peer interactions focused on the most important business and technology issues of the day. CIONET holds over a thousand international and regional live and virtual events annually, ranging from roundtables, community events and tribe meetings to large international gatherings, including CIONEXT and CIOFEST. Our members testify that CIONET is an impartial and value adding platform that helps each member to advance their professional development and accelerate beneficial outcomes within their organisations. For more information, please visit [www.cionet.com](http://www.cionet.com) or follow us on LinkedIn and YouTube.

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Intel (Nasdaq: INTC) is an industry leader, creating world-changing technology that enables global progress and enriches lives. Inspired by Moore’s Law, we continuously work to advance the design and manufacturing of semiconductors to help address our customers’ greatest challenges. By embedding intelligence in the cloud, network, edge and every kind of computing device, we unleash the potential of data to transform business and society for the better. To learn more about Intel’s innovations, go to [newsroom.intel.com](https://newsroom.intel.com) and [intel.com](https://intel.com).



### About Red Hat

Red Hat is the world’s leading provider of enterprise open source software solutions, using a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloud-native applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500. As a strategic partner to cloud providers, system integrators, application vendors, customers, and open source communities, Red Hat can help organisations prepare for the digital future.

# INDEX

3D printing 53, 57, 100	PKO Bank Polski 86	C# 46
4G 64, 78	Proximus 42–3	C++ 46, 114
5G 53, 64, 78, 84, 100	Prudential 70, 72	Cathay Pacific 83
6G 53, 64	Red Hat 84	chatbots 35, 86
	Signify 35	cloud 52, 53, 95
Accenture 86	Tate & Lyle 31, 32	dunnhumby 41
Agile 52–3, 95, 97	AstraZeneca 112, 121–4	Financial Conduct Authority 108
BW Paper Systems 58	augmented reality (AR) 15, 53, 79	KBC Bank 62
KfW 73–4, 76	automation	KfW 74, 76
Maersk 118	Kensington Mortgages 104–5	MAPFRE 90, 91
MAPFRE 91	MAPFRE 90	mBank 46
mBank 46, 47	Munich Re 25	Munich Re 25, 27
Morgan Stanley 135	PKO Bank Polski 86	PKO Bank Polski 86
Proximus 44	Red Hat 83	Proximus 43
Randstad Group Belgium 138	Signify 35	Prudential 70, 72
Red Hat 83	Tate & Lyle 30–1	Randstad Group Belgium 138
Restoration and Renewal Authority 109	see also robotic process automation	Red Hat 84
Signify 35		Restoration and Renewal Authority 108–10
Amazon 1, 7, 9, 12, 95	Babylon Health 72	Sainsbury’s 13–14
Web Services (AWS) 14, 15, 30, 53	Barclays 83	Signify 35
Antwerp, Port of 11, 19–22	Bellamy, Martin 107–10	Tate & Lyle 31–2
Apigee 70	Bento, Manuel 113–16	Telefónica 65–6
Apple 8, 53	big data 42–3, 60, 66, 70, 72, 95	communication 97
application programming interface (APIs) 53, 70	Blackrock 70	Euronext 114, 115, 116
artificial intelligence (AI) 53, 54	blockchain 53, 72, 101	Maersk 120
AstraZeneca 122	Boston Consulting Group (BCG) 86	Morgan Stanley 136
Ferrovial 100, 102	Bountolos, Dimitris 100–2	Orange 79
KBC Bank 60, 62	Bravura 70	Randstad Group Belgium 141
MAPFRE 90	BW Paper Systems 55, 56–8	SD Worx 132–3
		storytelling 62, 68, 95, 102



communities of practice 2, 96, 110, 137, 143  
continuous improvement 44, 97, 135, 136  
culture 97, 129  
  AstraZeneca 122  
  dunnhumby 38, 39  
  KBC Bank 59, 61–2  
  Kensington Mortgages 104  
  KfW 74, 75  
  mBank 45  
  Ministry of Defence 17  
  Morgan Stanley 137  
  Orange 79  
  PKO Bank Polski 87  
  Port of Antwerp 19, 20, 22  
  Randstad Group Belgium 141  
  Red Hat 82–3  
  SD Worx 131, 133  
  Signify 34  
  Tate & Lyle 32

Dabrowski, Krzysztof 45–7  
Dasani, Bijna Kotak 134–7  
data analytics 54  
  dunnhumby 41  
  KBC Bank 60  
  Kensington Mortgages 104, 105, 106  
  Maersk 119  
  PKO Bank Polski 86  
  Port of Antwerp 21  
  Prudential 70–1, 72  
  Sainsbury's 13  
  Signify 35  
  Tate & Lyle 32  
  Telefónica 64

data protection 40  
Dawson, Margaret 82–4  
De Ruwe, Kurt 33–5  
design thinking 27, 97, 126  
Deutsche Bank 135  
DevOps 35, 46, 62, 83, 91  
digital natives 1, 7, 24, 96, 124  
  mBank 45, 47  
Diligenta 70  
distributed computing 84  
diversity and inclusiveness 97, 129  
  AstraZeneca 123  
  Euronext 114–15  
  Ferrovial 101  
  Maersk 120

  Ministry of Defence 18  
  Morgan Stanley 134, 136–7  
  Red Hat 83  
drones 20  
dunnhumby 37, 38–41  
  
edge computing 9, 53, 66, 84  
enterprise resource planning (ERP) 9, 34, 119  
Escrivá García, Vanessa 88–91  
Euronext 112, 113–16

Ferrovial 99, 100–2  
FinTech 45, 55, 85, 135  
Forte, Charlie 16–18, 95  
Foulsham, Mark 103–6

Ghijsels, Gunther 138–41  
GitHub 62  
Goldman Sachs 135  
Google 1, 9, 77  
  Cloud 15, 41, 53, 86  
governance 2, 53, 87, 110  
guilds 135–6

heritage systems *see* legacy systems  
home working 1, 7–8, 68  
  KBC Bank 60  
  Kensington Mortgages 104  
  KfW 75  
  PKO Bank Polski 86, 87  
  Tate & Lyle 30  
  *see also* hybrid working  
Hoots, Cindy 121–4  
Houses of Parliament Restoration and  
  Renewal Authority 99, 107–10

humility 32, 72, 85  
hybrid working  
  Ferrovial 101  
  Kensington Mortgages 104  
  PKO Bank Polski 87  
  Tate & Lyle 30  
  *see also* home working

IBM Unix 46  
inclusiveness *see* diversity and  
  inclusiveness  
integration  
  KBC Bank 60  
  Ministry of Defence 16–17

Port of Antwerp 19  
Red Hat 84  
Internet of Things (IoT) 34, 53, 101

Jack, David 38–41  
Java 57  
Jordan, Phil 12–15

KBC Bank 55, 59–62  
Kehr, Melanie 73–6  
Kensington Mortgages 99, 103–6  
KfW 68, 73–6  
Kohli, Tarun 69–72, 95  
Kubernetes 84, 88, 91

lean 43, 44  
legacy systems 13, 52, 53  
  MAPFRE 89, 90, 91  
  mBank 45–6, 47  
  Orange 78–9  
  Prudential 69–70  
  Telefónica 63, 65  
Li-Fi 33–4  
Lloyds Banking Group 135

low-code development tools 3, 32, 51, 86–7

machine learning (ML)  
  dunnhumby 39, 41  
  KBC Bank 62  
  MAPFRE 90  
  Proximus 42–3  
  Red Hat 84  
  Restoration and Renewal Authority 110  
  Sainsbury's 13  
  Tate & Lyle 32  
Maersk 112, 117–20  
MAPFRE 81, 88–91  
Marciniak, Adam 85–7  
mBank 37, 45–7  
mentorships 124, 131  
Messaoud, Nino 56–8  
microservices 53, 84, 88, 91  
Microsoft

  Azure 15, 41, 53, 86  
  PKO Bank Polski 86, 87  
  Power BI 30, 32, 105, 106  
  Teams 86  
  Windows 46, 47  
Ministry of Defence (MoD), UK 11, 16–18

mission  
  AstraZeneca 123  
  Maersk 118, 120  
mixed reality 53  
Morgan Stanley 129, 134–7  
Munich Re 24, 25–8  
  
neural networks 125  
no-code development tools 3, 32, 51, 87  
Norway Post 112, 125–7

open source 53  
  dunnhumby 39, 41  
  KBC Bank 62  
  MAPFRE 88, 91  
  Orange 78–9  
  Red Hat 82  
  Sainsbury's 14  
  Telefónica 64  
optical character recognition (OCR) 90  
Orange 68, 77–9

Patel, Sanjay 29–32  
Pedro Silva, Rui 117–20  
Peeters, Rudi 59–62  
personality of IT leaders 95, 97  
Philips Lighting 33, 34  
PKO Bank Polski 81, 85–7  
platform as a service (PaaS) 70  
Port of Antwerp 11, 19–22  
PricewaterhouseCoopers (PwC) 86  
proof of concepts 60, 61  
Proximus 37, 42–4  
Prudential 68, 69–72

quantum computing 53, 84, 110

Randstad Group Belgium 129, 138–41  
recruitment *see* talent sourcing and  
  retention  
Red Hat 78, 81, 82–4  
remote working *see* home working  
Restoration and Renewal Authority 99, 107–10  
robotic process automation (RPA) 9, 54  
  AstraZeneca 122  
  Ferrovial 102

Kensington Mortgages 105  
MAPFRE 90  
PKO Bank Polski 86  
Port of Antwerp 20  
Red Hat 84  
Restoration and Renewal Authority 110  
Signify 35  
Tate & Lyle 30–1, 32  
Telefónica 65–6

Sainsbury's 11, 12–15  
Salesforce 9, 30, 51, 57, 65  
SAP 30, 34, 90  
Scaled Agile Framework (SAFe) 138  
Scrum  
  KfW 73, 74, 75  
  Maersk 118  
  mBank 47  
  Randstad Group Belgium 138  
SD Worx 129, 130–3  
self-driving cars 77  
Signify 24, 33–5  
smart cameras 20  
smart cities 77  
smart factories 122  
smart lighting 34  
Snowflake 13  
software as a service (SaaS) 9, 51, 52  
  MAPFRE 91  
  Prudential 70  
  Restoration and Renewal Authority 109  
  Sainsbury's 14  
  Tate & Lyle 30

Sopra 106  
Standaert, Geert 42–4  
start-ups 95, 96  
  banking sector 135  
  disruption 77–8  
  partnerships 9, 47  
  survival rate 47  
storytelling 62, 68, 95, 102  
Success Factors 90  
Swiss Re 69  
  
talent sourcing and retention 95, 96  
  AstraZeneca 123  
  BW Paper Systems 57, 58

Euronext 113, 114–15  
Kensington Mortgages 104  
Maersk 120  
mBank 47  
Red Hat 84  
SD Worx 131  
Telefónica 66  
Tate & Lyle 24, 29–32  
Telefónica 52, 55, 63–6  
Temenos 46  
Tesla 97  
Toyota 44, 77, 97  
trust 95  
  BW Paper Systems 58  
  dunnhumby 40  
  Kensington Mortgages 104, 106  
  Maersk 118, 120  
  mBank 47  
  PKO Bank Polski 87  
  Port of Antwerp 20, 21  
  Sainsbury's 14

UiPath 102  
UK Ministry of Defence (MoD) 11, 16–18  
Unix 46

Valero, Angel 63–6  
Velocity 65  
Vermeulen, Koen 77–9  
Verstraelen, Erwin 19–22  
virtual reality (VR) 15, 53, 79  
vision 18, 95, 129  
  AstraZeneca 124  
  digital 51  
  MAPFRE 89  
  Morgan Stanley 137  
  Port of Antwerp 22  
  Red Hat 83  
  Restoration and Renewal Authority 110  
  Signify 35

Workday 9, 30  
working from home *see* home working

Yammer 35

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The technologies available to businesses are becoming ever more sophisticated. The development of the IT landscape has been accelerated by the pandemic, as corporations realise the importance of digital solutions in creating the virtual office, bringing together supplier and customer and ensuring the continuing success of their businesses.

The *CIONET Cookbook* uses the analogy of a five-star restaurant to explain the importance of optimally integrated technology, with the CIO as Master Chef. In order to provide the best service to its customers, a top restaurant must have the right atmosphere, an inviting menu, a well-equipped kitchen, talented and committed front-of-house and kitchen staff and smooth-running processes that ensure an enjoyable experience for diners. The Master Chef brings all these elements together. Likewise, businesses need to be able to offer great service to customers and business partners, an up-to-date menu of IT solutions, access to the best technology and a great team to implement those systems, all under the leadership of a CIO with vision and energy.

The *CIONET Cookbook* comprises recipes for success from 25 of today's most influential and dynamic information technology leaders, across all sectors of business. In it, readers will discover:

- How David Jack transformed dunnhumby's data analytics services by putting the customer first;
- Why Angel Valero is competing with the robots of the future to upgrade Telefónica's telecommunications business;
- How Margaret Dawson of open-source software company Red Hat has extended the idea of openness into all aspects of business function to promote a culture of innovation and exchange;
- Why Charlie Forte, CIO of the UK's Ministry of Defence, put transformational technologies on the front line to create a cohesive, integrated and adaptable IT framework.

The *CIONET Cookbook* is an invaluable tool for IT executives at all levels, in businesses of all sizes and across all sectors.

**CIONET's mission is to help IT executives become both more at ease and more successful in their jobs. With the largest membership of corporate digital leaders across Europe, Latin America, US and Australia, CIONET has the expertise and pioneering vision to address any IT management challenge. CIONET opens up a whole new universe of opportunities in IT management, helping its members not just to keep up with change but ultimately define it.**



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